Annual accounts

Annual accounts contents

Consolidated annual accounts

Parent company annual accounts

Other

Consolidated balance sheet

Amounts in millions of euros, unless stated otherwise

Consolidated balance sheet

As at 31 December	notes	2021	2020
Assets			
Cash and cash equivalents	3	6,929	12,382
Financial assets at fair value through profit or loss:	4		
– investments for risk of policyholders		39,261	34,797
– non-trading derivatives		6,419	14,833
– designated as at fair value through profit or loss		991	1,336
Available-for-sale investments	5	107,883	118,175
Loans	6	68,200	65,428
Reinsurance contracts	18	954	1,063
Associates and joint ventures	7	6,919	5,673
Real estate investments	8	2,719	2,444
Property and equipment	9	414	448
Intangible assets	10	1,129	1,063
Deferred acquisition costs	11	1,893	1,871
Assets held for sale	12	4,121	113
Deferred tax assets	35	47	73
Other assets	13	3,706	4,039
Total assets		**251,585**	**263,738**
Equity			
Shareholders' equity (parent)		32,888	36,731
Minority interests		266	277
Undated subordinated notes		1,764	1,764
Total equity	14	**34,918**	**38,772**
Liabilities			
Subordinated debt	15	2,356	2,383
Debt securities issued	16	2,292	1,694
Other borrowed funds	17	7,301	7,542
Insurance and investment contracts	18	168,812	170,672
Customer deposits and other funds on deposit	19	15,945	15,803
Financial liabilities at fair value through profit or loss:	20		
– non-trading derivatives		1,904	4,012
Liabilities held for sale	12	3,464	93
Deferred tax liabilities	35	4,817	6,329
Other liabilities	21	9,776	16,438
Total liabilities		**216,667**	**224,966**
Total equity and liabilities		**251,585**	**263,738**

References relate to the notes (starting with Note 1 'Accounting policies'). These form an integral part of the Consolidated annual accounts.

Consolidated profit and loss account

Consolidated profit and loss account

For the period ended 31 December	notes		2021		2020
Gross premium income	22		14,312		13,822
Investment income	23		5,805		4,574
Result on disposals of group companies			53		100
– gross fee and commission income		427		343	
– fee and commission expenses		-122		-79	
Net fee and commission income:	24		305		264
Valuation results on non-trading derivatives	25		-702		901
Foreign currency results			672		-434
Share of result from associates and joint ventures	7		899		219
Other income			89		76
Total income			**21,433**		**19,522**
– gross underwriting expenditure		20,022		17,316	
– investment result for risk of policyholders		-4,201		-1,733	
– reinsurance recoveries		-1,045		-1,095	
Underwriting expenditure:	26		14,776		14,488
Amortisation of intangible assets and other impairments	27		33		27
Staff expenses	28		1,429		1,446
Interest expenses	29		521		511
Other operating expenses	30		842		854
Total expenses			**17,601**		**17,326**
Result before tax from continuing operations			**3,832**		**2,196**
Taxation	35		669		385
Net result from continuing operations			**3,163**		**1,811**
Net result from discontinued operations			135		115
Net result from discontinued operations	31		**135**		**115**
Net result from continuing and discontinued operations (before attribution to minority interests)			**3,298**		**1,926**

Net result from continuing and discontinued operations

For the period ended 31 December	2021	2020
Net result from continuing and discontinued operations attributable to:		
Shareholders of the parent	3,278	1,904
Minority interests	20	22
Net result from continuing and discontinued operations	**3,298**	**1,926**

Net result from continuing operations

For the period ended 31 December	2021	2020
Net result from continuing operations attributable to:		
Shareholders of the parent	3,151	1,793
Minority interests	12	18
Net result from continuing operations	**3,163**	**1,811**

Net result from discontinued operations

For the period ended 31 December	2021	2020
Net result from discontinued operations attributable to:		
Shareholders of the parent	127	111
Minority interests	8	4
Net result from discontinued operations	**135**	**115**

Earnings per ordinary share from continuing and discontinued operations

For the period ended 31 December and amounts in euros per ordinary share	2021	2020
Earnings per ordinary share from continuing and discontinued operations		
Basic earnings from continuing and discontinued operations	10.42	5.88
Diluted earnings from continuing and discontinued operations	10.41	5.87

Earnings per ordinary share from continuing operations

For the period ended 31 December and amounts in euros per ordinary share	2021	2020
Earnings per ordinary share from continuing operations		
Basic earnings from continuing operations	10.01	5.52
Diluted earnings from continuing operations	10.00	5.51

Earnings per ordinary share from discontinued operations

For the period ended 31 December and amounts in euros per ordinary share	2021	2020
Earnings per ordinary share from discontinued operations		
Basic earnings from discontinued operations	0.41	0.36
Diluted earnings from discontinued operations	0.41	0.36

Reference is made to Note 32 'Earnings per ordinary share' for the disclosure on the Earnings per ordinary share.

Consolidated statement of comprehensive income

Consolidated statement of comprehensive income

For the period ended 31 December		2021		2020
Net result from continuing and discontinued operations		**3,298**		**1,926**
– unrealised revaluations available-for-sale investments and other	-3,099		3,110	
– realised gains/losses transferred to the profit and loss account	-1,431		-574	
– changes in cash flow hedge reserve	-3,383		3,422	
– deferred interest credited to policyholders	1,861		-750	
– share of other comprehensive income of associates and joint ventures	-2		5	
– exchange rate differences	-66		-110	
Items that may be reclassified subsequently to the profit and loss account:		-6,120		5,103
– remeasurement of the net defined benefit asset/liability	19		6	
– unrealised revaluations property in own use			-3	
Items that will not be reclassified to the profit and loss account:		19		3
Total other comprehensive income		**-6,101**		**5,106**
Total comprehensive income		**-2,803**		**7,032**
Comprehensive income attributable to:				
Shareholders of the parent		-2,825		7,009
Minority interests		22		23
Total comprehensive income		**-2,803**		**7,032**

Reference is made to Note 35 'Taxation' for the disclosure on the income tax effects on each component of comprehensive income.

Consolidated statement of cash flows

Consolidated statement of cash flows

For the period ended 31 December	notes	2021	2020
Result before tax[1]		4,010	2,349
Adjusted for:			
– depreciation and amortisation		150	157
– deferred acquisition costs and value of business acquired		-39	63
– underwriting expenditure (change in insurance liabilities)		-384	39
– realised results and impairments of available-for-sale investments		-1,667	-654
– other		-601	188
Taxation paid (received)		-397	-250
Changes in:			
– non-trading derivatives		2,204	2,276
– other financial assets at fair value through profit or loss		384	-54
– loans		-252	-864
– other assets		614	781
– customer deposits and other funds on deposit		48	522
– financial liabilities at fair value through profit or loss – non-trading derivatives		-589	-886
– other liabilities		-6,075	3,337
Net cash flow from operating activities		**-2,594**	**7,004**
Investments and advances:			
– group companies, net of cash acquired		-314	-539
– available-for-sale investments		-26,753	-24,928
– loans		-9,038	-7,589
– associates and joint ventures		-719	-349
– real estate investments		-156	-66
– property and equipment		-47	-51
– investments for risk of policyholders		-9,006	-10,005
– other investments		-51	-82
Disposals and redemptions:			
– group companies		72	
– available-for-sale investments		29,271	28,717
– loans		5,771	4,903
– associates and joint ventures		156	121
– real estate investments		124	176
– property and equipment		8	2
– investments for risk of policyholders		8,835	10,240
– other investments		21	
Net cash flow from investing activities		**-1,826**	**550**
Proceeds from debt securities issued		597	
Repayments of debt securities issued			-300
Proceeds from other borrowed funds		1,751	5,144
Repayments of other borrowed funds		-2,021	-5,249
Dividend paid		-445	-400
Purchase/sale of treasury shares		-545	-621
Coupon on undated subordinated notes		-78	-78
Net cash flow from financing activities		**-741**	**-1,504**
Net cash flow[2]		**-5,161**	**6,050**

1 Includes result before tax from continuing operations of EUR 3,832 million (2020: EUR 2,196 million) and result before tax from discontinued operations of EUR 178 million (2020: EUR 153 million). Result after tax from discontinued operations is EUR 135 million (2020: EUR 115 million). Reference is made to Note 31 'Discontinued operations'.

2 Reference is made to Note 3 'Cash and cash equivalents'.

Included in Net cash flow from operating activities

For the period ended 31 December	2021	2020
Interest received	4,172	4,272
Interest paid	-634	-574
Dividend received	524	533

Cash and cash equivalents

For the period ended 31 December	2021	2020
Cash and cash equivalents at beginning of the year	12,390	6,436
Net cash flow	-5,161	6,050
Effect of exchange rate changes on cash and cash equivalents	-74	-96
Cash and cash equivalents at the end of the year	**7,155**	**12,390**

Consolidated statement of changes in equity

Consolidated statement of changes in equity (2021)

	Share capital	Share premium	Reserves	Total Shareholders' equity (parent)	Minority interest	Undated subordinated notes	Total equity
Balance at 1 January 2021	**39**	**12,574**	**24,118**	**36,731**	**277**	**1,764**	**38,772**
Unrealised revaluations available-for-sale investments and other			-3,101	-3,101	2		-3,099
Realised gains/losses transferred to the profit and loss account			-1,431	-1,431			-1,431
Changes in cash flow hedge reserve			-3,383	-3,383			-3,383
Deferred interest credited to policyholders			1,861	1,861			1,861
Share of other comprehensive income of associates and joint ventures			-2	-2			-2
Exchange rate differences			-66	-66			-66
Remeasurement of the net defined benefit asset/liability			19	19			19
Total amount recognised directly in equity (Other comprehensive income)	**–**	**–**	**-6,103**	**-6,103**	**2**	**–**	**-6,101**
Net result from continuing and discontinued operations			3,278	3,278	20		3,298
Total comprehensive income	**–**	**–**	**-2,825**	**-2,825**	**22**	**–**	**-2,803**
Changes in share capital	-1	1		–			–
Dividend			-412	-412	-33		-445
Purchase/sale of treasury shares			-545	-545			-545
Employee stock option and share plans			-2	-2			-2
Coupon on undated subordinated notes			-59	-59			-59
Balance at 31 December 2021	**38**	**12,575**	**20,275**	**32,888**	**266**	**1,764**	**34,918**

Consolidated statement of changes in equity (2020)

	Share capital	Share premium	Reserves	Total Shareholders' equity (parent)	Minority interest	Undated subordinated notes	Total equity
Balance at 1 January 2020	**41**	**12,572**	**18,155**	**30,768**	**260**	**1,764**	**32,792**
Unrealised revaluations available-for-sale investments and other			3,109	3,109	1		3,110
Realised gains/losses transferred to the profit and loss account			-574	-574			-574
Changes in cash flow hedge reserve			3,422	3,422			3,422
Deferred interest credited to policyholders			-750	-750			-750
Share of other comprehensive income of associates and joint ventures			5	5			5
Exchange rate differences			-110	-110			-110
Remeasurement of the net defined benefit asset/liability			6	6			6
Unrealised revaluations property in own use			-3	-3			-3
Total amount recognised directly in equity (Other comprehensive income)	**–**	**–**	**5,105**	**5,105**	**1**	**–**	**5,106**
Net result from continuing and discontinued operations			1,904	1,904	22		1,926
Total comprehensive income	**–**	**–**	**7,009**	**7,009**	**23**	**–**	**7,032**
Changes in share capital	-2	2	–	–			–
Dividend			-394	-394	-6		-400
Purchase/sale of treasury shares			-622	-622			-622
Employee stock option and share plans			1	1			1
Coupon on undated subordinated notes			-59	-59			-59
Changes in the composition of the group and other changes			28	28			28
Balance at 31 December 2020	**39**	**12,574**	**24,118**	**36,731**	**277**	**1,764**	**38,772**

Notes to the Consolidated annual accounts

1 Accounting policies

Basis of preparation

NN Group N.V. (NN Group) is a public limited liability company (naamloze vennootschap) incorporated under Dutch law. NN Group has its official seat in Amsterdam, the Netherlands and its office address in The Hague, the Netherlands. NN Group is recorded in the Commercial Register no. 52387534. The principal activities of NN Group are described in the section 'About NN'. Amounts in the annual accounts are in millions of euros, unless stated otherwise.

NN Group prepares its Consolidated annual accounts in accordance with International Financial Reporting Standards as endorsed by the European Union (IFRS-EU) and Part 9 of Book 2 of the Dutch Civil Code. In the Consolidated annual accounts, the term IFRS-EU is used to refer to these standards, including the decisions NN Group made with regard to the options available under IFRS-EU. IFRS-EU provides a number of options in accounting policies. The key areas, in which IFRS-EU allows accounting policy choices and the related NN Group accounting policy, are summarised as follows:

- Under IFRS 4, an insurer may continue to apply its existing pre-IFRS accounting policies for insurance contracts, provided that certain minimum requirements are met. Upon adoption of IFRS in 2005, NN Group decided to continue the then existing accounting principles for insurance contracts. NN Group operates in different countries and the accounting principles for insurance contracts follow local practice in these countries. For NN Group's businesses in the Netherlands, NN Group for example applies accounting standards generally accepted in the Netherlands (Dutch GAAP) for its insurance liabilities. Changes in those local accounting standards (including Dutch GAAP) subsequent to the adoption of IFRS-EU are considered for adoption on a case-by-case basis. If adopted, the impact thereof is accounted for as a change in accounting policy under IFRS-EU.
- NN Group's accounting policy for real estate investments is fair value, with changes in the fair value reflected immediately in the Consolidated profit and loss account.
- NN Group's accounting policy for property in own use is fair value, with changes in the fair value reflected, after tax, in the 'Revaluation reserve' in 'Other comprehensive income' (equity). A net negative revaluation on individual properties is reflected immediately in the Consolidated profit and loss account.

NN Group applies fair value hedge accounting to portfolio hedges of interest rate risk (macro hedging) under the EU 'carve out' of IFRS-EU.

NN Group's accounting policies under IFRS-EU and its decision on the options available are included below. Except for the options included above, the principles are IFRS-EU and do not include other significant accounting policy choices made by NN Group. The accounting policies that are most significant to NN Group are included in the section 'Critical accounting policies and significant judgements'.

The preparation of the Consolidated annual accounts requires the use of estimates and assumptions. These estimates and assumptions affect the reported amounts of the assets and liabilities and the amounts of the contingent liabilities at the balance sheet date, as well as reported income and expenses for the year. The actual outcome may differ from these estimates.

Upcoming changes in IFRS-EU

The most relevant upcoming changes in IFRS-EU that are relevant for NN Group relate to IFRS 9 'Financial instruments' and IFRS 17 'Insurance contracts'.

IFRS 9 'Financial Instruments'

IFRS 9 'Financial Instruments' was issued by the IASB in July 2014. IFRS 9 replaces most of the current IAS 39 'Financial Instruments: Recognition and Measurement' and includes requirements for classification and measurement of financial assets and liabilities, impairment of financial assets and hedge accounting.

Classification and measurement

The classification and measurement of financial assets under IFRS 9 will depend on NN Group's business model and the instrument's contractual cash flow characteristics. These may result in financial assets being recognised at amortised cost, at fair value through other comprehensive income (equity) or at fair value through profit or loss. In many instances, the classification and measurement under IFRS 9 will be similar to IAS 39, although changes in classification will occur. The classification and measurement of financial liabilities remains unchanged.

Impairment

The recognition and measurement of impairments under IFRS 9 is intended to be more forward-looking than under IAS 39. The new impairment requirements will apply to all financial assets measured at amortised cost and at fair value through other comprehensive income. Initially, a provision is required for expected credit losses resulting from default events that are expected within the next twelve months. In the event of a significant increase in credit risk, a provision is required for expected credit losses resulting from all possible default events over the expected life of the financial assets.

1 Accounting policies continued

Hedge accounting

The hedge accounting requirements of IFRS 9 aim to simplify hedge accounting. IFRS 9 includes the option to continue applying IAS 39 for hedge accounting.

IFRS 9 is effective as of 2018. However, in September 2016 the IASB issued an amendment to IFRS 4 'Insurance Contracts' (the 'Amendment') and extended the amendment in June 2020. This Amendment addresses the issue arising from the different effective dates of IFRS 9 and the new standard on accounting for insurance contracts (IFRS 17). The Amendment allows applying a temporary exemption from implementing IFRS 9, so that it can be implemented together with IFRS 17. This exemption is only available to entities whose activities are predominantly connected with insurance.

NN Group's activities are predominantly connected with insurance as defined in this Amendment as more than 90% of liabilities are connected with insurance activities. Liabilities connected with insurance activities of NN Group include insurance liabilities within the scope of IFRS 4, certain investment contract liabilities and other liabilities relating to insurance entities and activities. Liabilities of NN Group that are not related to insurance activities represent mainly the liabilities of the Banking operations.

NN Group applies the temporary exemption and, therefore, NN Group expects to implement IFRS 9 together with IFRS 17.

The Amendment requires certain additional disclosures on whether financial assets that remain accounted for under IAS 39 meet the definition of 'solely payments of principal and interest on the principal amount outstanding' in IFRS 9 as well as additional information on the credit rating of such assets and whether such assets are 'low credit risk'. In this context, 'low credit risk' is equivalent to 'investment grade' as defined by ratings agencies (generally a rating of BBB- or better). These additional disclosures are included in Note 36 'Fair value of financial assets and liabilities' and in Note 52 'Risk management'. These disclosures reflect the current business models and the current accounting choices and interpretations. These may therefore change when IFRS 9 and IFRS 17 are implemented.

Certain subsidiaries within NN Group (mainly NN Bank) do not qualify under the Amendment. Therefore, the financial information of these entities is based on IFRS 9 in the statutory IFRS reporting of these entities, but not in the consolidated financial reporting of NN Group. The impact of applying IFRS 9 for these entities would not have been significant to NN Group. NN Group does not have associates or joint ventures for which IFRS 9 has a significant impact.

IFRS 17 'Insurance Contracts'

IFRS 17 'Insurance Contracts' was issued in May 2017 and a revised version was issued in June 2020. IFRS 17 covers the recognition and measurement, presentation and disclosure of insurance contracts and replaces the current IFRS 4. IFRS 17 will fundamentally change the accounting for insurance liabilities and deferred acquisition costs (DAC) for all insurance companies, including NN Group and its subsidiaries. IFRS 17 is endorsed in the EU and will be effective as of 1 January 2023.

The main features of IFRS 17 are:
- Measurement of the insurance liabilities in the balance sheet at current fulfilment value, being the sum of the present value of future cash flows and a risk adjustment
- Remeasurement of the current fulfilment value every reporting period using current assumptions and discount rates
- A Contractual Service Margin (CSM) recognised in the balance sheet that is equal to the unearned profit in the insurance contract at issue and is subsequently recognised as result in the profit and loss account over the remaining life of the portfolio
- Certain changes in the insurance liability are adjusted against the CSM and thereby recognised in the profit and loss account over the remaining life of the portfolio
- The effect of changes in discount rates is recognised either in the profit and loss account or in equity (OCI)
- The presentation of the profit and loss account and the disclosures in the notes will change fundamentally

IFRS 17 must be implemented retrospectively with amendment of comparative figures. However, several simplifications may be used on transition.

NN Group will implement IFRS 17 together with IFRS 9. NN Group initiated an implementation project and is performing impact assessments and parallel reporting runs. NN Group expects that the implementation of IFRS 9 and IFRS 17 will result in significant changes to its accounting policies and will have a significant impact on shareholders' equity, net result, presentation and disclosure. Shareholders' equity under IFRS 9 and 17 will be significantly lower as a result of the measurement of insurance liabilities at current assumptions. This will be consistent with the measurement of the associated invested assets that are already mostly measured at fair value. At this moment it is too early to disclose quantitative impact of the implementation as of 2023 as the preparation of the transitional balance sheet, the decisions on key policy choices and assumptions and the parallel reporting runs are ongoing.

1 Accounting policies continued

Changes in presentation

The presentation of and certain terms used in the Consolidated balance sheet, Consolidated profit and loss account, Consolidated statement of cash flows, Consolidated statement of changes in equity and the notes was changed to provide additional and more relevant information or (for changes in comparative information) to better align with the current period presentation. The impact of these changes is explained in the respective notes when significant.

As of 2021, NN Group's asset management activities executed by NN Investment Partners (NN IP) are classified as discontinued operations. Net result from discontinued operations consists of the net result (after tax) of the businesses classified as discontinued operations and is presented separately in the profit and loss account for both 2021 and 2020. Reference is made to Note 46 'Companies and businesses acquired and divested'.

Critical accounting policies and significant judgements

NN Group has identified the accounting policies that are most critical to its business operations and to the understanding of its results. These critical accounting policies are those which involve the most complex or subjective judgements and assumptions and relate to insurance contracts, acquisition accounting, deferred acquisition costs, the determination of the fair value of real estate and financial assets and liabilities and impairments. In each case, the determination of these items is fundamental to the financial condition and results of operations and requires management to make complex judgements based on information and financial data that may change in future periods. As a result, determinations regarding these items necessarily involve the use of assumptions and subjective judgements as to future events and are subject to change, as the use of different assumptions or data could produce significantly different results. All valuation techniques used are subject to internal review and approval. For further details on the application of these accounting policies, reference is made to the applicable notes to the Consolidated annual accounts and the information below.

Reference is made to Note 52 'Risk management' for a sensitivity analysis of certain assumptions as mentioned below.

Acquisition accounting, goodwill and other intangible assets

NN Group's acquisitions are accounted for using the acquisition method of accounting. The consideration for each acquisition is measured at the aggregate of the fair value (at the date of acquisition) of assets acquired, liabilities incurred or assumed and equity instruments issued in exchange for control of the acquiree. Assets acquired include intangible assets such as brand names, client relationships and distribution channels. Where applicable, the consideration for the acquisition includes any asset or liability resulting from a contingent consideration arrangement, measured at its acquisition-date fair value. Goodwill, being the positive difference between the cost of the acquisition (including assumed debt) and NN Group's interest in the fair value of the acquired assets, liabilities and contingent liabilities as at the date of acquisition, is capitalised as an intangible asset. In case there is a negative difference between the cost of the acquisition (including assumed debt) and NN Group's interest in the fair value of the acquired assets, liabilities and contingent liabilities as at the date of acquisition, this is referred to as negative goodwill and is recognised in profit and loss in the reporting period the acquisition is finalised. Acquisition-related costs are recognised in the profit and loss account as incurred and presented in the profit and loss account as 'Other operating expenses'.

The initial accounting for the fair value of the net assets of the companies acquired during the year may be determined only provisionally as the determination of the fair value can be complex and the time between the acquisition and the preparation of the annual accounts can be limited. The initial accounting shall be completed within a year after acquisition.

Valuation techniques are subjective in nature and significant judgement is involved in establishing the fair value for certain financial assets and liabilities. Valuation techniques involve various assumptions. The use of different valuation techniques and assumptions could produce significantly different estimates of the fair value.

Goodwill is allocated to cash generating units (reporting units) for the purpose of impairment testing of goodwill and other intangible assets. These cash generating units (reporting units) represent the lowest level at which goodwill is monitored for internal management purposes, which is either at the segment level or at a level below. This test is performed annually or more frequently if there are indicators of impairment. Under the impairment tests, the carrying value of the cash generating units (reporting units including goodwill) is compared to its recoverable amount which is the higher of its fair value less costs to sell and its value in use.

The identification of cash generating units and impairments is an inherently uncertain process involving various assumptions and factors, including expected future cash flows, discount rates, etc. Estimates and assumptions are based on management's judgement and other information available. Significantly different results can occur as circumstances change and additional information becomes known.

1 Accounting policies continued

Insurance liabilities and deferred acquisition costs (DAC)

The determination of insurance liabilities and DAC is an inherently uncertain process, involving assumptions about factors such as social, economic and demographic trends, inflation, investment returns, policyholder behaviour, court decisions, changes in laws and other factors and, in the life insurance business, assumptions concerning mortality and morbidity trends. Specifically, assumptions that could have a significant impact on financial results include interest rates, mortality, morbidity, property and casualty claims, investment yields on equity and real estate and foreign currency exchange rates.

Insurance liabilities also include the impact of minimum guarantees which are contained within certain products. This impact is dependent upon the difference between the potential minimum benefits payable and the total account balance, expected mortality and surrender rates. The determination of the potential minimum benefits payable also involves the use of assumptions about factors such as inflation, investment returns, policyholder behaviour, mortality and morbidity trends and other factors.

The use of different assumptions could have a significant effect on insurance liabilities, DAC and underwriting expenditure. Changes in assumptions may lead to changes in insurance liabilities over time.

The adequacy of the insurance liabilities, net of DAC, is evaluated each reporting period by each business unit for the business originated in that business unit. The test involves comparing the established insurance liability with current best estimate actuarial assumptions. The use of different assumptions in this test could lead to a different outcome.

Fair value of real estate

Real estate investments are reported at fair value. The fair value of real estate investments is based on regular appraisals by external, qualified valuers. The fair value is established using valuation methods such as comparable market transactions, capitalisation of income methods or discounted cash flow calculations. The underlying assumption used in the valuation is that the properties are let or sold to third parties based on the actual letting status. The discounted cash flow analysis and capitalisation of income method are based on calculations of the future rental income in accordance with the terms in existing leases and estimations of the rental values for new leases when leases expire and incentives like rent-free periods. The cash flows are discounted using market-based interest rates that appropriately reflect the risk characteristics of real estate investments.

Reference is made to Note 37 'Fair value of non-financial assets' for more disclosure on fair value of real estate investments at the balance sheet date.

The use of different assumptions and techniques could produce significantly different valuations.

Fair value of financial assets and liabilities

The fair value of financial assets and liabilities is based on unadjusted quoted market prices at the balance sheet date where available. Such quoted market prices are primarily obtained from exchange prices for listed instruments. Where an exchange price is not available, market prices may be obtained from external market vendors, brokers or market makers. In general, positions are valued taking the bid price for a long position and the offer price for a short position. In some cases, positions are marked at mid-market prices.

When markets are less liquid there may be a range of prices for the same security from different price sources; selecting the most appropriate price requires judgement and could result in different estimates of the fair value.

For certain financial assets and liabilities quoted market prices are not available. For these financial assets and liabilities, fair value is determined using valuation techniques, based on market conditions existing at each balance sheet date. These valuation techniques range from discounting of cash flows to valuation models, where relevant pricing factors including the market price of underlying reference instruments, market parameters (volatilities, correlations and credit ratings) and customer behaviour are taken into account.

Valuation techniques are subjective in nature and significant judgement is involved in establishing the fair value for certain financial assets and liabilities. Valuation techniques involve various assumptions regarding pricing factors. The use of different valuation techniques and assumptions could produce significantly different estimates of the fair value.

Reference is made to Note 36 'Fair value of financial assets and liabilities' for more disclosure on fair value of financial assets and liabilities at the balance sheet date.

1 Accounting policies continued

Impairments

All debt and equity securities and loans (other than those carried at fair value through profit or loss) are subject to impairment testing every reporting period. The carrying value is reviewed in order to determine whether an impairment loss has been incurred. Evaluation for impairment includes both quantitative and qualitative considerations. For debt securities, such considerations include actual and estimated incurred credit losses indicated by payment default, market data on (estimated) incurred losses and other current evidence that the issuer may be unlikely to pay amounts when due. Equity securities are impaired when management believes that, based on a significant or prolonged decline of the fair value below the acquisition price, there is sufficient reason to believe that the acquisition cost may not be recovered. 'Significant' and 'prolonged' are interpreted on a case-by-case basis for specific equity securities. Generally, 25% and six months are used as triggers. Upon impairment of available-for-sale debt and equity securities, the full difference between the (acquisition) cost and fair value is removed from equity and recognised in net result. Impairments on debt securities may be reversed if there is a decrease in the amount of the impairment which can be objectively related to an observable event after the impairment. Impairments on equity securities cannot be reversed.

The identification of impairments is an inherently uncertain process involving various assumptions and factors, including financial condition of the counterparty, expected future cash flows, statistical loss data, discount rates, observable market prices, etc. Estimates and assumptions are based on management's judgement and other information available. Significantly different results can occur as circumstances change and additional information becomes known.

General accounting policies

Consolidation

NN Group comprises NN Group N.V. and all its subsidiaries. The Consolidated annual accounts of NN Group comprise the accounts of NN Group N.V. and all entities over which NN Group has control. NN Group has control over an entity when NN Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The assessment of control is based on the substance of the relationship between NN Group and the entity and considers existing and potential voting rights that are substantive. For a right to be substantive, the holder must have the practical ability to exercise that right.

For interests in investment entities, the existence of control is determined taking into account both NN Group's financial interests for own risk and its role as asset manager. Financial interests for risk of policyholders are not taken into account when the policyholders decide on the investment allocations of their insurance policies (i.e. the policyholder has the 'power') and assume all risks and benefits of these investments (i.e. the policyholder assumes the variable returns).

The results of the operations and the net assets of subsidiaries are included in the profit and loss account and the balance sheet from the date control is obtained until the date control is lost. Minority interests are initially measured at their proportionate share of the subsidiaries' identifiable net assets at the date of acquisition. On disposal, the difference between the sales proceeds, net of directly attributable transaction costs, and the net assets is included in net result.

A subsidiary which NN Group has agreed to sell but is still legally owned by NN Group may still be controlled by NN Group at the balance sheet date and, therefore, still be included in the consolidation. Such a subsidiary may be presented as held for sale if certain conditions are met.

All intercompany transactions, balances and unrealised gains and losses on transactions between group companies are eliminated. Where necessary, the accounting policies used by subsidiaries are changed to ensure consistency with NN Group policies. In general, the reporting dates of subsidiaries are the same as the reporting date of NN Group N.V.

A list of principal subsidiaries is included in Note 34 'Principal subsidiaries and geographical information'.

Foreign currency translation

Functional and presentation currency

Items included in the annual accounts of each NN Group entity are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The Consolidated annual accounts are presented in euros, which is NN Group's functional and presentation currency.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rate prevailing at the date of the transactions. Exchange rate differences resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the profit and loss account, except when deferred in equity as part of qualifying cash flow hedges or qualifying net investment hedges.

1 Accounting policies continued

Exchange rate differences on non-monetary items, measured at fair value through profit or loss, are reported as part of the 'Fair value gain or loss'. Exchange rate differences on non-monetary items measured at fair value through other comprehensive income (equity) are included in the 'Revaluation reserve' in equity.

Exchange rate differences in the profit and loss account are generally included in 'Foreign currency results and net trading income'. Exchange rate differences relating to the disposal of available-for-sale debt and equity securities are considered to be an inherent part of the capital gains and losses recognised in 'Investment income'. As mentioned below in Group companies, on disposal of group companies, any exchange rate difference deferred in equity is recognised in the profit and loss account in 'Result on disposals of group companies'.

Group companies

The results and financial positions of all group companies that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities included in each balance sheet are translated at the closing rate at the date of that balance sheet
- Income and expenses included in each profit and loss account are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the dates of the transactions)
- All resulting exchange rate differences are recognised in a separate component of equity in 'Currency translation reserve'

On consolidation, exchange rate differences arising from the translation of a monetary item that forms part of the net investment in a foreign operation and of borrowings and other instruments designated as hedges of such investments are taken to shareholders' equity. When a foreign operation is sold the corresponding exchange rate differences are recognised in the profit and loss account as part of the gain or loss on sale.

Goodwill and fair value adjustments arising from the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the exchange rate prevailing at the balance sheet date.

Recognition and derecognition of financial instruments

Financial assets and liabilities are generally (de)recognised at trade date, which is the date on which NN Group commits to purchase or sell the asset. Loans and receivables are recognised at settlement date, which is the date on which NN Group receives or delivers the asset.

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or where NN Group has transferred substantially all risks and rewards of ownership. If NN Group neither transfers nor retains substantially all the risks and rewards of ownership of a financial asset, it derecognises the financial asset if it no longer has control over the asset.

Realised gains and losses on investments are determined as the difference between the sales proceeds and (amortised) cost. For equity securities, the cost is determined using a weighted average per portfolio. For debt securities, the cost is determined by specific identification (generally FIFO).

Fair value of financial assets and liabilities

The fair values of financial instruments are based on unadjusted quoted market prices at the balance sheet date where available. The quoted market price used for financial assets held by NN Group is the current bid price; the quoted market price used for financial liabilities is the current offer price.

The fair values of financial instruments that are not traded in an active market are determined using valuation techniques, based on market conditions existing at each balance sheet date. An active market for the financial instrument is a market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis. Assessing whether a market is active requires judgement, considering factors specific to the financial instrument.

Reference is made to Note 36 'Fair value of financial assets and liabilities' for the basis of determination of the fair value of financial instruments.

Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and the net amount reported in the balance sheet when NN Group has a current legally enforceable right to set off the recognised amounts and intends to either settle on a net basis or to realise the asset and settle the liability at the same time.

1 Accounting policies continued

Impairments of financial assets

NN Group assesses periodically and at each balance sheet date whether there is objective evidence that a financial asset or group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are recognised if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset, but before the balance sheet date, (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated. In the specific case of equity investments classified as available-for-sale, a significant or prolonged decline in the fair value of the security below its cost is considered in determining whether the assets are impaired. 'Significant' and 'prolonged' are interpreted on a case-by-case basis for specific equity securities; generally, 25% and six months are used as triggers.

In certain circumstances NN Group may grant borrowers postponement and/or reduction of loan principal and/or interest payments for a temporary period of time to maximise collection opportunities and, if possible, avoid default, foreclosure or repossession. When such postponement and/or reduction of loan principal and/or interest payments is executed based on credit concerns it is also referred to as 'forbearance'. In general, forbearance represents an impairment trigger under IFRS-EU. In such cases, the net present value of the postponement and/or reduction of loan principal and/or interest payments is taken into account in the determination of the appropriate level of loan loss provisioning as described below. If the forbearance results in a substantial modification of the terms of the loan, the original loan is derecognised and a new loan is recognised at its fair value at the modification date.

In determining the impairment loss, expected future cash flows are estimated on the basis of the contractual cash flows of the assets in the portfolio. NN Group first assesses whether objective evidence of impairment exists individually for financial assets that are individually significant and then individually or collectively for financial assets that are not individually significant.

If there is objective evidence that an impairment loss on an asset carried at amortised cost has occurred, the amount of the loss is measured as the difference between the asset's carrying value and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The carrying value of the asset is reduced through the use of an allowance account (loan loss provisions) and the amount of the loss is recognised in the profit and loss account in 'Investment income'. If the asset has a variable interest rate, the discount rate for measuring any impairment loss is the current effective interest rate determined under the contract. When a loan is uncollectable, it is written off against the related loan loss provision. Such loans are written off after all the necessary procedures have been completed and the amount of the loss has been determined.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised (such as an improvement in the debtor's credit rating), the previously recognised impairment loss is reversed by adjusting the provision. The amount of the reversal is recognised in the profit and loss account.

If there is objective evidence that an impairment loss on available-for-sale debt and equity investments has occurred, the cumulative loss – measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that asset previously recognised in net result – is removed from equity and recognised in the profit and loss account.

Impairment losses recognised on equity instruments can never be reversed. If, in a subsequent period, the impairment loss on a loan or a debt instrument classified as available-for-sale reverses, which can be objectively related to an event occurring after the impairment loss was recognised in the profit and loss account, the impairment loss is reversed through the profit and loss account.

Maximum credit risk exposure

The maximum credit risk exposure for items on the balance sheet is generally the carrying value for the relevant financial assets. For the off-balance sheet items, the maximum credit exposure is the maximum amount that could be required to be paid. Reference is made to Note 44 'Contingent liabilities and commitments' for these off-balance sheet items. Collateral received is not taken into account when determining the maximum credit risk exposure. The manner in which NN Group manages credit risk and determines credit risk exposures is explained in Note 52 'Risk management'.

Leases

The leases entered into by NN Group as a lessee are primarily operating leases. At inception of a contract, NN Group assesses whether a contract is, or contains, a lease. A contract is, or contains a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The net present value of operating lease commitments is recognised on the balance sheet as a 'right of use asset' under Property and equipment or Real estate investments and a lease liability is recognised under Other liabilities. NN Group does not recognise a right of use asset and a lease liability for short-term leases that have a lease term of 12 months or less and for leases of low value assets. The lease payments associated with these leases are recognised as an expense.

1 Accounting policies continued

Taxation

Income tax on the result for the year comprises current and deferred tax. Income tax is generally recognised in the profit and loss account, but is recognised directly in equity if the tax relates to items that are recognised directly in equity.

Current tax consists of the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of current tax payable or receivable is the best estimate of the tax amount expected to be paid or received that reflects uncertainty related to income taxes, if any. It is measured using tax rates enacted or substantively enacted at the reporting date.

Deferred tax is provided in full, using the liability method, on all temporary differences arising between the tax bases of assets and liabilities and their carrying values in the balance sheet. Deferred tax is determined using tax rates (and laws) applicable in the jurisdictions in which NN Group is liable to taxation, that have been enacted or substantively enacted at the balance sheet date and are expected to apply when the related deferred tax asset is realised or the deferred tax liability is settled. Deferred tax assets and liabilities are not discounted.

Deferred tax assets are recognised for all deductible temporary differences and unused tax losses carried forward where it is probable that future taxable profits will be available against which the temporary differences can be used. Unrecognised deferred tax assets are reassessed periodically and recognised to the extent that it has become probable that future taxable profits will be available against which they can be used. Deferred tax is provided on temporary differences arising from investments in subsidiaries and associates, except where the timing of the reversal of the temporary difference is controlled by NN Group and it is probable that the difference will not reverse in the foreseeable future. The tax effects of income tax losses available for carry forward are recognised as an asset where it is probable that future taxable profits will be available against which these losses can be used.

Offsetting deferred tax assets with deferred tax liabilities is allowed as long as there is a legally enforceable right to offset current tax assets against current tax liabilities together with the intention to do so and the deferred taxes relate to income taxes levied by the same taxation authority on the same entity or on the same fiscal unity.

Employee benefits

Defined benefit pension plans

The net defined benefit asset or liability recognised in the balance sheet in respect of defined benefit pension plans is the fair value of the plan assets less the present value of the defined benefit obligation at the balance sheet date. Plan assets are measured at fair value at the balance sheet date. For determining the pension expense, the expected return on plan assets is determined using a high quality corporate bond rate identical to the discount rate used in determining the defined benefit obligation.

Defined contribution pension plans

For defined contribution plans, NN Group pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. NN Group has no further payment obligations once the contributions have been paid. The contributions are recognised as staff expenses in the profit and loss account when they are due.

Other post-employment obligations

Some NN Group companies provide post-employment benefits to certain employees and former employees. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment using an accounting methodology similar to that for defined benefit pension plans.

Share-based payments

Share-based payment expenses are recognised as staff expenses over the vesting period. A corresponding increase in equity is recognised for equity-settled share-based payment transactions. The fair value of equity-settled share-based payment transactions is measured at the grant date. For cash-settled share-based payment transactions, a liability is recognised at fair value; this fair value is remeasured at every balance sheet date.

1 Accounting policies continued

Interest income and expenses

Interest income and expenses are recognised in the profit and loss account using the effective interest method. The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability and of allocating the interest income or interest expenses over the relevant period. The effective interest rate is the rate that exactly discounts the estimated future cash payments or receipts throughout the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying value of the financial asset or financial liability. When calculating the effective interest rate, NN Group estimates cash flows considering all contractual terms of the financial instrument (for example prepayment options) but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums or discounts. Once a financial asset or a group of similar financial assets has been written down as a result of an impairment loss, interest income is recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss. Interest income and expenses from non-trading derivatives are classified as interest income and interest expenses in the profit and loss account, except for interest income/expense on derivatives for which no hedge accounting is applied. The latter is classified in 'Valuation results on non-trading derivatives', together with the changes in the (clean) fair value of these derivatives.

Fiduciary activities

NN Group commonly acts as trustee and in other fiduciary capacities that result in the holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions when conducting asset management activities. The assets and income arising thereon are excluded from these annual accounts, as they are not assets or income of NN Group. Fees received acting as trustee and in other fiduciary capacities are recognised as income.

Statement of cash flows

The Consolidated statement of cash flows is prepared in accordance with the indirect method, classifying cash flows as cash flows from operating, investing and financing activities. In the net cash flow from operating activities, the result before tax is adjusted for those items in the profit and loss account and changes in balance sheet items, which do not result in actual cash flows during the year.

Cash and cash equivalents comprise balances with less than three months maturity from the date of acquisition. Investments qualify as a cash equivalent if they are readily convertible into a known amount of cash and are not subject to significant risk of changes in value.

Cash flows arising from foreign currency transactions are translated into the functional currency using the exchange rates at the date of the cash flows.

The difference between the net cash flow in accordance with the statement of cash flows and the change in 'Cash and cash equivalents' in the balance sheet is due to exchange rate differences and is accounted for separately as part of the reconciliation of the net cash flow and the balance sheet change in 'Cash and cash equivalents'.

Cash flows arising from the issue of mortgage loans held in the banking operations are recognised under Net cash flows from operating activities, whereas cash flows related to mortgage loans held as investment in the insurance operations are recognised under Net cash flow from investing activities.

Cash flows on collateral related to derivatives (presented in the balance sheet in Other assets and Other liabilities) is presented in the Consolidated statement of cash flows as part of Net cash flow from operating activities, consistent with the cash flows of the related derivatives.

Accounting policies for specific items

Financial assets and liabilities at fair value through profit or loss (Notes 4 and 20)

A financial asset or liability is classified as at fair value through profit or loss if it is acquired principally for the purpose of selling in the short-term or if designated by management as such. Management will make this designation only if this eliminates a measurement inconsistency or if the related assets and liabilities are managed on a fair value basis.

Transaction costs on initial recognition are expensed as incurred. Interest income from debt securities and loans and receivables classified as at fair value through profit or loss is recognised in the profit and loss account using the effective interest method. Dividend income from equity instruments classified as at fair value through profit or loss is recognised in the profit and loss account when the dividend has been declared.

1 Accounting policies continued

Investments for risk of policyholders

Investments for risk of policyholders are investments against insurance liabilities for which all changes in the fair value of invested assets are offset by similar changes in insurance liabilities. Investments for risk of policyholders are recognised at fair value; changes in fair value are recognised in the profit and loss account.

Derivatives and hedge accounting

Derivatives are recognised at fair value. Derivatives are presented as assets when the fair value is positive and as liabilities when the fair value is negative.

The method of recognising the resulting fair value gain or loss depends on whether the derivative is designated as a hedging instrument and, if so, the nature of the item being hedged. NN Group designates certain derivatives as hedges of highly probable future cash flows attributable to a recognised asset or liability or a forecast transaction (cash flow hedge), hedges of the fair value of recognised assets or liabilities or firm commitments (fair value hedge), or hedges of a net investment in a foreign operation. Hedge accounting is used for derivatives designated in this way provided certain criteria are met.

At the inception of the hedge transaction NN Group documents the relationship between hedging instruments and hedged items, its risk management objectives, together with the methods selected to assess hedge effectiveness. In addition, NN Group documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair value or cash flows of the hedged items. NN Group applies fair value hedge accounting to portfolio hedges of interest rate risk (macro hedging) under the EU 'carve out' of IFRS-EU. The EU 'carve-out' macro hedging enables a group of derivatives (or proportions) to be viewed in combination and jointly designated as the hedging instrument and removes some of the limitations in fair value hedge accounting relating to hedging deposits and under-hedging strategies. Under the IFRS-EU 'carve-out', hedge accounting may be applied to deposits and ineffectiveness only arises when the revised estimate of the amount of cash flows in scheduled time buckets falls below the designated amount of that bucket.

Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges are recognised in other comprehensive income (equity) in 'Cash flow hedge reserve'. The gain or loss relating to the ineffective portion is recognised immediately in the profit and loss account. Amounts accumulated in equity are recycled to the profit and loss account in the periods in which the hedged item affects Net result. When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the profit and loss account. When a forecast transaction is no longer expected to occur, the cumulative gain or loss previously reported in equity is transferred immediately to the profit and loss account.

Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognised in the profit and loss account, together with fair value adjustments to the hedged item attributable to the hedged risk. If the hedge relationship no longer meets the criteria for hedge accounting, the cumulative adjustment of the hedged item is, in the case of interest bearing instruments, amortised through the profit and loss account over the remaining term of the original hedge or recognised directly when the hedged item is derecognised. For non-interest bearing instruments, the cumulative adjustment of the hedged item is recognised in the profit and loss account only when the hedged item is derecognised.

Net investment hedges

Hedges of net investments in foreign operations are accounted for in a similar way to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognised in other comprehensive income (equity) and the gain or loss relating to the ineffective portion is recognised immediately in the profit and loss account. Gains and losses in equity are included in the profit and loss account when the foreign operation is disposed.

1 Accounting policies continued

Non-trading derivatives that do not qualify for hedge accounting

Derivatives that are used by NN Group as part of its risk management strategies, that do not qualify for hedge accounting under NN Group's accounting policies, are presented as non-trading derivatives. Non-trading derivatives are measured at fair value with changes in the fair value taken to 'Valuation results on non-trading derivatives' in the profit and loss account.

Certain derivatives embedded in other contracts are measured as separate derivatives if:

- Their economic characteristics and risks are not closely related to those of the host contract
- The host contract is not carried at fair value through profit or loss
- A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative (unless the embedded derivative meets the definition of an insurance contract)

These embedded derivatives are measured at fair value with changes in fair value recognised in the profit and loss account. An assessment is carried out when NN Group first becomes party to the contract. A reassessment is carried out only when there is a change in the terms of the contract that significantly modifies the expected cash flows.

Available-for-sale investments (Note 5)

Available-for-sale financial assets include available-for-sale debt securities and available-for-sale equity securities. Available-for-sale financial assets are initially recognised at fair value plus transaction costs. For available-for-sale debt securities, the difference between cost and redemption value is amortised. Interest income is recognised using the effective interest method. Available-for-sale financial assets are subsequently measured at fair value. Interest income from debt securities classified as available-for-sale is recognised in the profit and loss account in 'Investment income'. Dividend income from equity instruments classified as available-for-sale is recognised in the profit and loss account in 'Investment income' when the dividend has been declared.

Unrealised gains and losses arising from changes in the fair value are recognised in other comprehensive income (equity). On disposal, the related accumulated fair value adjustments are included in the profit and loss account as 'Investment income'. For impairments of available-for-sale financial assets reference is made to the section 'Impairments of financial assets'.

Loans (Note 6)

Loans are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are initially recognised at fair value plus transaction costs. Subsequently, they are carried at amortised cost using the effective interest method less any impairment losses. Interest income from loans is recognised in the profit and loss account in 'Investment income' using the effective interest method.

Associates and joint ventures (Note 7)

Associates are all entities over which NN Group has significant influence but not control. Significant influence generally results from a shareholding of 20% or more of the voting rights, but also the ability to participate in the financial and operating policies through situations including, but not limited to, one or more of the following:

- Representation on the board of directors
- Participation in the policy making process
- Interchange of managerial personnel

Joint ventures are all entities in which NN Group has joint control.

Associates and joint ventures are initially recognised at cost (including goodwill) and subsequently accounted for using the equity method of accounting. Subsequently, NN Group's share of profits or losses is recognised in the profit and loss account and its share of changes in reserves is recognised in other comprehensive income (equity).

The cumulative changes are adjusted against the carrying value of the investment. When NN Group's share of losses in an associate or joint venture equals or exceeds the book value of the associate or joint venture, NN Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate or joint venture.

Unrealised gains and losses on transactions between NN Group and its associates and joint ventures are eliminated to the extent of NN Group's interest. Accounting policies of associates and joint ventures have been changed where necessary to ensure consistency with the policies of NN Group. The reporting dates of all significant associates and joint ventures are consistent with the reporting date of NN Group.

1 Accounting policies continued

For interests in investment entities the existence of significant influence is determined taking into account both NN Group's financial interests for own risk and its role as asset manager.

Associates include interests in real estate funds and private equity funds. The underlying assets of both the real estate and the private equity funds are measured at fair value through profit or loss (i.e. no revaluations in other comprehensive income). The fair value of underlying real estate in real estate funds is determined as set out below for Real estate investments. The fair value of underlying private equity investments in private equity funds is generally based on a forward-looking market approach. This approach uses a combination of company financials and quoted market multiples. In the absence of quoted prices in an active market, fair value is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects, price, earnings comparisons and by reference to market valuations for similar entities quoted in an active market. Valuations of private equity investments are mainly based on an 'adjusted multiple of earnings' methodology on the following basis:

- Earnings: reported earnings are adjusted for non-recurring items, such as restructuring expenses, for significant corporate actions and, in exceptional cases, for run-rate adjustments to arrive at maintainable earnings. The most common measure is earnings before interest, tax, depreciation and amortisation (EBITDA). Earnings used are usually management forecasts for the current year, unless data from management accounts for the 12 months preceding the reporting period or the latest audited annual accounts provide a more reliable estimate of maintainable earnings.
- Earnings multiples: earnings multiples are derived from comparable listed companies or relevant market transaction multiples for companies in the same industry and, where possible, with a similar business model and profile in terms of size, products, services and customers, growth rates and geographic focus. Adjustments are made for differences in the relative performance in the group of comparable companies.
- Adjustments: a marketability or liquidity discount is applied based on factors such as alignment with management and other investors and NN Group's investment rights in the deal structure.

Real estate investments (Note 8)

Real estate investments under construction are included in 'Real estate investments'. Real estate investments are held for long-term rental yields and are not occupied by NN Group. Real estate investments are initially measured at cost, including transaction cost and are subsequently measured at fair value. Changes in the carrying value resulting from revaluations are recognised in the profit and loss account. On disposal the difference between the sales proceeds and carrying value is recognised in the profit and loss account. The fair value of real estate investments is based on regular appraisals by independent qualified valuers. For each reporting period every property is valued by an external valuer. Market transactions and disposals made by NN Group are monitored as part of the validation procedures to test the valuations. Valuations performed earlier in the year are updated if necessary to reflect the situation at the year-end. All real estate investments are appraised externally at least annually.

The fair value represents the estimated amount for which the property could be exchanged on the date of valuation between a willing buyer and willing seller in an at-arm's-length transaction after proper marketing wherein the parties each acted knowledgeably, prudently and without compulsion. The fair value is based on appraisals using valuation methods such as comparable market transactions, capitalisation of income methods or discounted cash flow calculations. The underlying assumption used in the valuation is that the properties are let or sold to third parties based on the actual letting status. The discounted cash flow analysis and capitalisation of income method are based on calculations of the future rental income in accordance with the terms in existing leases and estimations of the rental values for new leases when leases expire and incentives like rent-free periods. The cash flows are discounted using market-based interest rates that reflect appropriately the risk characteristics of real estate. The valuation of real estate investments takes (expected) vacancies into account. Occupancy rates differ significantly from investment to investment. For real estate investments held through (minority shares in) real estate investment funds, the valuations are performed under the responsibility of the funds' asset manager.

Subsequent expenditures are recognised as part of the asset's carrying value only when it is probable that future economic benefits associated with the item will flow to NN Group and the cost of an item can be measured reliably. All other repairs and maintenance costs are recognised immediately in the profit and loss account. Borrowing costs on real estate investments under construction are capitalised until completion.

Property and equipment (Note 9)

Land and buildings held for own use are stated at fair value at the balance sheet date. Increases in the carrying value are recognised in other comprehensive income (equity). Decreases in the carrying value that offset previous increases of the same asset are charged against other comprehensive income (equity); all other decreases are recognised in the profit and loss account. Increases that reverse a revaluation decrease on the same asset previously recognised in net result are recognised in the profit and loss account. Depreciation is recognised based on the fair value and the estimated useful life (in general 20-50 years). On disposal, the related revaluation reserve in equity is transferred within equity to 'Retained earnings'.

1 Accounting policies continued

The fair value of land and buildings is based on regular appraisals by independent, qualified valuers or internally, similar to appraisals of real estate investments. All significant holdings of land and buildings are appraised at least annually. Subsequent expenditure is included in the asset's carrying value when it is probable that future economic benefits associated with the item will flow to NN Group and the cost of the item can be measured reliably.

Equipment is stated at cost less accumulated depreciation and any impairment losses. The estimated useful lives are generally as follows: two to five years for data processing equipment and four to ten years for fixtures and fittings. Expenditure incurred on maintenance and repairs is recognised in the profit and loss account as incurred. Expenditure incurred on major improvements is capitalised and depreciated. The difference between the proceeds on disposal and net carrying value is recognised in the profit and loss account in 'Other income'.

Methods of depreciation and amortisation

Items of property and equipment are depreciated, intangible assets with finite useful lives are amortised. The carrying values of the assets are depreciated/amortised on a straight-line basis over the estimated useful lives. Methods of depreciation and amortisation, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

Intangible assets (Note 10)

Goodwill

NN Group's acquisitions are accounted for using the acquisition method of accounting. The consideration for each acquisition is measured at the aggregate of the fair value (at the date of acquisition) of assets given, liabilities incurred or assumed and equity instruments issued in exchange for control of the acquiree. Where applicable, the consideration for the acquisition includes any asset or liability resulting from a contingent consideration arrangement, measured at its acquisition-date fair value. Goodwill, being the positive difference between the cost of the acquisition (including assumed debt) and NN Group's interest in the fair value of the acquired assets, liabilities and contingent liabilities as at the date of acquisition, is capitalised as an intangible asset. Negative goodwill is recognised immediately in the profit and loss account as income. The results of the operations of the acquired companies are included in the profit and loss account from the date control is obtained.

Where a business combination is achieved in stages, NN Group's previously held interests in the assets and liabilities of the acquired entity are remeasured to fair value at the acquisition date (i.e. the date NN Group obtains control) and the resulting gain or loss, if any, is recognised in the profit and loss account. Amounts arising from interests in the acquiree before the acquisition date that have previously been recognised in other comprehensive income (equity) are reclassified to the profit and loss account, where such treatment would be appropriate if that interest were disposed of.

Acquisition-related costs are recognised in the profit and loss account as incurred and presented in the profit and loss account as 'Other operating expenses'.

Until 2009, before IFRS 3 'Business Combinations' was revised, the accounting of previously held interests in the assets and liabilities of the acquired entity were not remeasured at the acquisition date and the acquisition-related costs were considered to be part of the total consideration. Goodwill is only capitalised on acquisitions after the implementation date of IFRS-EU (1 January 2004). Accounting for acquisitions before that date has not been restated; goodwill and internally generated intangibles on these acquisitions were recognised directly in shareholders' equity.

The initial accounting for the fair value of the net assets of the companies acquired during the year may be determined only provisionally as the determination of the fair value can be complex and the time between the acquisition and the preparation of the annual accounts can be limited. The initial accounting shall be completed within a year after acquisition.

Goodwill is allocated to cash generating units (reporting units) for the purpose of impairment testing. These cash generating units (reporting units) represent the lowest level at which goodwill is monitored for internal management purposes, which is either at the segment level or at a level below. This test is performed annually or more frequently if there are indicators of impairment. Under the impairment tests, the carrying value of the cash generating units (reporting units including goodwill) is compared to its recoverable amount which is the higher of its fair value less costs to sell and its value in use.

Computer software

Computer software that has been purchased or generated internally for own use is stated at cost less amortisation and any impairment losses. The expected useful life of computer software will generally not exceed three years. Amortisation is included in 'Other operating expenses'.

1 Accounting policies continued

Value of business acquired (VOBA)

VOBA is an asset that represents the present value of estimated net cash flows embedded in the insurance contracts of an acquired company, which exists at the time the company was acquired. It represents the difference between the fair value of insurance liabilities and their carrying value. VOBA is amortised in a similar manner to the amortisation of the deferred acquisition costs as described in the section 'Deferred acquisition costs'.

Other intangible assets

Other intangible assets include brand names, client relationships and distribution channels. These assets are stated at cost less amortisation and any impairment losses. The expected useful life is between 2 and 17 years.

Impairment

Impairment reviews with respect to goodwill and intangible assets are performed at least annually and more frequently if events indicate that impairments may have occurred. Goodwill is tested for impairment by comparing the carrying value of the cash generating unit (reporting unit) to which the goodwill was allocated to the best estimate of the recoverable amount of that cash generating unit (reporting unit). The carrying value is determined as the IFRS-EU net asset value including goodwill and acquisition intangibles. The recoverable amount is estimated as the higher of fair value less cost to sell and value in use. Several methodologies are applied to arrive at the best estimate of the recoverable amount. A cash generating unit (reporting unit) is the lowest level at which goodwill is monitored. Other intangible assets are tested for impairment by comparing the carrying value with the best estimate of the recoverable amount of the individual intangible asset.

Deferred acquisition costs (Note 11)

Deferred acquisition costs (DAC) represent costs of acquiring insurance and investment contracts that are deferred and amortised. The deferred costs, all of which vary with (and are primarily related to) the production of new and renewal business, consist principally of commissions, certain underwriting and contract issuance expenses and certain agency expenses.

For traditional life insurance contracts, certain types of flexible life insurance contracts and non-life contracts, DAC is amortised over the premium payment period in proportion to the premium revenue recognised.

For other types of flexible life insurance contracts DAC is amortised over the lives of the policies in relation to the emergence of estimated profits. Amortisation is adjusted when estimates of current or future profits, to be realised from a group of products, are revised.

DAC amortisation is included in the Underwriting expenditure in the profit and loss account.

DAC is evaluated for recoverability at issue. Subsequently it is tested on a regular basis together with the life insurance liabilities. The test for recoverability is described in the section 'Insurance and investment contracts, reinsurance contracts'.

For certain products DAC is adjusted for the impact of unrealised results on allocated investments through equity.

Assets and liabilities held for sale (Note 12)

Assets and liabilities of a business are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This is only the case when the sale is highly probable, the business is available for immediate sale in its present condition and management is committed to the sale, which is expected to occur within one year from the date of classification as held for sale. Classification into or out of held for sale does not result in restating comparative amounts in the balance sheet.

Subordinated debt, debt securities issued and other borrowed funds (Notes 15, 16 and 17)

Subordinated debt, debt securities issued and other borrowed funds are recognised initially at their issue proceeds (fair value of consideration received) net of transaction costs incurred. Borrowings are subsequently measured at amortised cost. Any difference between proceeds, net of transaction costs and the redemption value is recognised in the profit and loss account over the period of the borrowings using the effective interest method.

If NN Group purchases its own debt, it is derecognised from the balance sheet and the difference between the carrying value of the liability and the consideration paid is recognised in the profit and loss account.

Financial liabilities include only instruments of which the terms and conditions represent a contractual obligation to pay interest and/or principal. Instruments that are similar in substance, but of which the terms and conditions do not include a contractual obligation to pay interest and principal are classified as equity.

1 Accounting policies continued

Insurance and investment contracts, reinsurance contracts (Note 18)

Insurance liabilities are established in accordance with IFRS 4 'Insurance Contracts'. Under IFRS 4, an insurer may continue its existing pre-IFRS accounting policies for insurance contracts, provided that certain minimum requirements are met. Upon adoption of IFRS-EU in 2005, NN Group decided to continue the then existing accounting principles for insurance contracts under IFRS-EU. NN Group operates in many different countries and the accounting principles for insurance contracts follow local practice in these countries. For NN Group's businesses in the Netherlands, NN Group applies accounting standards generally accepted in the Netherlands (Dutch GAAP) for its insurance contracts. Changes in those local accounting standards (including Dutch GAAP) subsequent to the adoption of IFRS-EU are considered for adoption on a case-by-case basis. If adopted, the impact thereof is accounted for as a change in accounting policies under IFRS-EU.

In addition, for certain specific products or components thereof, NN Group applies the option in IFRS 4 to measure (components of) insurance liabilities using market-consistent interest rates and other current estimates and assumptions. This relates mainly to certain guarantees embedded in insurance contracts in Japan.

Insurance contracts

Insurance policies which bear significant insurance risk and/or contain discretionary participation features (including investment contracts with discretionary participation features) are presented as insurance contracts. Insurance liabilities represent estimates of future pay-outs that will be required for life and non-life insurance claims, including expenses relating to such claims. For some insurance contracts the measurement reflects current market assumptions. Unless indicated otherwise below, changes in the insurance liabilities are recognised in the profit and loss account.

Life insurance liabilities

The life insurance liabilities are generally calculated on the basis of a prudent prospective actuarial method. Specific methodologies may differ between business units as they may reflect local regulatory requirements and local practices for specific product features in the local markets.

Insurance liabilities on traditional life policies are calculated using various assumptions, including assumptions on mortality, morbidity, expenses, investment returns and surrenders. Assumptions for insurance liabilities for traditional life insurance contracts, including traditional whole-life and term-life insurance contracts, are based on best estimate assumptions including margins for adverse deviations. Generally, these assumptions are set initially at the policy issue date and remain constant throughout the life of the policy. For the insurance liabilities that were taken over in the Delta Lloyd acquisition, these assumptions are set as at the date of acquisition, 1 April 2017.

Insurance liabilities for universal life, variable life and annuity contracts, unit-linked contracts, etc. are generally set equal to the balance that accrues to the benefit of the policyholders.

Certain contracts contain minimum (interest) guarantees on the amounts payable upon death and/or maturity. The insurance liabilities include the impact of these minimum (interest) guarantees, taking into account the difference between the potential minimum benefit payable and the total account balance, expected mortality and surrender rates.

Unamortised interest rate rebates on periodic and single premium contracts are deducted from the life insurance contract liabilities. Interest rate rebates granted during the year are amortised in conformity with the anticipated recovery pattern and are recognised in the profit and loss account.

Liabilities for unearned premiums and unexpired insurance risks

The liabilities are calculated in proportion to the unexpired periods of risk. For insurance policies covering a risk increasing during the term of the policy at premium rates independent of age, this risk is taken into account when determining the liability. Further liabilities are formed to cover claims under unexpired insurance contracts, which may exceed the unearned premiums and the premiums due in respect of these contracts.

Claims liabilities

Claims liabilities are calculated either on a case-by-case basis or by approximation on the basis of experience. Liabilities have also been recognised for claims incurred but not reported (IBNR) and for future claims handling expenses. IBNR liabilities are set to recognise the estimated cost of losses that have occurred but which have not yet been notified to NN Group. The adequacy of the claims liabilities is evaluated each year using standard actuarial techniques.

1 Accounting policies continued

Deferred interest credited to policyholders

For insurance contracts and investment contracts with discretionary participation features, 'Deferred interest credited to policyholders' is recognised for the full amount of the unrealised revaluations on allocated investments. Upon realisation, the 'Deferred interest credited to policyholders' regarding unrealised revaluations is reversed and a deferred profit sharing amount is recognised for the share of realised results on allocated investments that is expected to be shared with policyholders. The amount of deferred profit sharing is reduced by the actual allocation to individual policyholders. The change in the amount of 'Deferred interest credited to policyholders' on unrealised revaluations (net of tax) is recognised in the 'Revaluation reserve' in other comprehensive income (equity).

Liabilities for life insurance for risk of policyholders

Liabilities for life insurance for risk of policyholders are generally shown at the balance sheet value of the related investments.

Reinsurance contracts

Reinsurance premiums, commissions and claim settlements, as well as the reinsurance element of insurance contracts are accounted for in the same way as the original contracts for which the reinsurance was concluded. If the reinsurers are unable to meet their obligations, NN Group remains liable to its policyholders for the portion reinsured. Consequently, provisions are recognised for receivables on reinsurance contracts which are deemed uncollectable. Both reinsurance premiums and reinsurance recoveries are included in 'Underwriting expenditure' in the profit and loss account.

Adequacy test

The adequacy of the insurance liabilities is evaluated at each reporting period by each business unit for the business originated in that business unit. The test involves comparing the established insurance liability (gross of reinsurance and net of DAC and VOBA) to a liability based on current best estimate actuarial assumptions. The assumed investment returns are a combination of the run-off of current portfolio yields on existing assets and reinvestment rates in relation to maturing assets and anticipated new premiums, as a result (part of) the revaluation reserve in shareholders equity is taken into account in assessing the adequacy of insurance liabilities.

If, for any business unit, the established insurance liability is lower than the liability based on current best estimate actuarial assumptions the shortfall is recognised immediately in the profit and loss account.

If the insurance liabilities are determined to be more than adequate no reduction in the insurance liabilities is recognised.

Investment contracts

Insurance policies without discretionary participation features which do not bear significant insurance risk are presented as Investment contracts. Investment contract liabilities are determined at amortised cost, using the effective interest method (including certain initial acquisition expenses), or at fair value.

Other liabilities (Note 21)

Provisions

Other liabilities include reorganisation provisions, litigation provisions and other provisions. Reorganisation provisions include employee termination benefits when NN Group is demonstrably committed to either terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal, or providing termination benefits as a result of an offer made to encourage voluntary redundancy. Provisions are discounted when the effect of the time value of money is significant, using a before tax discount rate. The determination of provisions is an inherently uncertain process involving estimates regarding amounts and timing of cash flows.

Gross premium income (Note 22)

Premiums from insurance policies are recognised as income when due from the policyholder. Receipts under investment contracts are not recognised as gross premium income; instead, deposit accounting is applied. When applying deposit accounting, the amounts contributed by policyholders are recognised as direct increases in the provision for investment contracts, not as premium income and payments are deducted directly from the provision.

Net fee and commission income (Note 24)

Fees and commissions are generally recognised as the service is provided. Portfolio and other management advisory and service fees are recognised based on the applicable service contracts as the service is provided. Asset management fees related to investment funds and investment contract fees are recognised on a pro-rata basis over the period the service is provided. The same principle is applied for wealth management, financial planning and custody services that are continuously provided over an extended period of time.

1 Accounting policies continued

Earnings per ordinary share (Note 32)

Earnings per ordinary share is calculated on the basis of the weighted average number of ordinary shares outstanding. In calculating the weighted average number of ordinary shares outstanding, own shares held by group companies are deducted from the total number of ordinary shares in issue.

Changes in the number of ordinary shares outstanding without a corresponding change in resources are taken into account, including if these changes occurred after the reporting date but before the annual accounts are authorised for issue.

Diluted earnings per share data are computed as if all convertible instruments outstanding at the year-end were exercised at the beginning of the period. It is also assumed that NN Group uses the assumed proceeds received to buy its own shares against the average market price in the financial year. The net increase in the number of shares resulting from the exercise is added to the average number of shares used to calculate diluted earnings per share.

Segments and Principal subsidiaries and geographical information (Notes 33 and 34)

A segment is a distinguishable component of NN Group, engaged in providing products or services, subject to risks and returns that are different from those of other segments. A geographical area is a distinguishable component of NN Group engaged in providing products or services within a particular economic environment that is subject to risks and returns that are different from those of segments operating in other economic environments. The geographical analysis is based on the location of the business unit from which the transactions are originated.

2 Covid-19 pandemic

Since early 2020, the spread of the Covid-19 pandemic is causing significant disruption to society and the world-wide economy, impacting NN Group, its employees, its customers and its suppliers. Financial markets have been severely impacted by significant volatility in interest rates, equity prices and spreads and the world-wide economy has been significantly impacted as well. Governments and central banks worldwide are responding to this crisis with aid packages and further supporting measures. NN Group is constantly monitoring the developments and the (potential) impact on NN Group. The most significant risks that NN Group is facing in this context are related to the financial markets (including interest rates, inflation, equity prices and spreads), insurance risk (including mortality and policyholder behaviour) and operational risk (continuity of business processes). Note 52 'Risk management' includes extensive disclosure on the exposure to such risks and the risk management thereof.

The Covid-19 pandemic, and the related impact on the financial markets, impacted the financial reporting of NN Group mainly through additional uncertainties in the determination of the fair value of illiquid assets, including real estate investments and private equity investments. NN Group uses quarterly appraisals by external valuers as main input for the determination of fair value of its real estate investments. During 2020 uncertainties in the environment have led to the inclusion of 'material valuation uncertainty' clauses in certain external valuation reports. Such clauses do not imply that the valuation cannot be relied upon, but are used to indicate that – in the extraordinary circumstances – less certainty can be attached to valuations than would otherwise be the case.

In 2021, the Covid-19 pandemic continued, but the impact on NN Group's financial reporting in 2021 was limited. While real estate valuations remain complex and uncertain, the specific valuation uncertainty clauses were no longer included in real estate appraisals by external appraisers in the valuations and there were no significant impairments (including debt and equity securities, loans and intangible assets). Furthermore, there was no significant impact from the Covid-19 pandemic on the technical provisions for Life insurance contracts. For Non-life disability insurance contracts there are both direct effects from insureds being affected by Covid-19 as well as indirect effects from longer disability as treatment is postponed. For specific portfolios this may lead to increased claims; however, the observed and expected financial impact for NN Group is not significant. Covid 19 contributed positively to the favourable claims development in P&C. NN Bank offered postponements of interest and/or principal payments on an individual basis to retail borrowers who face temporary payment difficulties on their mortgage loans or consumer loans. The number of cases is limited and the financial impact for NN Group was not significant.

NN Group has established a business continuity plan to help ensure the continuity of its businesses, the well-being of its staff and its capability to support its customers, while maintaining financial and operational resilience.

3 Cash and cash equivalents

Cash and cash equivalents

	2021	2020
Cash and bank balances	4,203	6,157
Money market funds	1,965	4,568
Short-term deposits	761	1,657
Cash and cash equivalents	**6,929**	**12,382**
Cash and cash equivalents classified as assets held for sale	226	8
Cash and cash equivalents at the end of the year	**7,155**	**12,390**

As at 31 December 2021, NN Group held EUR 1,325 million (2020: EUR 2,586 million) at central banks.

NN Group invests in several types of money market funds, some qualifying as cash equivalents and some as investments. Short-term investments in money market funds are presented as cash equivalents only if these are highly liquid and quoted in an active market and have low investment risk.

Changes in Cash and cash equivalents

	2021	2020
Cash and cash equivalents at beginning of the year	12,390	6,436
Net cash flow	-5,161	6,050
Effect of exchange rate changes on cash and cash equivalents	-74	-96
Cash and cash equivalents at the end of the year	**7,155**	**12,390**

The change in market interest rates in 2021 significantly impacted cash collateral amounts paid and received as well as other assets and liabilities which are components of the net cash flow. Consequently, the net cash flow for 2021 decreased by EUR 11,211 million to EUR -5,161 million (2020: EUR 6,050 million).

4 Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss

	2021	2020
Investments for risk of policyholders	39,261	34,797
Non-trading derivatives	6,419	14,833
Designated as at fair value through profit or loss	991	1,336
Financial assets at fair value through profit or loss	**46,671**	**50,966**

Investments for risk of policyholders

	2021	2020
Equity securities	37,010	31,992
Debt securities	1,368	1,786
Loans and receivables	883	1,019
Investments for risk of policyholders	**39,261**	**34,797**

Investments in investment funds (with underlying investments in debt and equity securities, real estate and derivatives) are included in equity securities.

Non-trading derivatives

	2021	2020
Derivatives used in:		
– fair value hedges	29	1
– cash flow hedges	4,622	10,530
Other non-trading derivatives	1,768	4,302
Non-trading derivatives	**6,419**	**14,833**

The fair value of derivatives was impacted significantly in 2021 by the change (increase) in market interest rates. This change in market interest rates also significantly impacted other balance sheet items, including Available for sale investments and Other liabilities – Cash collateral amounts received as well as other liabilities in the consolidated statement of cash flows.

Other non-trading derivatives includes derivatives for which no hedge accounting is applied.

4 Financial assets at fair value through profit or loss continued

Designated as at fair value through profit or loss

	2021	2020
Equity securities	415	425
Debt securities	28	28
Money market funds	548	883
Designated as at fair value through profit or loss	**991**	**1,336**

5 Available-for-sale investments

Available-for-sale investments

	2021	2020
Equity securities:		
– shares in NN Group managed investment funds	2,459	2,539
– shares in third-party managed investment funds	3,970	2,774
– other	5,537	5,986
Equity securities	**11,966**	**11,299**
Debt securities	95,917	106,876
Available-for-sale investments	**107,883**	**118,175**

Changes in Available-for-sale investments

	Equity securities		Debt securities		Total	
	2021	2020	2021	2020	2021	2020
Available-for-sale investments – opening balance	11,299	8,078	106,876	109,566	118,175	117,644
Additions	2,375	4,545	24,378	20,383	26,753	24,928
Amortisation			-379	-453	-379	-453
Transfers and reclassifications		-100	-2	-1	-2	-101
Changes in unrealised revaluations	1,093	1,341	-5,462	3,660	-4,369	5,001
Impairments	-44	-338		-6	-44	-344
Disposals and redemptions	-2,797	-2,245	-26,474	-26,472	-29,271	-28,717
Changes in the composition of the group and other changes	-6	40	-3,111	1,419	-3,117	1,459
Exchange rate differences	46	-22	91	-1,220	137	-1,242
Available-for-sale investments – closing balance	**11,966**	**11,299**	**95,917**	**106,876**	**107,883**	**118,175**

Transfers and reclassifications in 2020 mainly relate to the transfer of certain investments in real estate funds to associates and joint ventures due to an increase in level of influence. Reference is also made to Note 23 'Investment income' for details on impairments by segment. Changes in composition of the group and other changes includes the impact of the classification of a closed book life insurance portfolio in NN Belgium as held for sale.

NN Group's total exposure to debt securities is included in the following balance sheet lines:

Total exposure to debt securities

	2021	2020
Available-for-sale investments	95,917	106,876
Loans	281	667
Available-for-sale investments and loans	**96,198**	**107,543**
Investments for risk of policyholders	1,368	1,786
Designated as at fair value through profit or loss	28	28
Financial assets at fair value through profit or loss	**1,396**	**1,814**
Total exposure to debt securities	**97,594**	**109,357**

5 Available-for-sale investments continued

NN Group's total exposure to debt securities (excluding debt securities presented as held for sale) is included in 'Available-for-sale investments' and 'Loans' is specified as follows by type of exposure:

Debt securities by type

	Available-for-sale investments		Loans		Total	
	2021	2020	2021	2020	2021	2020
Government bonds	61,587	70,716			61,587	70,716
Corporate bonds	20,427	20,544			20,427	20,544
Financial institution and Covered bonds	10,454	12,247			10,454	12,247
Bond portfolio (excluding ABS)	**92,468**	**103,507**	**–**	**–**	**92,468**	**103,507**
US RMBS	464	517			464	517
Non-US RMBS	2,107	2,318	198	575	2,305	2,893
CDO/CLO	444				444	–
Other ABS	434	534	83	92	517	626
ABS portfolio	**3,449**	**3,369**	**281**	**667**	**3,730**	**4,036**
Debt securities – Available-for-sale investments and Loans	**95,917**	**106,876**	**281**	**667**	**96,198**	**107,543**

For more details, reference is made to Note 52 'Risk management'.

Available-for-sale equity securities

	2021	2020
Listed	5,579	6,431
Unlisted	6,387	4,868
Available-for-sale equity securities	**11,966**	**11,299**

6 Loans

Loans

	2021	2020
Loans secured by mortgages	59,283	55,310
Loans related to savings mortgages	1,426	1,532
Loans to or guaranteed by public authorities	1,478	1,830
Asset-backed securities	281	667
Policy loans	937	947
Other loans	4,954	5,324
Loans – before loan loss provisions	**68,359**	**65,610**
Loan loss provisions	-159	-182
Loans	**68,200**	**65,428**

Changes in Loans secured by mortgages

	2021	2020
Loans secured by mortgages – opening balance	55,310	51,382
Additions/origination	10,509	9,188
Amortisation	-160	-170
Redemption	-5,231	-4,909
Disposals	-686	-520
Fair value changes recognised on hedged items	-453	341
Changes in the composition of the group and other changes	-6	-2
Loans secured by mortgages – closing balance	**59,283**	**55,310**

NN Group has sold mortgage loans to securitisation entities that, in turn, issued notes to investors that are collateralised by the purchased assets. These mortgage loans continue to be recognised on NN Group's balance sheet as NN Group retained all or substantially all of the risks and rewards of the mortgage loans. Reference is made to Note 47 'Structured entities'.

Changes in Loan loss provisions

	2021	2020
Loan loss provisions – opening balance	182	166
Write-offs	-7	-6
Increase/decrease in loan loss provisions	-13	19
Changes in the composition of the group and other changes	-3	3
Loan loss provisions – closing balance	**159**	**182**

7 Associates and joint ventures

Associates and joint ventures (2021)

2021	Interest held	Balance sheet value	Total assets	Total liabilities	Total income	Total expenses
Vesteda Residential Fund FGR	24%	1,840	9,463	1,909	1,588	132
CBRE Dutch Office Fund FGR	19%	402	2,883	721	279	68
CBRE European Industrial Fund FGR	27%	322	1,729	544	343	39
CBRE Dutch Residential Fund FGR	8%	235	3,075	134	413	34
Rivage Euro Debt Infrastructure 3	34%	226	665	2		
CBRE Retail Industrial Fund Iberica FGR	50%	223	520	73	43	26
NRP Nordic Logistic Fund SA	42%	222	532	3	100	5
Lazora S.I.I. S.A.	22%	212	1,542	583	72	43
CBRE UK Property Fund PAIF	10%	201	1,992	16	306	2
CBRE Dutch Retail Fund FGR	20%	185	1,298	384	-9	37
Ardstone Residential Income Fund	45%	178	540	147	28	1
Dutch Urban Living Venture FGR	45%	152	447	112	53	5
Macquarie European Infrastructure Debt Fund	77%	152	198	1		
DPE Deutschland III (Parallel) GmbH & Co	17%	149	970	88	289	3
Achmea Dutch Health Care Property Fund	23%	128	580	15	47	8
Dutch Student and Young Professional Housing fund FGR	49%	127	339	80	30	5
Allee center Kft	50%	124	275	27	14	11
Robeco Bedrijfsleningen FGR	26%	112	432	1	51	5
Fiumaranuova s.r.l.	50%	110	229	9	13	10
Parcom Buy-Out Fund V CV	21%	107	584	81	127	6
Siresa House S.L.	49%	98	484	282	61	54
Delta Mainlog Holding GmbH & Co. KG	50%	96	192	1	70	2
The Fizz Student Housing Fund SCS	50%	91	259	74	20	6
Boccaccio - Closed-end Real Estate Mutual Investment Fund	50%	79	189	31	11	4
Parquest Capital II B FPCI	26%	78	308	14		8
Parcom Buy Out Fund IV B.V.	100%	68	80	12	54	23
CBRE Dutch Retail Fund II FGR	10%	65	667	15	-10	13
NL Boompjes Property 5 C.V.	50%	65	133	4	14	3
Rivage Hopitaux Publics Euro	34%	61	178			
CBRE Property Fund Central and Eastern Europe FGR	50%	59	163	44	14	8
Prime Ventures V C.V.	19%	57	306		3	4
Siresa House 2 S.L.	49%	55	199	86	11	8
DPE Deutschland II B GmbH & Co KG	37%	52	182	40	3	
Other		588				
Associates and joint ventures		**6,919**				

The above associates and joint ventures mainly consist of non-listed investment entities investing in real estate and private equity.

Significant influence exists for certain associates in which the interest held is below 20%, based on the combination of NN Group's financial interest for own risk and other arrangements, such as participation in the relevant boards.

NN Group holds associates over which it cannot exercise control despite holding more than 50% of the share capital. For this reason, these are classified as associates and are not consolidated.

7 Associates and joint ventures continued

Other includes EUR 379 million of associates and joint ventures with an individual balance sheet value of less than EUR 50 million and EUR 209 million of receivables from associates and joint ventures.

The amounts presented in the table above could differ from the individual annual accounts of the associates due to the fact that the individual amounts have been brought in line with NN Group's accounting principles.

The reporting dates of all significant associates and joint ventures are consistent with the reporting date of NN Group.

The associates and joint ventures of NN Group are subject to legal and regulatory restrictions regarding the amount of dividends that can be paid to NN Group. These restrictions are, for example, dependent on the laws in the country of incorporation for declaring dividends or as a result of minimum capital requirements imposed by industry regulators in the countries in which the associates and joint ventures operate. In addition, the associates and joint ventures also consider other factors in determining the appropriate levels of equity needed. These factors and limitations include, but are not limited to, rating agency and regulatory views, which can change over time.

Associates and joint ventures (2020)

2020	Interest held	Balance sheet value	Total assets	Total liabilities	Total income	Total expenses
Vesteda Residential Fund FGR	24%	1,531	7,333	1,050	558	103
CBRE Dutch Office Fund FGR	19%	370	2,709	718	154	67
CBRE European Industrial Fund FGR	26%	240	1,344	416	148	37
CBRE Retail Industrial Fund Iberica FGR	50%	218	518	82	-34	30
Lazora S.I.I. S.A.	22%	209	1,531	588	86	41
CBRE Dutch Residential Fund FGR	9%	209	2,562	108	175	31
NRP Nordic Logistic Fund SA	42%	203	501	18	36	11
CBRE Dutch Retail Fund FGR	20%	201	1,382	392	-32	36
CBRE UK Property Fund PAIF	10%	163	1,605		-46	5
Dutch Urban Living Venture FGR	45%	127	384	105	61	7
Allee center Kft	50%	126	276	24	5	10
Achmea Dutch Health Care Property Fund	23%	121	543	14	23	3
Dutch Student and Young Professional Housing fund FGR	49%	120	323	79	34	8
Parcom Buy-Out Fund V CV	21%	119	579	15	-38	5
Robeco Bedrijfsleningen FGR	26%	117	451	1	15	2
Rivage Euro Debt Infrastructure 3	34%	104	306	1	5	3
Fiumaranuova s.r.l.	50%	100	234	34	8	10
Siresa House S.L.	49%	96	490	293	39	47
DPE Deutschland III (Parallel) GmbH & Co	17%	93	575	21	83	4
Boccaccio - Closed-end Real Estate Mutual Investment Fund	50%	88	238	61		3
The Fizz Student Housing Fund SCS	50%	87	250	75	11	1
Parcom Buy Out Fund IV B.V.	100%	82	96	14		5
CBRE Dutch Retail Fund II FGR	10%	69	703	12	-36	11
Delta Mainlog Holding GmbH & Co. KG	50%	64	129	1	16	
CBRE Property Fund Central and Eastern Europe FGR	50%	60		-119	9	9
DPE Deutschland II B GmbH & Co KG	37%	56	196	45	-19	1
Parquest Capital II B FPCI	28%	54	197	4		8
NL Boompjes Property 5 C.V.	50%	54	108		6	
Other		592				
Associates and joint ventures		**5,673**				

7 Associates and joint ventures continued

Changes in Associates and joint ventures

	2021	2020
Associates and joint ventures – opening balance	5,673	5,457
Additions	719	349
Transfers to/from available-for-sale investments		19
Share in changes in equity (Revaluations)		8
Share of result	899	219
Dividends received	-223	-277
Disposals	-156	-121
Changes in the composition of the group and other changes		21
Exchange rate differences	7	-2
Associates and joint ventures – closing balance	**6,919**	**5,673**

In 2020, Transfers to/from available-for-sale investments mainly relate to the transfer of certain investments in real estate funds to associates and joint ventures due to an increase in level of influence.

8 Real estate investments

Changes in Real estate investments

	2021	2020
Real estate investments – opening balance	2,444	2,571
Additions	156	66
Transfers to/from other assets	2	3
Fair value gains/losses	241	-21
Disposals	-124	-176
Exchange rate differences		1
Real estate investments – closing balance	**2,719**	**2,444**

The total amount of rental income recognised in the profit and loss account for the year ended 31 December 2021 is EUR 161 million (2020: EUR 163 million). The Real estate investments include properties that are leased (ground lease). At 31 December 2021, the corresponding right of use assets amount to EUR 45 million (2020: EUR 38 million).

The total amount of direct operating expenses (including repairs and maintenance) in relation to real estate investments recognised in rental income for the year ended 31 December 2021 is EUR 57 million (2020: EUR 54 million).

Real estate investments by year of most recent appraisal

	2021	2020
Most recent appraisal in current year	100%	100%
	100%	**100%**

NN Group's total exposure to real estate is included in the following balance sheet lines:

Real estate exposure

	2021	2020
Real estate investments	2,719	2,444
Available-for-sale investments	2,415	1,950
Associates and joint ventures	5,612	4,834
Property and equipment - property in own use	71	74
Real estate exposure	**10,817**	**9,302**

Furthermore, the exposure is impacted by third-party interests, leverage in funds and off-balance commitments. Reference is made to Note 52 'Risk management'.

9 Property and equipment

Property and equipment

	2021	2020
Property in own use	71	74
Equipment	101	93
Property and equipment owned	**172**	**167**
Right of use assets	242	281
Property and equipment total	**414**	**448**

Changes in Property in own use

	2021	2020
Property in own use – opening balance	74	82
Additions		1
Revaluations	-1	-4
Disposals	-2	
Depreciation	-2	-2
Changes in the composition of the group and other changes	2	-2
Exchange rate differences		-1
Property in own use – closing balance	**71**	**74**
Gross carrying value	118	118
Accumulated depreciation, revaluations and (reversal of) impairments	-47	-44
Net carrying value	**71**	**74**
Revaluation surplus – opening balance	12	16
Revaluation in year	-1	-4
Revaluation surplus – closing balance	**11**	**12**

Changes in Equipment

	Data processing equipment		Fixtures and fittings and other equipment		Total	
	2021	2020	2021	2020	2021	2020
Equipment – opening balance	26	28	67	51	93	79
Additions	26	13	20	37	46	50
Disposals	-6	-1	-1	-1	-7	-2
Depreciation	-13	-13	-16	-19	-29	-32
Exchange rate differences		-1	-2	-1	-2	-2
Equipment – closing balance	**33**	**26**	**68**	**67**	**101**	**93**
Gross carrying value	167	147	246	229	413	376
Accumulated depreciation	-134	-121	-178	-162	-312	-283
Net carrying value	**33**	**26**	**68**	**67**	**101**	**93**

9 Property and equipment continued

Changes in Right of use assets

	Property		Equipment		Total	
	2021	2020	2021	2020	2021	2020
Right of use assets – opening balance	257	281	24	23	281	304
Additions	21	33	10	14	31	47
Disposals	-5	-8	-1	-1	-6	-9
Depreciation	-42	-45	-11	-12	-53	-57
Changes in the composition of the group and other changes	-8				-8	-
Exchange rate differences	-3	-4			-3	-4
Right of use assets – closing balance	**220**	**257**	**22**	**24**	**242**	**281**
Gross carrying value	346	341	58	49	404	390
Accumulated depreciation	-126	-84	-36	-25	-162	-109
Net carrying value	**220**	**257**	**22**	**24**	**242**	**281**

10 Intangible assets

Intangible assets (2021)

2021	Goodwill	Value of business acquired	Software	Other	Total
Intangible assets – opening balance	533	210	87	233	1,063
Additions	334		30	13	377
Capitalised expenses			7		7
Amortisation		-17	-33	-33	-83
Disposals			-1	-8	-9
Changes in the composition of the group and other changes	-311		-13	104	-220
Exchange rate differences	-7	3	-2		-6
Intangible assets – closing balance	**549**	**196**	**75**	**309**	**1,129**
Gross carrying value	1,522	309	921	784	3,536
Accumulated amortisation		-113	-780	-427	-1,320
Accumulated impairments	-973		-66	-48	-1,087
Net carrying value	**549**	**196**	**75**	**309**	**1,129**

Intangible assets (2020)

2020	Goodwill	Value of business acquired	Software	Other	Total
Intangible assets – opening balance	539	149	79	228	995
Additions			47	12	59
Capitalised expenses			4		4
Amortisation		-66	-39	-27	-132
Disposals			-1		-1
Changes in the composition of the group and other changes		129		21	150
Exchange rate differences	-6	-2	-3	-1	-12
Intangible assets – closing balance	**533**	**210**	**87**	**233**	**1,063**
Gross carrying value	1,506	306	900	675	3,387
Accumulated amortisation		-96	-747	-394	-1,237
Accumulated impairments	-973		-66	-48	-1,087
Net carrying value	**533**	**210**	**87**	**233**	**1,063**

Additions to goodwill in 2021 mainly relate to the acquisition of Heinenoord. Reference is made to Note 46 'Companies and businesses acquired and divested'. Changes in composition of the group and other changes includes the impact of the classification of the asset management activities as held for sale.

10 Intangible assets continued

Other intangible assets include the intangibles recognised upon the acquisition of Heinenoord, VIVAT Non-life and the remaining part of the intangibles recognised in 2017 on the acquisition of Delta Lloyd. Changes in composition of the group and other changes mainly relate to the acquisition of Heinenoord. Reference is made to Note 46 'Companies and businesses acquired and divested'. The acquisition intangibles comprise:

- Brand names – with an average expected remaining useful life at the acquisition date of approximately 10 years
- Client relationships – with an average expected remaining useful life at the acquisition date of approximately 10 years
- Distribution channels/agreements – with an average expected remaining useful life at the acquisition date of approximately 18 years

The increase in 2020 in Value of business acquired includes the impact of the acquisition of VIVAT Non-life.

Amortisation of software and other intangible assets is included in the profit and loss account in 'Other operating expenses' and 'Amortisation of intangible assets and other impairments' respectively.

Goodwill by cash generating unit (reporting unit)

	2021	2020
Netherlands Non-life	424	90
Insurance Europe	63	70
Asset Management		311
Bank	62	62
Goodwill	**549**	**533**

Reference is made to Note 46 'Companies and businesses acquired and divested'.

Goodwill impairment

Goodwill is tested for impairment at the lowest level at which it is monitored for internal management purposes. This level is defined as the cash generating unit (reporting unit) as set out above. Goodwill is tested for impairment by comparing the carrying value of the cash generating unit (reporting unit) to the best estimate of the recoverable amount of that cash generating unit (reporting unit). The carrying value is determined as the IFRS-EU book value including goodwill and certain acquisition intangibles. The recoverable amount is estimated as the higher of fair value less cost to sell and value in use. Several methodologies are applied to arrive at the best estimate of the recoverable amount.

The identification of impairment is an inherently uncertain process involving various assumptions and factors. Estimates and assumptions (including unobservable Level 3 inputs) are based on management's judgement and other information available.

For the goodwill recognised there is a significant excess of recoverable amount over book value for the cash generating units (reporting units) to which goodwill is allocated.

In 2021 and 2020, there was no impairment of goodwill.

11 Deferred acquisition costs

Changes in Deferred acquisition costs

	Life insurance		Non-life insurance		Total	
	2021	2020	2021	2020	2021	2020
Deferred acquisition costs – opening balance	1,781	1,838	90	75	1,871	1,913
Capitalised expenses	447	388	656	591	1,103	979
Amortisation and unlocking	-384	-398	-662	-578	-1,046	-976
Changes in the composition of the group and other changes	-2		2	2	-	2
Exchange rate differences	-35	-47			-35	-47
Deferred acquisition costs – closing balance	**1,807**	**1,781**	**86**	**90**	**1,893**	**1,871**

12 Assets and liabilities held for sale

Disposal groups (and groups of non-current assets) are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This is only the case when the sale is highly probable and the disposal group (or group of assets) is available for immediate sale in its present condition; management must be committed to the sale, which is expected to occur within one year from the date of classification as held for sale.

Upon classification as held for sale, the carrying amount of the disposal group (or group of assets) is compared to their fair value less cost to sell. If the fair value less cost to sell is lower than the carrying value, this expected loss is recognised through a reduction of the carrying value of any goodwill related to the disposal group or the carrying value of certain other non-current non-financial assets to the extent that the carrying value of those assets exceeds their fair value. Any excess of the expected loss over the reduction of the carrying amount of these relevant assets is not recognised upon classification as held for sale, but is recognised as part of the result on disposal if and when a divestment transaction occurs.

Classification into or out of held for sale does not result in restating comparative amounts in the balance sheet.

When a group of assets that is classified as held for sale or is sold also represents a major line of business or geographical area the disposal group is classified as discontinued operations. In the Consolidated profit and loss account, the result after tax from discontinued operations is reported separately from income and expenses from continuing operations. The information for comparative years is adjusted accordingly. Reference is made to Note 31 'Discontinued operations'.

As at 31 December 2021 assets and liabilities held for sale relate to NN Group's asset management activities executed by NN Investment Partners (NN IP) and a closed book life insurance portfolio in NN Belgium.

As at 31 December 2020 assets and liabilities held for sale relate to NN Group's Bulgarian Pension and Life businesses.

Assets held for sale

	2021	2020
Cash and cash equivalents	226	8
Financial assets at fair value through profit or loss		38
Available-for-sale investments	3,117	59
Loans	64	1
Reinsurance contracts	1	
Property and equipment	12	1
Intangible assets	345	
Deferred acquisition costs		1
Other assets	356	5
Total assets	**4,121**	**113**

Liabilities held for sale

	2021	2020
Insurance and investment contracts	3,115	90
Other liabilities	349	3
Total liabilities	**3,464**	**93**

Reference is made to Note 46 'Companies acquired and companies divested'.

In 2021, Intangible assets under Assets held for sale includes EUR 311 million goodwill that relates to asset management. For businesses classified as held for sale, the related goodwill is no longer evaluated at the level of the reporting unit to which it was allocated in the regular goodwill impairment test. Instead, it is reviewed as part of the valuation of the disposal unit that is presented as held for sale. This goodwill is expected to be recovered through the sale at or above book value.

The fair value hierarchy of financial assets and liabilities (measured at fair value and measured at amortised cost), which are presented as held for sale is included below. The fair value hierarchy consists of three levels, depending upon whether fair values were determined based on quoted prices in an active market (Level 1), valuation techniques with observable inputs (Level 2) or valuation techniques that incorporate inputs which are unobservable and which have a more than insignificant impact on the fair value of the instrument (Level 3). Reference is made to Note 36 'Fair value of financial assets and liabilities' for more details on the methods applied in determining fair values.

12 Assets and liabilities held for sale continued

Methods applied in determining the fair value of financial assets and liabilities at fair value – held for sale (2021)

2021	Level 1	Level 2	Level 3	Total
Available-for-sale investments	2,492	625		3,117
Financial assets	**2,492**	**625**	**-**	**3,117**

13 Other assets

Other assets

	2021	2020
Insurance and reinsurance receivables	634	724
Income tax receivables	141	55
Accrued interest and rents	1,307	1,467
Other accrued assets	131	249
Cash collateral amounts paid	803	1,000
Other	690	544
Other assets	**3,706**	**4,039**

Insurance and reinsurance receivables

	2021	2020
Receivables on account of direct insurance from:		
– policyholders	434	454
– intermediaries	139	115
Reinsurance receivables	61	155
Insurance and reinsurance receivables	**634**	**724**

The allowance for uncollectable insurance and reinsurance receivables amounts to EUR 33 million as at 31 December 2021 (2020: EUR 36 million). The receivable is presented net of this allowance.

14 Equity

Total equity

	2021	2020
Share capital	38	39
Share premium	12,575	12,574
Revaluation reserve	14,422	20,468
Currency translation reserve	-181	-97
Net defined benefit asset/liability remeasurement reserve	-119	-138
Other reserves	6,153	3,885
Shareholders' equity (parent)	**32,888**	**36,731**
Minority interests	266	277
Undated subordinated notes	1,764	1,764
Total equity	**34,918**	**38,772**

14 Equity continued

Changes in Equity (2021)

2021	Share capital	Share premium	Reserves	Total shareholders' equity (parent)
Equity – opening balance	39	12,574	24,118	36,731
Total amount recognised directly in equity (Other comprehensive income)			-6,103	-6,103
Net result for the period			3,278	3,278
Changes in share capital	-1	1		-
Dividend			-412	-412
Purchase/sale of treasury shares			-545	-545
Employee stock option and share plans			-2	-2
Coupon on undated subordinated notes			-59	-59
Equity – closing balance	**38**	**12,575**	**20,275**	**32,888**

Purchase/sale of treasury shares (2021)

In 2021, 12,828,981 ordinary shares for a total amount of EUR 550 million were repurchased under an open market share buyback programme, including repurchases to neutralise the dilutive effect of stock dividends. Treasury shares for an amount of EUR 5 million were delivered under Employee share plans. The repurchased shares are held by NN Group and the amount was deducted from Other reserves (Purchase/sale of treasury shares).

In 2021, 12,400,000 NN Group treasury shares were cancelled.

As at 31 December 2021, 12,294,129 treasury shares were held by NN Group.

Issue of ordinary shares (2021)

In 2021, 2,891,880 NN Group shares were issued for the interim dividend.

Coupon paid on undated subordinated notes (2021)

The undated subordinated notes have optional annual coupon payments in June and July. The annual coupons resulted in a deduction of EUR 59 million (net of tax) from equity.

Changes in Equity (2020)

2020	Share capital	Share premium	Reserves	Total shareholders' equity (parent)
Equity – opening balance	41	12,572	18,155	30,768
Total amount recognised directly in equity (Other comprehensive income)			5,105	5,105
Net result for the period			1,904	1,904
Changes in share capital	-2	2		-
Dividend			-394	-394
Purchase/sale of treasury shares			-622	-622
Employee stock option and share plans			1	1
Coupon on undated subordinated notes			-59	-59
Changes in the composition of the group and other changes			28	28
Equity – closing balance	**39**	**12,574**	**24,118**	**36,731**

Purchase/sale of treasury shares (2020)

In 2020, 21,817,879 ordinary shares for a total amount of EUR 627 million were repurchased under an open market share buyback programme, including repurchases to neutralise the dilutive effect of stock dividends. Treasury shares for an amount of EUR 5 million were delivered under Employee share plans. The repurchased shares are held by NN Group and the amount was deducted from Other reserves (Purchase/sale of treasury shares).

In 2020, 23,289,558 NN Group treasury shares were cancelled.

As at 31 December 2020, 19,822,194 treasury shares were held by NN Group.

14 Equity continued

Issue of ordinary shares (2020)

In 2020, 10,011,647 NN Group shares were issued for the interim dividend.

Coupon paid on undated subordinated notes (2020)

The undated subordinated notes have optional annual coupon payments in June and July. The annual coupons resulted in a deduction of EUR 59 million (net of tax) from equity.

Shareholders' equity (parent)

Share capital

	Ordinary shares (in number)		Ordinary shares (amounts in millions of euros)	
	2021	2020	2021	2020
Authorised share capital	700,000,000	700,000,000	84	84
Unissued share capital	382,121,790	369,721,790	46	45
Issued share capital	**317,878,210**	**330,278,210**	**38**	**39**

Ordinary shares

The authorised ordinary share capital consists of 700,000,000 ordinary shares with a par value of EUR 0.12 per share. At 31 December 2021 issued and fully paid ordinary share capital consists of 317,878,210 ordinary shares with a par value of EUR 0.12 per share.

Distributable reserves

NN Group N.V. is subject to legal restrictions regarding the amount of dividends it can pay to its shareholders. The Dutch Civil Code contains the restriction that dividends can only be paid up to an amount equal to total shareholders' equity less the paid-up and called share capital and less the reserves required pursuant to law or the Articles of Association. In case of negative balances for individual reserves legally to be retained, no distributions can be made out of retained earnings to the level of these negative amounts.

In addition, NN Group's ability to pay dividends is dependent on the dividend payment ability of its subsidiaries, associates and joint ventures. NN Group is legally required to create a non-distributable reserve insofar profits of its subsidiaries, associates and joint ventures are subject to dividend payment restrictions. Such restrictions may among others be of a similar nature as the restrictions which apply to NN Group.

Legally distributable reserves, determined in accordance with the financial reporting requirements included in Part 9 of Book 2 of the Dutch Civil Code, from NN Group's subsidiaries, associates and joint ventures are as follows:

Distributable reserves based on the Dutch Civil Code

	2021	2021	2020	2020
Total shareholders' equity		32,888		36,731
– share capital	38		39	
– revaluation reserve	14,422		20,468	
– share of associates reserve	2,111		1,412	
– other non-distributable reserves	418		208	
Total non-distributable part of shareholders' equity:		16,989		22,127
Distributable reserves based on the Dutch Civil Code		**15,899**		**14,604**

The Dutch supervisory rules and regulations stemming from the Dutch Financial Supervision Act (Wet op het financieel toezicht) provide a second restriction on the possibility to distribute dividends. Total freely distributable reserves is the minimum of freely distributable capital on the basis of solvency requirements and freely distributable capital on the basis of capital protection.

14 Equity continued

Freely distributable reserves

	2021	2021	2020	2020
Solvency requirement under the Financial Supervision Act	9,840		9,534	
Reserves available for financial supervision purposes	20,927		20,028	
Total freely distributable reserves on the basis of solvency requirements		11,087		10,494
Total freely distributable reserves on the basis of the Dutch Civil Code		15,899		14,604
Total freely distributable reserves (lower of the values above)		**11,087**		**10,494**

Reference is made to Note 53 'Capital and liquidity management' for more information on solvency requirements.

Other restrictions

There are other restrictions to the ability of subsidiaries, associates and joint ventures to distribute reserves to NN Group as a result of minimum capital requirements that are imposed by industry regulators in the countries in which the group companies operate. Reference is made to Note 53 'Capital and liquidity management' for the minimum capital requirements.

In addition to the legal and regulatory restrictions on distributing dividends from subsidiaries, associates and joint ventures to NN Group there are various other considerations and limitations that are taken into account in determining the appropriate levels of equity in the Group's subsidiaries, associates and joint ventures. These considerations and limitations include, but are not restricted to, rating agency and regulatory views, which can change over time; it is not possible to disclose a reliable quantification of these limitations.

Without prejudice to the authority of the Executive Board to allocate profits to reserves and to the fact that the ordinary shares are the most junior securities issued by NN Group, no specific dividend payment restrictions with respect to ordinary shares exist.

Furthermore, NN Group is subject to legal restrictions with respect to repayment of nominal share capital to holders of ordinary shares. Nominal share capital may be repaid to the holders of ordinary shares pursuant to an amendment of NN Group's Articles of Association whereby the ordinary shares are written down. Pursuant to the Dutch Civil Code, capital may only be repaid if none of NN Group's creditors opposes such a repayment within two months following the announcement of a resolution to that effect.

Preference shares

As at 31 December 2021, none of the preference shares had been issued. The authorised number of preference shares is 700,000,000 shares.

Changes in Revaluation reserve (2021)

2021	Property revaluation reserve	Available-for-sale reserve	Cash flow hedge reserve	Total
Revaluation reserve – opening balance	9	8,239	12,220	20,468
Unrealised revaluations		-3,093		-3,093
Realised gains/losses transferred to the profit and loss account		-1,431		-1,431
Changes in cash flow hedge reserve			-3,383	-3,383
Deferred interest credited to policyholders		1,861		1,861
Revaluation reserve – closing balance	**9**	**5,576**	**8,837**	**14,422**

Changes in Revaluation reserve (2020)

2020	Property revaluation reserve	Available-for-sale reserve	Cash flow hedge reserve	Total
Revaluation reserve – opening balance	12	6,459	8,798	15,269
Unrealised revaluations	-3	3,104		3,101
Realised gains/losses transferred to the profit and loss account		-574		-574
Changes in cash flow hedge reserve			3,422	3,422
Deferred interest credited to policyholders		-750		-750
Revaluation reserve – closing balance	**9**	**8,239**	**12,220**	**20,468**

Deferred interest credited to policyholders reflects the change in the deferred profit sharing liabilities (net of deferred tax). Reference is made to Note 18 'Insurance and investment contracts, reinsurance contracts'.

14 Equity continued

Changes in Currency translation reserve

	2021	2020
Currency translation reserve – opening balance	-97	3
Unrealised revaluations after taxation	-18	10
Exchange rate differences for the period	-66	-110
Currency translation reserve – closing balance	**-181**	**-97**

Unrealised revaluations relate to changes in the value of hedging instruments that are designated as net investment hedges.

Changes in Other reserves (2021)

2021	Retained earnings	Share of associates reserve	Total
Other reserves – opening balance	2,473	1,412	3,885
Net result for the period	3,278		3,278
Transfers to/from share of associates reserve	-699	699	-
Dividend	-412		-412
Purchase/sale of treasury shares	-545		-545
Employee stock option and share plans	-2		-2
Coupon on subordinated notes	-59		-59
Changes in the composition of the group and other changes	8		8
Other reserves – closing balance	**4,042**	**2,111**	**6,153**

Changes in Other reserves (2020)

2020	Retained earnings	Share of associates reserve	Total
Other reserves – opening balance	1,756	1,271	3,027
Net result for the period	1,904		1,904
Transfers to/from share of associates reserve	-141	141	-
Dividend	-394		-394
Purchase/sale of treasury shares	-622		-622
Employee stock option and share plans	1		1
Coupon on subordinated notes	-59		-59
Changes in the composition of the group and other changes	28		28
Other reserves – closing balance	**2,473**	**1,412**	**3,885**

Dividends

	2021	2020
Dividend distributed from Other reserves:		
Dividend paid in cash (interim current year)	160	394
Dividend paid in cash (final previous year)	252	
Stock dividend (interim current year)	128	311
Stock dividend (final previous year)	202	
Total dividend	**742**	**705**

14 Equity continued

Interim dividend 2021

In September 2021 NN Group paid an interim dividend of EUR 0.93 per ordinary share, or approximately EUR 287 million in total. The interim dividend was paid either fully in cash, after deduction of withholding tax if applicable, or fully in ordinary shares, at the election of the shareholders. Dividends paid in the form of ordinary shares have been delivered from NN Group treasury shares. To neutralise the dilutive effect of the stock dividend, NN Group repurchases ordinary shares for an amount equivalent to the stock dividend.

Proposed final dividend 2021

At the annual general meeting on 19 May 2022, a final dividend will be proposed of EUR 1.56 per ordinary share, or approximately EUR 476 million in total based on the current number of outstanding shares. The final dividend will be paid either in cash, after deduction of withholding tax if applicable, or in ordinary shares, at the election of the shareholders. Dividends paid in the form of ordinary shares will be delivered from NN Group treasury shares or issued from the share premium reserve. To neutralise the dilutive effect of the stock dividend, NN Group will repurchase ordinary shares for an amount equivalent to the stock dividend. This is subject to adoption by the General Meeting at the annual general meeting to be held on 19 May 2022.

Interim dividend 2020

In September 2020, NN Group paid a 2020 interim dividend of EUR 2.26 per ordinary share, or approximately EUR 705 million in total. This amount comprises (i) EUR 1.40 per ordinary share, equal to the amount of the 2019 final dividend that was suspended in April 2020 plus ii) EUR 0.86 per ordinary share, equal to the regular 2020 interim dividend calculated in accordance with the NN Group dividend policy. The 2020 interim dividend was paid either in cash, after deduction of withholding tax if applicable, or ordinary shares at the election of the shareholder. As a result, an amount of EUR 394 million was distributed out of Other reserves (cash dividend) and 10,011,647 ordinary shares, with a par value of EUR 0.12 per share, were issued (EUR 311 million stock dividend). To neutralise the dilutive effect of the interim stock dividend, NN Group repurchased ordinary shares for an amount equivalent to the stock dividend.

Final dividend 2020

NN Group paid a final dividend of EUR 1.47 per ordinary share, or EUR 454 million in total. The final dividend was paid either in cash, after deduction of withholding tax if applicable, or in ordinary shares, at the election of the shareholders. Dividends paid in the form of ordinary shares were delivered from NN Group treasury shares or issued from the share premium reserve. To neutralise the dilutive effect of the stock dividend, NN Group repurchased ordinary shares for an amount equivalent to the stock dividend.

Appropriation of result

The result is appropriated pursuant to Article 34 of the Articles of Association of NN Group N.V., of which the relevant provisions state that the appropriation of result shall be determined by the General Meeting, on the proposal of the Executive Board, as approved by the Supervisory Board. It is proposed to add the 2021 net result less the (interim and final) cash dividends to the retained earnings.

Minority interest

NN Group owns 51% of the shares of ABN AMRO Verzekeringen Holding B.V. (ABN AMRO Verzekeringen). ABN AMRO Verzekeringen's principal place of business is Zwolle, the Netherlands. ABN AMRO Verzekeringen is fully consolidated by NN Group, with a minority interest recognised of 49%.

At 31 December 2021, the minority interest relating to ABN AMRO Verzekeringen recognised in equity was EUR 245 million (2020: EUR 259 million).

Summarised information ABN AMRO Verzekeringen[1]

	2021	2020
Total assets	4,566	4,706
Total liabilities	4,065	4,176
Total income	502	546
Total expenses	470	489
Net result recognised in period	23	37
Other comprehensive income recognised in period	7	6
Dividends paid	59	5

1 All on 100% basis.

14 Equity continued

Undated subordinated notes

In July 2014, NN Group N.V. issued fixed to floating rate undated subordinated notes with a par value of EUR 1,000 million. The notes are undated, but are callable after 11.5 years and every quarter thereafter (subject to regulatory approval). The coupon is fixed at 4.5% per annum for the first 11.5 years and will be floating thereafter. As these notes are undated and include optional deferral of interest at the discretion of NN Group, these are classified under IFRS-EU as equity. Coupon payments are distributed out of equity if and when paid or contractually due. The discount to the par value and certain issue costs were deducted from equity at issue, resulting in a balance sheet value equal to the net proceeds of EUR 986 million.

In June 2014, fixed to floating rate undated subordinated notes with a par value of EUR 750 million were originally issued by Delta Lloyd which are classified as equity under IFRS-EU. The notes are undated, but are callable as from 13 June 2024 and every quarter thereafter (subject to regulatory approval). The coupon is fixed at 4.375% per annum until 13 June 2024 and will be floating thereafter. Coupon payments are distributed out of equity if and when paid or contractually due. These notes were recognised upon acquisition of Delta Lloyd for an amount of EUR 778 million.

15 Subordinated debt

Subordinated debt

				Notional amount		Balance Sheet Value	
Interest rate	Year of issue	Due date	First call date	2021	2020	2021	2020
4.625%	2014	8 April 2044	8 April 2024	1,000	1,000	995	994
4.625%	2017	13 January 2048	13 January 2028	850	850	841	840
9.000%	2017	29 August 2042	29 August 2022	500	500	520	549
Subordinated debt						**2,356**	**2,383**

The above subordinated debt instruments have been issued to raise hybrid capital. Under IFRS-EU these debt instruments are classified as liabilities. They are considered capital for regulatory purposes. All subordinated debt is euro denominated.

16 Debt securities issued

Debt securities issued

				Notional amount		Balance Sheet Value	
Interest rate	Year of issue	Due date	First call date	2021	2020	2021	2020
1.000%	2015	18 March 2022	Not applicable	600	600	600	600
0.875%	2017	13 January 2023	13 October 2022	500	500	499	498
1.625%	2017	1 June 2027	1 March 2027	600	600	596	596
0.875%	2021	23 November 2031	23 May 2031	600		597	
Debt securities issued						**2,292**	**1,694**

17 Other borrowed funds

Other borrowed funds

	2021	2020
Credit institutions	578	1,402
Other	6,723	6,140
Other borrowed funds	**7,301**	**7,542**

Other borrowed funds includes the funding of the consolidated securitisation programmes as disclosed in Note 47 'Structured entities' and unsecured Debt Issuance.

During 2021, NN Bank issued EUR 0.5 billion bonds under its Covered Bond Programme, backed by Dutch prime residential mortgage loans (2020 EUR 1.3 billion).

18 Insurance and investment contracts, reinsurance contracts

Insurance and investment contracts, reinsurance contracts

	Liabilities net of reinsurance		Reinsurance contracts		Insurance and investment contracts	
	2021	2020	2021	2020	2021	2020
Non-participating life policy liabilities	55,364	55,968	475	284	55,839	56,252
Participating life policy liabilities	54,739	55,451	98	397	54,837	55,848
Investment contracts with discretionary participation features	3,222	5,601			3,222	5,601
Liabilities for (deferred) profit sharing and rebates	7,305	9,822			7,305	9,822
Life insurance liabilities excluding liabilities for risk of policyholders	**120,630**	**126,842**	**573**	**681**	**121,203**	**127,523**
Liabilities for life insurance for risk of policyholders	37,499	33,287	32	36	37,531	33,323
Investment contract with discretionary participation features for risk of policyholders	259	245			259	245
Life insurance liabilities	**158,388**	**160,374**	**605**	**717**	**158,993**	**161,091**
Liabilities for unearned premiums and unexpired risks	**406**	**443**	**19**	**16**	**425**	**459**
Reported claims liabilities	4,940	4,908	265	255	5,205	5,163
Claims incurred but not reported (IBNR)	1,722	1,632	65	75	1,787	1,707
Claims liabilities	**6,662**	**6,540**	**330**	**330**	**6,992**	**6,870**
Insurance liabilities and investment contracts with discretionary participation features	**165,456**	**167,357**	**954**	**1,063**	**166,410**	**168,420**
Investment contracts	953	1,002			953	1,002
Investment contracts for risk of policyholders	1,449	1,250			1,449	1,250
Investment contracts liabilities	**2,402**	**2,252**			**2,402**	**2,252**
Insurance and investment contracts, reinsurance contracts	**167,858**	**169,609**	**954**	**1,063**	**168,812**	**170,672**

The liabilities for insurance and investment contracts are presented gross in the balance sheet as 'Insurance and investment contracts'. The related reinsurance is presented as 'Reinsurance contracts' under Assets in the balance sheet.

Deferred interest credited to policyholders is included in the 'Liabilities for (deferred) profit sharing and rebates' and amounts to EUR 7,148 million as at 31 December 2021 (2020: EUR 9,538 million).

18 Insurance and investment contracts, reinsurance contracts continued

Changes in Life insurance liabilities (2021)

2021	Net life insurance liabilities[1]	Net liabilities for risk of policyholders[2]	Reinsurance contracts	Life insurance liabilities
Life insurance liabilities – opening balance	126,842	33,532	717	161,091
Deferred interest credited to policyholders	-2,381			-2,381
Current year liabilities	4,567	2,971	1,082	8,620
Prior years liabilities:				
– benefit payments to policyholders	-7,495	-2,525	-809	-10,829
– interest accrual and changes in fair value of liabilities	2,135		3	2,138
– valuation changes for risk of policyholders		4,201		4,201
– effect of changes in discount rate assumptions	-15		-4	-19
– effect of changes in other assumptions	-94	-22		-116
Changes in the composition of the group and other changes	-2,316	-339	-373	-3,028
Exchange rate differences	-613	-60	-11	-684
Life insurance liabilities – closing balance	**120,630**	**37,758**	**605**	**158,993**

1 Net of reinsurance and liabilities for risk of policyholders.
2 Net of reinsurance.

Changes in composition of the group and other changes includes the impact of the classification of a closed book life insurance portfolio in NN Belgium as held for sale.

Changes in Life insurance liabilities (2020)

2020	Net life insurance liabilities[1]	Net liabilities for risk of policyholders[2]	Reinsurance contracts	Life insurance liabilities
Life insurance liabilities – opening balance	126,089	33,224	713	160,026
Deferred interest credited to policyholders	1,298			1,298
Current year liabilities	5,713	2,059	855	8,627
Prior years liabilities:				
– benefit payments to policyholders	-8,539	-2,258	-853	-11,650
– interest accrual and changes in fair value of liabilities	2,351		7	2,358
– valuation changes for risk of policyholders		1,731		1,731
– effect of changes in discount rate assumptions	14		1	15
– effect of changes in other assumptions	-105	-24		-129
Changes in the composition of the group and other changes	752	-964	5	-207
Exchange rate differences	-731	-236	-11	-978
Life insurance liabilities – closing balance	**126,842**	**33,532**	**717**	**161,091**

1 Net of reinsurance and liabilities for risk of policyholders.
2 Net of reinsurance.

Where discounting is used in the calculation of life insurance liabilities, the discount rate for the main units in the Netherlands was in a range of 1.0% to 4.0% (2020: 1.0% to 4.0%). The range of discount rates in the international entities was -1.0% to 6.0% (2020: -1.0% to 8.0%).

Changes in the composition of the group and other changes includes insurance contracts for risk of policyholders with guarantees that were extended as general account contracts and the transfer of certain insurance contracts.

18 Insurance and investment contracts, reinsurance contracts continued

Longevity reinsurance

In May 2020, NN Group entered into three reinsurance agreements to reinsure the full longevity risk associated with in total approximately EUR 13.5 billion of pension liabilities in NN Group in the Netherlands. This reinsurance reduces NN Group's exposure to longevity risk and, consequently, the required capital under Solvency II. The three reinsurance agreements are similar in nature but are agreed with three different assuming reinsurers, Canada Life, Munich Re and Swiss Re. The risk transfer is effective as of 1 January 2020 and will continue until the relevant portfolio has run off.

The premium payable to the assuming reinsurers is fixed and includes a margin of approximately EUR 451 million over the current best estimate of benefits payable under the related portfolios. This margin, which represents a cost of reinsurance to NN Group is recognised in the profit and loss account over the duration of the reinsurance. An amount of EUR 27 million (2020: EUR 25 million) was recognised in Underwriting expenditure in the profit and loss account in 2021. An amount of approximately EUR 399 million (undiscounted) remains to be recognised in future periods.

In December 2021, NN Group entered into a fourth reinsurance agreement to reinsure the full longevity risk associated with in total approximately EUR 4 billion of pension liabilities in NN Group in the Netherlands. This reinsurance reduces NN Group's exposure to longevity risk and, consequently, the required capital under Solvency II. The fourth reinsurance agreement is similar in nature to the first three contracts but is agreed with a different reinsurer, RGA. The risk transfer for the fourth contract is effective as of 31 December 2021. The risk transfer will continue until the relevant portfolio has run off.

The premium payable to the assuming reinsurer is fixed and includes a margin of approximately EUR 140 million over the current best estimate of benefits payable under the related portfolios. This margin, which represents a cost of reinsurance to NN Group is recognised in the profit and loss account over the duration of the reinsurance. No amount was recognised in Underwriting expenditure in the profit and loss account in 2021. An amount of approximately EUR 140 million (undiscounted) remains to be recognised in future periods.

Changes in Liabilities for unearned premiums and unexpired risks

	Liabilities net of reinsurance		Reinsurance contracts		Liabilities for unearned premiums and unexpired risk	
	2021	2020	2021	2020	2021	2020
Liabilities for unearned premiums and unexpired risks – opening balance	443	390	16	15	459	405
Premiums written	3,648	3,363	221	216	3,869	3,579
Premiums earned during the year	-3,681	-3,478	-218	-216	-3,899	-3,694
Changes in the composition of the group and other changes	-4	168		1	-4	169
Liabilities for unearned premiums and unexpired risks – closing balance	**406**	**443**	**19**	**16**	**425**	**459**

18 Insurance and investment contracts, reinsurance contracts continued

Changes in Claims liabilities

	Liabilities net of reinsurance		Reinsurance contracts		Claims liabilities	
	2021	2020	2021	2020	2021	2020
Claims liabilities – opening balance	6,540	5,400	330	260	6,870	5,660
Additions:						
– for the current year	2,347	2,391	60	95	2,407	2,486
– for prior years	-28	-125	-18	-15	-46	-140
– interest accrual of liabilities	58	61			58	61
Additions	**2,377**	**2,327**	**42**	**80**	**2,419**	**2,407**
Claim settlements and claim settlement costs:						
– for the current year	-859	-918	-9	-30	-868	-948
– for prior years	-1,396	-1,306	-33	-49	-1,429	-1,355
Claim settlements and claim settlement cost	**-2,255**	**-2,224**	**-42**	**-79**	**-2,297**	**-2,303**
Changes in the composition of the group and other changes		1,040		69	-	1,109
Exchange rate differences		-3			-	-3
Claims liabilities – closing balance	**6,662**	**6,540**	**330**	**330**	**6,992**	**6,870**

Where discounting is used in the calculation of the claims liabilities the rate is within the range of -1.0% to 4.0% (2020: -1.0% to 4.0%).

Changes in Investment contracts

	2021	2020
Investment contracts – opening balance	2,252	2,160
Current year liabilities	276	209
Prior years liabilities:		
– payments to contract holders	-266	-179
– interest accrual	8	10
– valuation changes investments	132	52
Investment contracts – closing balance	**2,402**	**2,252**

18 Insurance and investment contracts, reinsurance contracts continued

Gross claims development table

											Accident year
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Estimate of cumulative claims											
At the end of accident year	2,943	2,789	2,669	2,546	2,709	2,602	2,837	2,640	2,674	2,443	
1 year later	2,869	2,874	2,687	2,596	2,721	2,598	2,792	2,648	2,569		
2 years later	2,828	2,839	2,661	2,615	2,699	2,539	2,795	2,664			
3 years later	2,788	2,814	2,680	2,611	2,715	2,555	2,817				
4 years later	2,778	2,778	2,656	2,577	2,658	2,538					
5 years later	2,770	2,762	2,655	2,569	2,694						
6 years later	2,779	2,769	2,670	2,587							
7 years later	2,770	2,772	2,630								
8 years later	2,757	2,775									
9 years later	2,759										
Estimate of cumulative claims	**2,759**	**2,775**	**2,630**	**2,587**	**2,694**	**2,538**	**2,817**	**2,664**	**2,569**	**2,443**	**26,476**
Cumulative payments	-2,539	-2,507	-2,337	-2,213	-2,283	-2,017	-2,065	-1,824	-1,524	-869	-20,178
	220	**268**	**293**	**374**	**411**	**521**	**752**	**840**	**1,045**	**1,574**	**6,298**
Effect of discounting	-22	-22	-21	-28	-26	-31	-40	-48	-35	-35	-308
Liabilities recognised	**198**	**246**	**272**	**346**	**385**	**490**	**712**	**792**	**1,010**	**1,539**	**5,990**
Liabilities relating to accident years prior to 2012											1,002
Gross claims											**6,992**

To the extent that the assuming reinsurers are unable to meet their obligations, NN Group is liable to its policyholders for the portion reinsured. Consequently, provisions are made for receivables on reinsurance contracts if and when they are deemed uncollectable.

As at 31 December 2021, the total reinsurance exposure including reinsurance contracts and receivables from reinsurers (presented in Note 13 'Other assets') amounts to EUR 1,015 million (2020: EUR 1,218 million).

19 Customer deposits and other funds on deposit

Customer deposits and other funds on deposit

	2021	2020
Savings	7,364	7,278
Bank annuities	8,577	8,521
Corporate deposits	4	4
Customer deposits and other funds on deposit	**15,945**	**15,803**

Customers have not entrusted any funds to NN Group on terms other than those prevailing in the normal course of business. All customer deposits and other funds on deposit are interest bearing.

Changes in Customer deposits and other funds on deposit

	2021	2020
Customer deposits and other funds on deposit – opening balance	15,803	15,161
Deposits received	4,826	4,220
Withdrawals	-4,656	-3,549
Amortisation	-28	-29
Customer deposits and other funds on deposit – closing balance	**15,945**	**15,803**

20 Financial liabilities at fair value through profit or loss

Non-trading derivatives

	2021	2020
Derivatives used in:		
– fair value hedges	4	547
– cash flow hedges	904	159
– hedges of net investments in foreign operations	10	12
Other non-trading derivatives	986	3,294
Non-trading derivatives	**1,904**	**4,012**

Other non-trading derivatives includes derivatives for which no hedge accounting is applied.

21 Other liabilities

Other liabilities

	2021	2020
Income tax payable	65	92
Net defined benefit liability	138	167
Other post-employment benefits	6	14
Other staff-related liabilities	93	124
Other taxation and social security contributions	161	169
Deposits from reinsurers	63	327
Lease liabilities	294	335
Accrued interest	182	240
Costs payable	309	324
Amounts payable to policyholders	802	1,002
Provisions	137	158
Amounts to be settled	1,213	1,126
Cash collateral amounts received	5,330	11,594
Other	983	766
Other liabilities	**9,776**	**16,438**

Other staff-related liabilities include vacation leave provisions, variable compensation provisions, jubilee provisions and disability/illness provisions.

Cash collateral amounts received relate to collateralised derivatives. The decrease is a result of the decrease in fair value of outstanding collateralised derivatives following an increase in market interest rates.

Other mainly relates to year-end accruals in the normal course of business.

Net defined benefit liability

	2021	2020
Fair value of plan assets	79	76
Defined benefit obligation	217	243
Net defined benefit liability recognised in the balance sheet (funded status)	**138**	**167**

21 Other liabilities continued

Changes in Provisions

	2021	2020
Provisions – opening balance	158	292
Additions	69	99
Releases	-12	-135
Charges	-74	-95
Changes in the composition of the group and other changes	-3	
Exchange rate differences	-1	-3
Provisions – closing balance	**137**	**158**

Provisions relate to reorganisation provisions, litigation provisions and other provisions.

Reorganisation provisions were recognised for operations in the Netherlands for the cost of workforce reductions. Additions to the reorganisation provision were recognised in 2021 and 2020 due to additional initiatives announced during the year. During 2021 EUR 66 million was charged to the reorganisation provision for the cost of workforce reductions (2020: EUR 65 million).

22 Gross premium income

Gross premium income

	2021	2020
Gross premium income from life insurance policies	10,443	10,243
Gross premium income from non-life insurance policies	3,869	3,579
Gross premium income	**14,312**	**13,822**

Gross premium income is presented before deduction of reinsurance and retrocession premiums. Gross premium income excludes premium received for investment contracts, for which deposit accounting is applied.

Premiums written – net of reinsurance

	Life		Non-life		Total	
	2021	2020	2021	2020	2021	2020
Direct gross premiums written	10,411	10,209	3,864	3,576	14,275	13,785
Reinsurance assumed gross premiums written	32	34	5	3	37	37
Gross premiums written	**10,443**	**10,243**	**3,869**	**3,579**	**14,312**	**13,822**
Reinsurance ceded	-1,304	-1,119	-221	-216	-1,525	-1,335
Premiums written net of reinsurance	**9,139**	**9,124**	**3,648**	**3,363**	**12,787**	**12,487**

Non-life premiums earned – net of reinsurance

	2021	2020
Direct gross premiums earned	3,894	3,692
Reinsurance assumed gross premiums earned	5	2
Gross premiums earned	**3,899**	**3,694**
Reinsurance ceded	-218	-216
Non-life premiums earned – net of reinsurance	**3,681**	**3,478**

Reinsurance ceded is included in Underwriting expenditure. Reference is made to Note 26 'Underwriting expenditure'.

23 Investment income

Investment income

	2021	2020
Interest income from investments in debt securities	1,739	1,752
Interest income from loans	1,531	1,604
Interest income from investments in debt securities and loans	**3,270**	**3,356**
Realised gains/losses on disposal of available-for-sale debt securities	569	595
Impairments of available-for-sale debt securities		-6
Realised gains/losses and impairments of available-for-sale debt securities	**569**	**589**
Realised gains/losses on disposal of available-for-sale equity securities	1,141	403
Impairments of available-for-sale equity securities	-44	-338
Realised gains/losses and impairments of available-for-sale equity securities	**1,097**	**65**
Interest income on non-trading derivatives	210	239
Changes in loan loss provisions	13	-19
Income from real estate investments	104	109
Dividend income	301	256
Change in fair value of real estate investments	241	-21
Investment income	**5,805**	**4,574**

Impairments on investments by segment

	2021	2020
Netherlands Life	-39	-283
Netherlands Non-life	-1	-24
Insurance Europe	-4	-4
Japan Life		-17
Other		-16
Impairments on investments	**-44**	**-344**

24 Net fee and commission income

Net fee and commission income

	2021	2020
Asset management fees	288	168
Insurance brokerage and advisory fees	153	131
Other	-14	44
Gross fee and commission income	**427**	**343**
Trailer fees		-1
Asset management fees	34	34
Commission expenses and other	88	46
Fee and commission expenses	**122**	**79**
Net fee and commission income	**305**	**264**

25 Valuation results on non-trading derivatives

Valuation results on non-trading derivatives

	2021	2020
Change in fair value of derivatives relating to:		
– fair value hedges	481	-670
– cash flow hedges (ineffective portion)	-10	2
– other non-trading derivatives	-716	883
Net result on non-trading derivatives	**-245**	**215**
Change in fair value of assets and liabilities (hedged items)	-486	678
Valuation results on assets and liabilities designated as at fair value through profit or loss	29	8
Valuation results on non-trading derivatives	**-702**	**901**

Included in 'Valuation results on non-trading derivatives' are the fair value movements on derivatives used to economically hedge exposures, but for which no hedge accounting is applied. These derivatives hedge exposures in insurance contract liabilities and foreign exchange exposures in the investment portfolio. The fair value movements on the derivatives are influenced by changes in the market conditions, such as share prices, interest rates and currency exchange rates. The change in fair value of the derivatives is partly offset by changes in insurance contract liabilities, which are included in 'Underwriting expenditure' and partly offset by foreign currency results. Reference is made to Note 26 'Underwriting expenditure' and the line Foreign currency results in the consolidated profit and loss account.

Valuation results on non-trading derivatives are reflected in the Consolidated statement of cash flows in the section 'Result before tax', in the line item 'Adjusted for: other'.

Reference is made to Note 38 'Derivatives and hedge accounting'.

26 Underwriting expenditure

Underwriting expenditure

	2021	2020
Gross underwriting expenditure:		
– before effect of investment result for risk of policyholders	15,821	15,583
– effect of investment result for risk of policyholders	4,201	1,733
Gross underwriting expenditure	**20,022**	**17,316**
Investment result for risk of policyholders	-4,201	-1,733
Reinsurance recoveries	-1,045	-1,095
Underwriting expenditure	**14,776**	**14,488**

The investment income and valuation results regarding investments for risk of policyholders is EUR 4,201 million (2020: EUR 1,733 million). This amount is recognised in 'Underwriting expenditure'. As a result, it is shown together with the equal amount of related change in insurance liabilities for risk of policyholders.

26 Underwriting expenditure continued

Underwriting expenditure by class

	2021	2020
Expenditure from life underwriting:		
– reinsurance and retrocession premiums	1,304	1,119
– gross benefits	11,044	11,426
– reinsurance recoveries	-991	-1,007
– change in life insurance liabilities	-509	-828
– costs of acquiring insurance business	470	499
– other underwriting expenditure	194	182
– profit sharing and rebates	62	81
Expenditure from life underwriting	**11,574**	**11,472**
Expenditure from non-life underwriting:		
– reinsurance and retrocession premiums	221	216
– gross claims	2,260	2,238
– reinsurance recoveries	-54	-88
– changes in the liabilities for unearned premiums	-33	-115
– changes in claims liabilities	122	110
– costs of acquiring insurance business	712	676
– other underwriting expenditure	-35	-32
Expenditure from non-life underwriting	**3,193**	**3,005**
Expenditure from investment contracts:		
– costs of acquiring investment contracts	1	1
– other changes in investment contract liabilities	8	10
Expenditure from investment contracts	**9**	**11**
Underwriting expenditure	**14,776**	**14,488**

Profit sharing and rebates

	2021	2020
Distributions on account of interest or underwriting results	7	18
Bonuses added to policies	55	63
Profit sharing and rebates	**62**	**81**

The total costs of acquiring insurance business (life and non-life) and investment contracts amounted to EUR 1,183 million (2020: EUR 1,176 million). This includes amortisation and unlocking of DAC of EUR 1,046 million (2020: EUR 976 million) and the net amount of commissions paid of EUR 1,240 million (2020: EUR 1,179 million) and commissions capitalised in DAC of EUR 1,103 million (2020: EUR 979 million).

The total amount of commission paid and commission payable amounted to EUR 1,418 million (2020: EUR 1,288 million). This includes the commissions recognised in 'costs of acquiring insurance business' of EUR 1,240 million (2020: EUR 1,179 million) referred to above and commissions recognised in 'other underwriting expenditure' of EUR 178 million (2020: EUR 109 million). Other underwriting expenditure also includes reinsurance commissions received of EUR 89 million (2020: EUR 81 million).

26 Underwriting expenditure continued

As set out in the section 'Accounting policies for specific items – Insurance and investment contracts, reinsurance contracts', NN Group applies, for certain specific products or components thereof, the option in IFRS 4 to measure (components of) the liabilities for insurance contracts using market-consistent interest rates and other current estimates and assumptions. This relates mainly to certain guarantees embedded in insurance contracts in Japan. The impact of these market-consistent assumptions is reflected in 'Underwriting expenditure – change in life insurance liabilities'.

This impact is largely offset by the impact of related hedging derivatives. As disclosed in Note 25 'Valuation results on non-trading derivatives', the valuation results on non-trading derivatives include the fair value movements on derivatives used to economically hedge exposures, but for which no hedge accounting is applied. For insurance operations, these derivatives hedge mainly exposures in Insurance contract liabilities. The fair value movements on the derivatives are influenced by changes in the market conditions, such as stock prices, interest rates and currency exchange rates. The change in fair value of the derivatives is partly offset by changes in insurance contract liabilities, which are included in 'Underwriting expenditure'.

27 Amortisation of intangible assets and other impairments

Amortisation of intangible assets and other impairments

	2021	2020
Other impairments and reversals of other impairments	**-**	**-**
Amortisation of other intangible assets	33	27
Amortisation of intangible assets and other impairments	**33**	**27**

Impairment on debt securities, equity securities and loans are included in Note 23 'Investment income'.

28 Staff expenses

Staff expenses

	2021	2020
Salaries	813	791
Variable salaries	38	44
Pension costs	117	118
Social security costs	123	124
Share-based compensation arrangements	6	5
External staff costs	272	289
Education	14	12
Other staff costs	46	63
Staff expenses	**1,429**	**1,446**

Pension costs

	2021	2020
Current service cost	9	9
Net interest cost	-7	-6
Defined benefit plans	**2**	**3**
Defined contribution plans	115	115
Pension costs	**117**	**118**

Defined contribution plans

Certain group companies sponsor defined contribution pension plans. The assets of all NN Group's defined contribution plans are held in independently administered funds. Contributions are generally determined as a percentage of pay. These plans do not give rise to balance sheet provisions, other than relating to short-term timing differences included in 'Other assets' or 'Other liabilities'.

Number of employees

Reference is made to Note 34 'Principal subsidiaries and geographical information' for information on the average number of employees.

28 Staff expenses continued

Remuneration of Executive Board, Management Board and Supervisory Board

Reference is made to Note 49 'Key management personnel compensation'.

Share plans

NN Group has granted shares to a number of senior executives (members of the Management Board, general managers and other officers nominated by the Management Board). The purpose of the share schemes is to attract, retain and motivate senior executives and staff.

Share awards comprise upfront shares and deferred shares. The entitlement to the deferred shares is granted conditionally. If the participant remains in employment for an uninterrupted period between the grant date and the vesting date, the entitlement becomes unconditional. A retention period applies from the moment of vesting these awards (five years for Management Board and one year for Identified Staff).

Share awards

Changes in Share awards outstanding

	Share awards (in number)		Weighted average grant date fair value (in euros)	
	2021	2020	2021	2020
Share awards outstanding – opening balance	454,738	478,058	29.29	36.38
Granted	271,322	292,189	40.48	20.78
Vested	-279,522	-298,899	33.13	32.02
Forfeited	-36,155	-16,610	34.12	34.55
Share awards outstanding – closing balance	**410,383**	**454,738**	**33.64**	**29.29**

In 2021, 35,645 (2020: 40,278) share awards on NN Group shares were granted to the members of the Executive and Management Board. In 2021, 235,677 (2020: 251,911) share awards on NN Group shares were granted to senior management and other employees.

As at 31 December 2021, the share awards on NN Group shares consist of 383,942 (2020: 427,305) share awards relating to equity-settled share-based payment arrangements and 26,441 (2020: 27,433) share awards relating to cash-settled share-based payment arrangements.

The fair value of share awards granted is allocated over the vesting period of the share awards as an expense under staff expenses.

As at 31 December 2021, total unrecognised compensation costs related to share awards amount to EUR 7 million (2020: EUR 4 million). These costs are expected to be recognised over a weighted average period of 1.3 years (2020: 1.3 years).

29 Interest expenses

Interest expenses

	2021	2020
Interest expenses on non-trading derivatives	238	228
Other interest expenses	283	283
Interest expenses	**521**	**511**

In 2021, total interest income and total interest expenses for items not valued at fair value through profit or loss were EUR 3,270 million (2020: EUR 3,356 million) and EUR 283 million (2020: EUR 283 million) respectively.

Interest income and expenses are included in the following profit and loss account lines.

Total net interest income

	2021	2020
Investment income	3,480	3,595
Interest expenses on non-trading derivatives	-238	-228
Other interest expenses	-283	-283
Total net interest income	**2,959**	**3,084**

30 Other operating expenses

Other operating expenses

	2021	2020
Depreciation of property and equipment	79	84
Amortisation of software	33	36
Computer costs	281	285
Office expenses	60	68
Travel and accommodation expenses	3	6
Advertising and public relations	66	60
External advisory fees	211	169
Addition/(releases) of provisions for reorganisation and relocations	31	73
Other	78	73
Other operating expenses	**842**	**854**

31 Discontinued operations

As of 2021, NN Group's asset management activities executed by NN Investment Partners (NN IP) are classified as discontinued operations. Reference is made to Note 46 'Companies and businesses acquired and divested'.

Net result from discontinued operations consists of the net result (after tax) of the businesses classified as discontinued operations and is presented separately in the profit and loss account for both 2021 and 2020. No gain or loss has been recognised in the profit and loss account upon the classification as held for sale and discontinued operations.

Net result from discontinued operations

For the period ended 31 December	2021	2020
Total income	482	439
Total expenses	304	286
Result before tax from discontinued operations	**178**	**153**
Taxation	43	38
Net result from discontinued operations	**135**	**115**

The activities of NN IP were reported in the segment Asset Management before these were classified as discontinued operations and held for sale. The segment Asset Management ceased to exist in 2021, following the classification as discontinued operations, as all activities previously included in this segment are now discontinued operations.

Reference is made to Note 12 'Assets and liabilities held for sale' for information on the assets and liabilities of the discontinued operations.

Net cash flow from discontinued operations

	2021	2020
Operating cash flow	95	-2
Investing cash flow	-10	-22
Financing cash flow	-4	-3
Net cash flow from discontinued operations	**81**	**-27**

32 Earnings per ordinary share

Earnings per ordinary share shows earnings per share amounts for profit or loss attributable to shareholders of the parent. Earnings per ordinary share is calculated on the basis of the weighted average number of ordinary shares outstanding. In calculating the weighted average number of ordinary shares outstanding, own shares held by group companies are deducted from the total number of ordinary shares in issue.

Changes in the number of ordinary shares outstanding without a corresponding change in resources are taken into account, including if these changes occurred after the reporting date but before the annual accounts are authorised for issue.

Diluted earnings per share is calculated as if the share plans had been exercised at the beginning of the period and assuming that the cash received from exercised share plans and warrants was used to buy own shares against the average market price during the period. The net increase in the number of shares resulting from exercising share plans and warrants is added to the average number of shares used for the calculation of diluted earnings per share.

Earnings per ordinary share from continuing and discontinued operations

	Amounts (in millions of euros)		Weighted average number of ordinary shares (in millions)		Per ordinary share (in euros)	
	2021	2020	2021	2020	2021	2020
Net result from continuing and discontinued operations	3,278	1,904				
Coupon on undated subordinated notes	-59	-59				
Basic earnings from continuing and discontinued operations	**3,219**	**1,845**	**308.9**	**314.1**	**10.42**	**5.88**
Dilutive instruments:						
– Share plans			0.4	0.5		
Dilutive instruments			**0.4**	**0.5**		
Diluted earnings from continuing and discontinued operations	**3,219**	**1,845**	**309.3**	**314.6**	**10.41**	**5.87**

Earnings per ordinary share from continuing operations

	Amounts (in millions of euros)		Weighted average number of ordinary shares (in millions)		Per ordinary share (in euros)	
	2021	2020	2021	2020	2021	2020
Net result from continuing operations	3,151	1,793				
Coupon on undated subordinated notes	-59	-59				
Basic earnings from continuing operations	**3,092**	**1,734**	**308.9**	**314.1**	**10.01**	**5.52**
Dilutive instruments:						
– Share plans			0.4	0.5		
Dilutive instruments			**0.4**	**0.5**		
Diluted earnings from continuing operations	**3,092**	**1,734**	**309.3**	**314.6**	**10.00**	**5.51**

Earnings per ordinary share from discontinued operations

	Amounts (in millions of euros)		Weighted average number of ordinary shares (in millions)		Per ordinary share (in euros)	
	2021	2020	2021	2020	2021	2020
Net result from discontinued operations	127	111				
Basic earnings from discontinued operations	**127**	**111**	**308.9**	**314.1**	**0.41**	**0.36**
Dilutive instruments:						
– Share plans			0.4	0.5		
Dilutive instruments			**0.4**	**0.5**		
Diluted earnings from discontinued operations	**127**	**111**	**309.3**	**314.6**	**0.41**	**0.36**

33 Segments

The reporting segments for NN Group, based on the internal reporting structure, are as follows:

- Netherlands Life (Group life and individual life insurance products in the Netherlands)
- Netherlands Non-life (Non-life insurance in the Netherlands including disability and accident, fire, motor and transport insurance)
- Insurance Europe (Life insurance, pension products and to a small extent non-life insurance and retirement services in Central and Rest of Europe)
- Japan Life (Life insurance primarily Corporate Owned Life Insurance (COLI) business)
- Banking
- Other (Operating segments that have been aggregated due to their respective size; including Japan Closed Block VA (Closed block single premium variable annuity individual life insurance portfolio in Japan, including the internally reinsured minimum guarantee risk, which has been closed to new business and which is being managed in run-off), reinsurance and items related to capital management and the head office)

As disclosed in Note 31 'Discontinued operations' as of 2021 the segment Asset Management ceased to exist. As a result, the result from the Asset management activities is presented separately from the results of the remaining segments. The comparatives for 2020 have also been restated to reflect the classification as a discontinued operation.

The Executive Board and the Management Board set the performance targets and approve and monitor the budgets prepared by the reporting segments. The segments formulate strategic, commercial and financial policies in conformity with the strategy and performance targets set by the Executive Board and the Management Board.

The accounting policies of the segments are the same as those described in Note 1 'Accounting policies'. Transfer prices for inter-segment transactions are set at arm's length. Corporate expenses are allocated to segments based on time spent by head office personnel, the relative number of staff, or on the basis of income and/or assets of the segment. Intercompany loans that qualify as equity instruments under IFRS-EU are presented in the segment reporting as debt; related coupon payments are presented as income and expenses in the respective segments.

Operating result (before tax) is used by NN Group to evaluate the financial performance of its segments.

The operating result for the life insurance business is analysed through a margin analysis, which includes the investment margin, fees and premium-based revenues and the technical margin. Disclosures on comparative years also reflect the impact of current year's divestments. Operating result as presented below is an Alternative Performance Measure (non-GAAP financial measure) and is not a measure of financial performance under IFRS-EU. Because it is not determined in accordance with IFRS-EU, operating result as presented by NN Group may not be comparable to other similarly titled measures of performance of other companies. The net result on transactions between segments is eliminated in the net result of the relevant segment. Operating result is calculated as explained below in the section Alternative Performance Measures.

33 Segments continued

Segments (2021)

2021	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Investment margin	996		116	-12			1,100
Fees and premium-based revenues	391		811	610			1,812
Technical margin	103		235	30			368
Operating income non-modelled life business			1				1
Operating income	**1,490**	**-**	**1,163**	**628**	**-**	**-**	**3,281**
Administrative expenses	473		446	135			1,054
DAC amortisation and trail commissions	31		401	230			662
Expenses	**504**	**-**	**847**	**365**	**-**	**-**	**1,716**
Operating result non-life		314	-1				313
Operating result banking					134		134
Operating result other						-157	-157
Operating result from continuing operations	**986**	**314**	**315**	**263**	**134**	**-157**	**1,855**
Non-operating items from continuing operations:							
– gains/losses and impairments	1,618	33	2	4	2	12	1,671
– revaluations	379	24	46	-2		39	485
– market and other impacts	-51				-28	-26	-105
Special items before tax	-17	-35	-14	-3		-30	-99
Acquisition intangibles and goodwill			-7			-21	-28
Result on divestments			54				54
Result before tax from continuing operations	**2,915**	**336**	**396**	**262**	**106**	**-184**	**3,832**
Taxation	431	71	80	74	25	-11	669
Minority interests	-4	16					12
Net result from continuing operations	**2,488**	**250**	**316**	**188**	**82**	**-172**	**3,151**
Net result from discontinued operations						127	127
Net result	**2,488**	**250**	**316**	**188**	**82**	**-45**	**3,278**

Special items in 2021 mainly reflect restructuring expenses incurred in respect of the cost reduction target and other project related expenses, such as the implementation of IFRS 17.

33 Segments continued

Operating result (2021)

2021	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other and eliminations	Total
Operating result from continuing operations	986	314	315	263	134	-157	1,855
Operating result from discontinued operations						181	181
Operating result	**986**	**314**	**315**	**263**	**134**	**24**	**2,036**

Result before tax (2021)

2021	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other and eliminations	Total
Result before tax from continuing operations	2,915	336	396	262	106	-184	3,832
Result before tax from discontinued operations						178	178
Result before tax	**2,915**	**336**	**396**	**262**	**106**	**-6**	**4,010**

Segments (2020)

2020	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Investment margin	890		110	-14			986
Fees and premium-based revenues	392		730	639			1,762
Technical margin	184		252	17			454
Operating income non-modelled life business			1				1
Operating income	**1,467**	**-**	**1,093**	**642**	**-**	**-**	**3,202**
Administrative expenses	440		417	144			1,001
DAC amortisation and trail commissions	33		389	258			680
Expenses	**473**	**-**	**806**	**402**	**-**	**-**	**1,681**
Operating result non-life		215	-3				212
Operating result banking					154		154
Operating result other						-151	-151
Operating result from continuing operations	**994**	**215**	**285**	**240**	**154**	**-151**	**1,737**
Non-operating items from continuing operations:							
– gains/losses and impairments	620		4	-7	11	12	640
– revaluations	371	-9	-12	-20		7	337
– market and other impacts	-310	12	-4		17	-29	-315
Special items before tax	-77	-79	-29	-3	-14	-75	-278
Acquisition intangibles and goodwill						-24	-24
Result on divestments			-11			111	100
Result before tax from continuing operations	**1,597**	**138**	**234**	**210**	**167**	**-149**	**2,197**
Taxation	330	31	63	57	35	-131	385
Minority interests	8	11					18
Net result from continuing operations	**1,260**	**97**	**171**	**152**	**132**	**-18**	**1,793**
Net result from discontinued operations						111	111
Net result	**1,260**	**97**	**171**	**152**	**132**	**93**	**1,904**

33 Segments continued

Special items in 2020 mainly reflect integration expenses and other project related expenses such as the implementation of IFRS 17.

Operating result (2020)

2020	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other and eliminations	Total
Operating result from continuing operations	994	215	285	240	154	-151	1,737
Operating result from discontinued operations						152	152
Operating result	**994**	**215**	**285**	**240**	**154**	**1**	**1,889**

Result before tax (2020)

2020	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other and eliminations	Total
Result before tax from continuing operations	1,597	138	234	210	167	-149	2,197
Result before tax from discontinued operations						152	152
Result before tax	**1,597**	**138**	**234**	**210**	**167**	**3**	**2,349**

Gross premium income and investment income by segment (2021)

2021	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Gross premium income	3,972	3,798	3,127	3,381		34	14,312
Investment income	4,382	213	429	182	613	-14	5,805

Gross premium income and investment income by segment (2020)

2020	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Gross premium income	3,544	3,521	3,001	3,728		28	13,822
Investment income	3,203	123	443	177	647	-19	4,574

Interest income and interest expenses by segment (2021)

2021	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Interest income	2,201	147	389	176	603	-36	3,480
Interest expenses	-222	-19	-21	-4	-298	42	-522
Interest income and interest expenses	**1,979**	**128**	**368**	**172**	**305**	**6**	**2,958**

Interest income and interest expenses by segment (2020)

2020	Netherlands Life	Netherlands Non-life	Insurance Europe	Japan Life	Banking	Other	Total
Interest income	2,279	109	423	181	640	-37	3,595
Interest expenses	-207	-15	-20	-4	-307	42	-511
Interest income and interest expenses	**2,072**	**94**	**403**	**177**	**333**	**5**	**3,084**

33 Segments continued

Total assets and Total liabilities by segment

	Total assets 2021	Total liabilities 2021	Total assets 2020	Total liabilities 2020
Netherlands Life	158,579	131,056	168,228	137,172
Netherlands Non-life	10,011	8,389	9,704	8,039
Insurance Europe	30,837	28,063	31,783	28,945
Japan Life	21,527	19,205	21,370	18,879
Banking	24,194	23,347	25,381	24,471
Other (Including held for sale)	53,018	17,678	64,846	25,648
Total	**298,166**	**227,738**	**321,312**	**243,154**
Eliminations	-46,581	-11,071	-57,574	-18,188
Total assets and Total liabilities	**251,585**	**216,667**	**263,738**	**224,966**

Alternative Performance Measures (Non-GAAP measures)

NN Group uses three Alternative Performance Measures (APMs, also referred to as Non-GAAP measures) in its external financial reporting: Operating result, Adjusted allocated equity and Administrative expenses.

Operating result

Operating result (before tax) is used by NN Group to evaluate the financial performance of its segments. Each segment's operating result is calculated by adjusting the reported result before tax for the following items:

- Non-operating items: related to (general account) investments that are held for own risk (net of policyholder profit sharing):
  - Gains/losses and impairments: realised gains and losses as well as impairments on financial assets that are classified as Available-for-sale and debt securities that are classified as loans. These investments include debt and equity securities (including fixed income and equity funds), private equity (< 20% ownership), real estate funds and loans quoted in active markets.
  - Revaluations: revaluations on assets marked-to-market through the Consolidated profit and loss account. These investments include private equity (associates), real estate (property and associates), derivatives unrelated to product hedging programmes (i.e. interest rate swaps, foreign exchange hedges) and direct equity hedges.
  - Market & other impacts: these impacts mainly include movements in the liability for guarantees on separate account pension contracts and unit-linked guarantee provisions in the Netherlands and related hedges, the accounting volatility related to the reinsurance of minimum guaranteed benefits of Japan Closed Block VA and the changes in valuation of certain inflation linked liabilities and related derivatives.
- Special items: items of income or expense before tax that are significant and arise from events or transactions that are clearly distinct from the ordinary business activities and therefore are not expected to recur frequently or regularly. This includes, for example, restructuring expenses, rebranding costs, results related to early redemption of debt, and gains/losses from employee pension plan amendments or curtailments.
- Acquisition intangibles and goodwill: At the acquisition date, all assets and liabilities (including investments, loans and funding liabilities) were remeasured to fair value. Acquisition related intangible assets (mainly brand names, distribution agreements and client relationships) were recognised and will be amortised through the profit and loss account over their useful life. Goodwill on acquisition was also recognised; goodwill is not amortised but tested annually for impairment. Any amortisation and goodwill impairment is recognised in the line 'Amortisation of acquisition intangibles and other impairments'.
- Result on divestments: result before tax related to divested operations.

The operating result for the life insurance business is analysed through a margin analysis, which includes the investment margin, fees and premium-based revenues and the technical margin. Investment margin is defined as the investment income (on the investments for the account of NN Group) minus interest credited to policyholders and investment expenses. Technical margin includes the difference between costs charged and claim related revenues (such as risk premiums, surrenders and reserve releases) and incurred claims. Disclosures on comparative years also reflect the impact of current year's divestments. Operating result as presented below is an Alternative Performance Measure (non-GAAP financial measure) and is not a measure of financial performance under IFRS-EU. Because it is not determined in accordance with IFRS-EU, operating result as presented by NN Group may not be comparable to other similarly titled measures of performance of other companies. The net result on transactions between segments is eliminated in the net result of the relevant segment.

33 Segments continued

Adjusted allocated equity

NN Group evaluates the efficiency of the operational deployment of its equity of its banking operations by calculating Return On Equity (ROE). The net operating ROE is calculated using Net operating result in the numerator and average Adjusted allocated equity in the denominator. Net operating result of NN Group is the Net operating result, adjusted to reflect the deduction of the accrued coupon on undated subordinated notes classified in equity. Adjusted allocated equity is derived from IFRS equity by adjusting for:

- Revaluation reserves
- Undated subordinated notes classified as equity under IFRS
- Goodwill and Intangible assets recognised upon acquisitions

Allocated equity per segment represents the part of equity that is economically deployed by the segments. This allocation does not impact equity in total for NN Group. Adjusted allocated equity is an Alternative Performance Measure that is not a measure under IFRS-EU. Adjusted allocated equity as applied by NN Group may not be comparable to other similarly titled measures of other companies. Adjusted allocated equity is reconciled to IFRS Total equity as follows:

Adjusted allocated equity

	2021	2020
IFRS Total equity	34,918	38,772
Revaluation reserves, Goodwill and Intangible assets recognised upon acquisitions	-14,925	-21,079
Undated subordinated notes	-1,764	-1,764
Adjusted allocated equity excluding Japan Closed Block VA	**18,229**	**15,929**

Administrative expenses

NN Group monitors the level of expenses and assesses cost savings through the Administrative expenses. Administrative expenses are the expenses included in operating result, unless already included in the technical margin or the investment margin in the margin analysis of the operating result.

Administrative expenses

	2021	2020
Staff expenses	1,429	1,446
Other operating expenses	842	853
IFRS operating expenses	**2,271**	**2,299**
Presented in non-operating items (including special items)	-112	-289
Presented in the Technical margin (claims handling expenses)	-123	-139
Presented in the Investment margin (investment expenses)	-56	-35
Administrative expenses continuing operations	**1,980**	**1,836**

Administrative expenses are calculated as the total of IFRS Staff expenses and IFRS Other operating expenses, adjusted for expenses already recognised in the technical margin and the investment margin and for expenses that are not included in operating result (non-operating expenses and special items). From the total administrative expenses of EUR 1,980 million (2020: EUR 1,836 million), EUR 1,055 million (2020: EUR 1,002 million) relates to the segments Netherlands Life, Insurance Europe Life and Japan Life. The remainder of EUR 925 million (2020: EUR 834 million) is included in the operating result non-life, banking and other.

33 Segments continued

In addition, NN Group discloses a number of other metrics (that are not defined in IFRS and/or not defined in regulatory capital legislation). As these are not derived from comparable metrics under IFRS, these cannot be reconciled to an IFRS equivalent. These include the following:

- Operating Capital Generation (OCG): NN Group analyses the change in the excess of Solvency II Own Funds over the Solvency Capital Requirement ('SCR') in the following components: Operating Capital Generation, Market variance, Capital flows and Other. Operating Capital Generation is the movement in the Solvency II surplus (Own Funds before eligibility over SCR at 100%) in the period due to operating items, including the impact of new business, expected investment returns in excess of the unwind of liabilities, release of the risk margin, operating variances, non-life underwriting result, contribution of non-Solvency II entities and holding expenses and debt costs and the change in the SCR. It excludes economic variances, economic assumption changes and non-operating expenses.
- Annual Premium Equivalent (APE): the total of the IFRS annual recurring premiums and 10% of the IFRS single premiums received in a given period
- Assets under Management (AuM): the total market value of all investments being managed by NN Group's asset management segment on behalf of NN Group entities and clients
- Combined ratio: the sum of the claims ratio (claims incurred, net of reinsurance, excluding unwind of interest accrual, divided by net earned premiums) and the expense ratio (sum of acquisition costs and administrative expenses, divided by net earned premiums)
- Financial leverage ratio: the percentage of financial leverage in the total of financial leverage and equity
- Fixed cost coverage ratio: the ability of Earnings Before Interest and Tax (EBIT) to cover funding costs on financial leverage; calculated on a last 12-month basis
- Free cash flow: the change in the cash capital position at the holding company over the period, excluding acquisitions and capital transactions with shareholders and debtholders
- Cash capital position at the holding company: net current assets available at the holding company
- Net interest margin (NIM): interest result of the banking operations divided by the average total interest bearing assets of the banking operations
- Net operating ROE - Segment banking only: the (annualised) net operating result of the banking operations, divided by (average) adjusted allocated equity of the banking operations
- Value of New Business (VNB): the additional economic value created through writing new business during the period

Notes to the Consolidated annual accounts continued

34 Principal subsidiaries and geographical information

The table below provides additional information on principal subsidiaries, the nature of the main activities and employees by country. Information on guarantees issued by NN Group N.V. to subsidiaries under article 403 of Book 2 of the Dutch Civil Code is filed with the Chamber of Commerce.

Principal subsidiaries and geographical information (2021)

Name of principal subsidiaries / Country	Main activity	Average number of employees[1]	Total income	Total assets	Result before tax	Taxation[2]	Income tax paid
Nationale-Nederlanden Levensverzekering Maatschappij N.V.	Life insurance						
Nationale-Nederlanden Bank N.V.	Banking						
Nationale-Nederlanden Schadeverzekering Maatschappij N.V.	General insurance						
REI Investment I B.V.	Real estate						
NN Re (Netherlands) N.V.	Reinsurance						
ABN AMRO Levensverzekering N.V.	Life insurance						
The Netherlands		**9,144**	**13,643**	**196,434**	**2,875**	**459**	**247**
NN Life Insurance Company, Ltd.	Life insurance						
Japan		**915**	**3,549**	**21,642**	**253**	**71**	**55**
NN Insurance Belgium nv	Life insurance						
Belgium		**673**	**1,093**	**16,129**	**106**	**21**	**57**
Nationale Nederlanden Vida, Compania de Seguros y Reaseguros. S.A.	Life insurance						
Nationale Nederlanden Generales, Compania de Seguros y Reaseguros, S.A.	General insurance						
Spain		**535**	**748**	**5,166**	**53**	**13**	**3**
Nationale-Nederlanden Towarzystwo Ubezpieczeń na Życie S.A.	Life insurance						
Nationale-Nederlanden Powszechne Towarzystwo Emerytalne S.A.	Pensions						
Poland		**1,032**	**485**	**2,230**	**66**	**16**	**-3**
NN Hellenic Life Insurance Co. S.A.	Life insurance						
Greece		**413**	**579**	**2,386**	**23**	**10**	
NN Životní pojišťovna N.V. (pobočka pro Českou republiku)	Life insurance						
Czech Republic		**671**	**226**	**1,479**	**27**	**6**	**21**
NN Biztosító Zártkörûen Mûködõ Részvénytársaság	Life insurance						
Hungary		**404**	**298**	**1,390**	**9**	**3**	**3**
NN Asigurari de Viata S.A.	Life insurance						
Romania		**471**	**257**	**1,106**	**49**	**8**	**7**
Slovak Republic		**334**	**186**	**859**	**34**	**8**	**6**
Germany		**9**	**102**	**392**	**131**	**20**	**2**
France		**8**	**129**	**1,255**	**119**	**29**	**8**
Italy		**6**	**13**	**278**	**13**	**-8**	**2**
Denmark			**45**	**196**	**43**	**7**	
United Kingdom		**13**	**31**	**595**	**33**	**1**	**2**
Bulgaria		**66**	**16**		**3**		
Turkey		**250**	**32**	**43**	**-4**	**1**	
Ireland						**4**	**-16**
Singapore		**31**					**2**
Mexico		**1**		**4**	**-1**		
United States		**13**					
Switzerland		**4**					**1**
Argentina		**2**		**1**			
Uruguay		**2**					
Total		**14,997**	**21,433**	**251,585**	**3,832**	**669**	**397**

1 The average number of employees is on a full-time equivalent basis.
2 Taxation is the taxation amount charged to the profit and loss account.

34 Principal subsidiaries and geographical information continued

Principal subsidiaries and geographical information (2020)

Name of principal subsidiaries / Country	Main activity	Average number of employees[1]	Total income	Total assets	Result before tax	Taxation[2]	Income tax paid
Nationale-Nederlanden Levensverzekering Maatschappij N.V.	Life insurance						
Nationale-Nederlanden Bank N.V.	Banking						
Nationale-Nederlanden Schadeverzekering Maatschappij N.V.	General insurance						
REI Investment I B.V.	Real estate						
NN Re (Netherlands) N.V.	Reinsurance						
The Netherlands		**8,595**	**11,905**	**207,801**	**1,707**	**261**	**87**
NN Life Insurance Company, Ltd.	Life insurance						
Japan		**901**	**3,883**	**21,999**	**203**	**56**	**83**
NN Insurance Belgium nv	Life insurance						
Belgium		**666**	**1,074**	**17,740**	**39**	**13**	**6**
Nationale Nederlanden Vida, Compania de Seguros y Reaseguros. S.A.	Life insurance						
Nationale Nederlanden Generales, Compania de Seguros y Reaseguros, S.A.	General insurance						
Spain		**536**	**657**	**4,785**	**5**	**1**	**4**
Nationale-Nederlanden Towarzystwo Ubezpieczeń na Życie S.A.	Life insurance						
Nationale-Nederlanden Powszechne Towarzystwo Emerytalne S.A.	Pensions						
Poland		**1,022**	**474**	**2,300**	**77**	**17**	**37**
NN Hellenic Life Insurance Co. S.A.	Life insurance						
Greece		**419**	**506**	**2,234**	**15**	**6**	
NN Životní pojišťovna N.V. (pobočka pro Českou republiku)	Life insurance						
Czech Republic		**649**	**220**	**1,402**	**25**	**7**	**7**
NN Biztosító Zártkörûen Mûködõ Részvénytársaság	Life insurance						
Hungary		**374**	**271**	**1,332**	**12**	**3**	**3**
NN Asigurari de Viata S.A.	Life insurance						
Romania		**457**	**229**	**1,065**	**38**	**7**	**4**
NN Životná poisťovna, a.s.	Life insurance						
Slovak Republic		**349**	**161**	**799**	**18**	**5**	**5**
Germany		**10**	**25**	**704**	**22**	**5**	**8**
France		**9**	**58**	**689**	**42**	**6**	**1**
Italy		**6**	**-10**	**241**	**-12**	**-2**	**2**
United Kingdom		**12**	**-4**	**192**	**2**		**1**
Denmark			**5**	**238**	**3**		
Bulgaria		**135**	**25**	**113**	**3**		**1**
Turkey		**395**	**43**	**62**	**-3**		
Ireland				**21**			
Singapore		**31**		**12**			
United States		**13**		**2**			**1**
Mexico		**1**		**4**			
Switzerland		**8**		**1**			
Argentina		**2**		**1**			
Luxembourg				**1**			
Uruguay		**2**					
Total		**14,592**	**19,522**	**263,738**	**2,196**	**385**	**250**

1 The average number of employees is on a full-time equivalent basis.
2 Taxation is the taxation amount charged to the profit and loss account.

35 Taxation

Deferred tax (2021)

	Net liability 2020	Changes through equity	Changes through net result	Changes in the composition of the group and other changes	Exchange rate differences	Net liability 2021
Investments	4,638	-1,230	-39	-89	-9	3,271
Real estate investments	926		248	-2		1,172
Financial assets and liabilities at fair value through profit or loss	22		7			29
Deferred acquisition costs	439		9	22	-10	460
Fiscal reserves	12		79			91
Depreciation	21		-2		-1	18
Insurance liabilities	-3,778	530	-108	87	-4	-3,273
Cash flow hedges	4,073	-1,004				3,069
Pension and post-employment benefits	5	4	-1	11	1	20
Other provisions	-54		19	7	1	-27
Receivables	12		1	5	-1	17
Loans	-87		3	112		28
Unused tax losses carried forward	-77		-6	2		-81
Other	104	-6	-20	-101	-1	-24
Deferred tax	**6,256**	**-1,706**	**190**	**54**	**-24**	**4,770**
Presented in the balance sheet as:						
Deferred tax liabilities	6,329					4,817
Deferred tax assets	-73					-47
Deferred tax	**6,256**					**4,770**

Deferred tax (2020)

	Net liability 2019	Changes through equity	Changes through net result	Changes in the composition of the group and other changes	Exchange rate differences	Net liability 2020
Investments	3,378	1,310	-58	17	-9	4,638
Real estate investments	777		149			926
Financial assets and liabilities at fair value through profit or loss	22		1		-1	22
Deferred acquisition costs	422		-7	35	-11	439
Fiscal reserves	10		2			12
Depreciation	23			-1	-1	21
Insurance liabilities	-3,155	-544	-160	81		-3,778
Cash flow hedges	2,473	1,600				4,073
Pension and post-employment benefits	5	1	-2		1	5
Other provisions	-44		-7	-4	1	-54
Receivables	-24		5	32	-1	12
Loans	-20		-13	-54		-87
Unused tax losses carried forward	-77		3	-3		-77
Other	156	14	13	-76	-3	104
Deferred tax	**3,946**	**2,381**	**-74**	**27**	**-24**	**6,256**
Presented in the balance sheet as:						
Deferred tax liabilities	4,030					6,329
Deferred tax assets	-84					-73
Deferred tax	**3,946**					**6,256**

35 Taxation continued

Deferred tax on unused tax losses carried forward

	2021	2020
Total unused tax losses carried forward	511	527
Unused tax losses carried forward not recognised as a deferred tax asset	-184	-221
Unused tax losses carried forward recognised as a deferred tax asset	**327**	**306**
Average tax rate	24.8%	25.3%
Deferred tax asset	**81**	**77**

Tax losses carried forward will expire as follows as at 31 December:

Total unused tax losses carried forward analysed by term of expiration

	No deferred tax asset recognised		Deferred tax asset recognised	
	2021	2020	2021	2020
Within 1 year	12	22		2
More than 1 year but less than 5 years	34	40	14	12
More than 5 years but less than 10 years	3			
Unlimited	135	159	313	292
Total unused tax losses carried forward	**184**	**221**	**327**	**306**

Deferred tax assets are recognised for temporary deductible differences, for tax losses carried forward and unused tax credits only to the extent that realisation of the related tax benefit is probable.

Taxation on result

	2021	2020
Current tax	480	459
Deferred tax	189	-74
Taxation on result	**669**	**385**

NN Group N.V., together with certain of its subsidiaries, is a part of a fiscal unity for Dutch income tax purposes. The members of the fiscal unity are jointly and severally liable for any income taxes payable by the Dutch fiscal unity.

Reference is made to Note 34 'Principal subsidiaries and geographical information' for more information on the taxation per country.

Reconciliation of the weighted average statutory tax rate to NN Group's effective tax rate

	2021	2020
Result before tax	3,832	2,196
Weighted average statutory tax rate	24.9%	24.6%
Weighted average statutory tax amount	**954**	**540**
Participation exemption	-319	-112
Other income not subject to tax and other	-11	
Expenses not deductible for tax purposes	13	8
Impact on deferred tax from change in tax rates	7	24
Deferred tax benefit for previously not unrecognised amounts	-9	-1
Tax for non-recognised losses	2	2
Write-off/reversal of deferred tax assets	1	3
Adjustments to prior periods	31	-80
Effective tax amount	**669**	**384**
Effective tax rate	**17.5%**	**17.5%**

35 Taxation continued

In 2021, the effective tax rate of 17.5% was lower than the weighted average statutory tax rate of 24.9%. This was mainly a result of tax exempt results of associates and participations.

In 2020, the effective tax rate of 17.5% was lower than the weighted average statutory tax rate of 24.6%. This is mainly a result of tax exempt results of associates and participations, including the tax exempt release of the provision related to ING Australia as well as a benefit following a reassessment of prior year tax liabilities in the Netherlands as a result of the filing of the relevant tax return. This was partly offset by a change in the Dutch corporate income tax rate.

Taxation on components of other comprehensive income

	2021	2020
Unrealised revaluations property in own use		1
Unrealised revaluations available-for-sale investments and other	1,189	-1,157
Realised gains/losses transferred to the profit and loss account	235	80
Changes in cash flow hedge reserve	1,004	-1,600
Deferred interest credited to policyholders	-530	544
Remeasurement of the net defined benefit asset/liability	-5	-1
Income tax	**1,893**	**-2,133**

36 Fair value of financial assets and liabilities

The following table presents the estimated fair value of NN Group's financial assets and liabilities. Certain balance sheet items are not included in the table, as they do not meet the definition of a financial asset or liability. The aggregation of the fair value presented below does not represent and should not be construed as representing, the underlying value of NN Group.

Fair value of financial assets and liabilities

	Estimated fair value		Balance sheet value	
	2021	2020	2021	2020
Financial assets				
Cash and cash equivalents	6,929	12,382	6,929	12,382
Financial assets at fair value through profit or loss:				
– investments for risk of policyholders	39,261	34,797	39,261	34,797
– non-trading derivatives	6,419	14,833	6,419	14,833
– designated as at fair value through profit or loss	991	1,336	991	1,336
Available-for-sale investments	107,883	118,175	107,883	118,175
Loans	72,597	70,124	68,200	65,428
Total financial assets	**234,080**	**251,647**	**229,683**	**246,951**
Financial liabilities				
Subordinated debt	2,624	2,734	2,356	2,383
Debt securities issued	2,351	1,781	2,292	1,694
Other borrowed funds	7,364	7,701	7,301	7,542
Investment contracts with discretionary participation features for risk of policyholders	259	245	259	245
Investment contracts for risk of company	976	1,057	953	1,002
Investment contracts for risk of policyholders	1,449	1,250	1,449	1,250
Customer deposits and other funds on deposit	16,460	16,585	15,945	15,803
Financial liabilities at fair value through profit or loss:				
– non-trading derivatives	1,904	4,012	1,904	4,012
Total financial liabilities	**33,387**	**35,365**	**32,459**	**33,931**

For the other financial assets and financial liabilities not included in the table above, including short-term receivables and payables, the carrying amount is a reasonable approximation of fair value.

36 Fair value of financial assets and liabilities continued

Reference is made to Note 1 'Accounting policies' for the upcoming changes as a result of IFRS 9 'Financial instruments'. One of the requirements in IFRS 9 is to assess whether investments in debt securities and loans meet the definition of 'Solely Payments of Principal and Interest', also referred to as 'SPPI assets'. SPPI assets are financial assets with contractual terms that give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding (as defined in IFRS 9), excluding assets that are held for trading and/or that are managed and whose performance is evaluated on a fair value basis. The table below provides a split of the fair value of financial assets into three categories: SPPI assessment applicable under IFRS 9 and conditions met (SPPI compliant assets), SPPI assessment applicable under IFRS 9 and conditions not met (SPPI non-compliant assets), and SPPI assessment not applicable. Whilst IFRS 9 becomes effective for NN Group on the same date as IFRS 17, the information in the table below is based on the assets held, and business models in place.

Fair value of financial assets -SPPI assessment

	SPPI compliant assets		SPPI non-compliant assets		SPPI assessment not applicable	
	2021	2020	2021	2020	2021	2020
Cash and cash equivalents					6,929	12,382
Financial assets at fair value through profit or loss:						
– investments for risk of policyholders					39,261	34,797
– non-trading derivatives					6,419	14,833
– designated as at fair value through profit or loss					991	1,336
Available-for-sale investments	94,940	105,565	4,842	4,513	8,101	8,097
Loans	71,576	68,944	62	190	959	990
Financial assets	**166,516**	**174,509**	**4,904**	**4,703**	**62,660**	**72,435**

The estimated fair value represents the price at which an orderly transaction to sell the financial asset or to transfer the financial liability would take place between market participants at the balance sheet date (exit price). The fair value of financial assets and liabilities is based on unadjusted quoted market prices, where available. Such quoted market prices are primarily obtained from exchange prices for listed instruments. Where an exchange price is not available market prices are obtained from independent market vendors, brokers or market makers. Because substantial trading markets do not exist for all financial instruments, various techniques have been developed to estimate the approximate fair value of financial assets and liabilities that are not actively traded. The fair value presented may not be indicative of the net realisable value. In addition, the calculation of the estimated fair value is based on market conditions at a specific point in time and may not be indicative of the future fair value.

The following methods and assumptions were used by NN Group to estimate the fair value of the financial instruments:

Cash and cash equivalents

Cash and cash equivalents are recognised at their nominal value which approximates the fair value.

Financial assets and liabilities at fair value through profit or loss

Derivatives

Derivative contracts can either be exchange-traded or over the counter (OTC). The fair value of exchange-traded derivatives is determined using quoted market prices in an active market and those derivatives are classified in Level 1 of the fair value hierarchy. For those instruments that are not actively traded, the fair value is estimated based on valuation techniques. OTC derivatives and derivatives trading in an inactive market are valued using valuation techniques because quoted market prices in an active market are not available for such instruments. The valuation techniques and inputs depend on the type of derivative and the nature of the underlying instruments. The principal techniques used to value these instruments are based on discounted cash flows, Black-Scholes option models and Monte Carlo simulation. These valuation models calculate the present value of expected future cash flows, based on 'no arbitrage' principles. These models are commonly used in the financial industry. Inputs to valuation models are determined from observable market data where possible. Certain inputs may not be observable in the market directly, but can be determined from observable prices via valuation model calibration procedures. The inputs used include prices available from exchanges, dealers, brokers or providers of pricing, yield curves, credit spreads, default rates, recovery rates, dividend rates, volatility of underlying interest rates, equity prices and foreign currency exchange rates. These inputs are determined with reference to quoted prices, recently executed trades, independent market quotes and consensus data, where available.

36 Fair value of financial assets and liabilities continued

Available-for-sale investments

Equity securities

The fair value of publicly traded equity securities is determined using quoted market prices when available. Where no quoted market prices are available, fair value is determined based on quoted prices for similar securities or other valuation techniques. The fair value of private equity is based on quoted market prices, if available. In the absence of quoted prices in an active market, fair value is estimated on the basis of an analysis of the investee's financial position and results, risk profile, prospects, price, earnings comparisons and revenue multiples and by reference to market valuations for similar entities quoted in an active market.

Debt securities

The fair value for debt securities is based on quoted market prices, where available. Quoted market prices may be obtained from an exchange, dealer, broker, industry group, pricing service or regulatory service. If quoted prices in an active market are not available, fair value is based on an analysis of available market inputs, which may include values obtained from one or more pricing services or by a valuation technique that discounts expected future cash flows using market interest rate curves, referenced credit spreads, maturity of the investment and estimated prepayment rates where applicable.

Loans

For loans and advances that are repriced frequently and have had no significant changes in credit risk, carrying values represent a reasonable estimate of the fair value. The fair value of other loans is estimated by discounting expected future cash flows using a discount rate that reflects credit risk, liquidity and other current market conditions. The fair value of mortgage loans is estimated by taking into account prepayment behaviour. Loans with similar characteristics are aggregated for calculation purposes.

Subordinated debt and debt securities issued

The fair value of subordinated debt and debt securities issued is estimated using discounted cash flows based on interest rates and credit spreads that apply to similar instruments.

Other borrowed funds

The fair value of other borrowed funds is generally based on quoted market prices or, if not available, on estimated prices by discounting expected future cash flows using a current market interest rate and credit spreads applicable to the yield, credit quality and maturity.

Investment contracts

For investment contracts for risk of the company the fair value has been estimated using a discounted cash flow approach based on interest rates currently being offered for similar contracts with maturities consistent with those remaining for the contracts being valued. For investment contracts for risk of policyholders the fair value generally equals the fair value of the underlying assets. For other investment-type contracts, the fair value is estimated based on the cash surrender values.

Customer deposits and other funds on deposit

The carrying values of customer deposits and other funds on deposit with no stated maturity approximate their fair value. The fair values of deposits with stated maturities have been estimated based on discounting future cash flows using a discount rate that reflects credit risk, liquidity and other current market conditions.

36 Fair value of financial assets and liabilities continued
Financial assets and liabilities at fair value

The fair value of the financial instruments carried at fair value was determined as follows:

Methods applied in determining the fair value of financial assets and liabilities at fair value (2021)

2021	Level 1	Level 2	Level 3	Total
Financial assets				
Investments for risk of policyholders	38,092	444	725	39,261
Non-trading derivatives	30	6,381	8	6,419
Financial assets designated as at fair value through profit or loss	823	168		991
Available-for-sale investments	69,336	34,656	3,891	107,883
Financial assets	**108,281**	**41,649**	**4,624**	**154,554**
Financial liabilities				
Investment contracts with discretionary participation features for risk of policyholders		259		259
Investment contracts (for contracts at fair value)	1,449			1,449
Non-trading derivatives	30	1,851	23	1,904
Financial liabilities	**1,479**	**2,110**	**23**	**3,612**

Methods applied in determining the fair value of financial assets and liabilities at fair value (2020)

2020	Level 1	Level 2	Level 3	Total
Financial assets				
Investments for risk of policyholders	33,521	489	787	34,797
Non-trading derivatives		14,811	22	14,833
Financial assets designated as at fair value through profit or loss	1,217	119		1,336
Available-for-sale investments	79,118	36,377	2,680	118,175
Financial assets	**113,856**	**51,796**	**3,489**	**169,141**
Financial liabilities				
Investment contracts with discretionary participation features for risk of policyholders		245		245
Investment contracts (for contracts at fair value)	1,250			1,250
Non-trading derivatives	30	3,940	42	4,012
Financial liabilities	**1,280**	**4,185**	**42**	**5,507**

NN Group has categorised its financial instruments that are either measured in the balance sheet at fair value or for which the fair value is disclosed, into a three level hierarchy based on the priority of the inputs to the valuation. The fair value hierarchy gives the highest priority to (unadjusted) quoted prices in active markets for identical assets or liabilities and the lowest priority to valuation techniques supported by unobservable inputs. An active market for the asset or liability is a market in which transactions for the asset or liability occur with sufficient frequency and volume to provide reliable pricing information on an ongoing basis.

The fair value hierarchy consists of three levels, depending on whether the fair value is determined based on (unadjusted) quoted prices in an active market (Level 1), valuation techniques with observable inputs (Level 2) or valuation techniques that incorporate inputs which are unobservable and which have a more than insignificant impact on the fair value of the instrument (Level 3). Financial assets in Level 3 include, for example, illiquid debt securities, complex OTC and credit derivatives, certain complex loans (for which current market information about similar assets to use as observable, corroborated data for all significant inputs into a valuation model is not available), mortgage loans and consumer lending, private equity instruments and investments in real estate funds.

Observable inputs reflect market data obtained from independent sources. Unobservable inputs are inputs which are based on NN Group's own assumptions about the factors that market participants would use in pricing an asset or liability, developed based on the best information available in the circumstances. Unobservable inputs may include volatility, correlation, spreads to discount rates, default rates and recovery rates, prepayment rates and certain credit spreads. Transfers into and transfers out of levels in the fair value hierarchy are recognised on the date of the event or change of circumstances that caused the transfer.

36 Fair value of financial assets and liabilities continued

Level 1 – (Unadjusted) Quoted prices in active markets

This category includes financial instruments whose fair value is determined directly by reference to published quotes in an active market that NN Group can access. A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service or regulatory agency and those prices represent actual and regularly occurring market transactions with sufficient frequency and volume to provide reliable pricing information on an ongoing basis.

Level 2 – Valuation technique supported by observable inputs

This category includes financial instruments whose fair value is determined using a valuation technique (e.g. a model), where inputs in the model are taken from an active market or are observable. If certain inputs in the model are unobservable the instrument is still classified in this category, provided that the impact of those unobservable inputs elements on the overall valuation is insignificant. Included in this category are items whose value is derived from quoted prices of similar instruments, but for which the prices are modified based on other market observable external data and items whose value is derived from quoted prices but for which there was insufficient evidence of an active market.

Level 3 – Valuation technique supported by unobservable inputs

This category includes financial instruments whose fair value is determined using a valuation technique (e.g. a model) for which more than an insignificant part of the inputs in terms of the overall valuation are not market observable. This category also includes financial assets and liabilities whose fair value is determined by reference to price quotes but for which the market is considered inactive. An instrument is classified in its entirety as Level 3 if a significant portion of the instrument's fair value is driven by unobservable inputs. Unobservable in this context means that there is little or no current market data available from which the price at which an orderly transaction would likely occur can be derived.

Changes in Level 3 financial assets (2021)

2021	Investments for risk of policyholders	Non-trading derivatives	Available-for-sale investments	Total
Level 3 Financial assets – opening balance	787	22	2,680	3,489
Amounts recognised in the profit and loss account	-41	-14	-18	-73
Revaluations recognised in other comprehensive income (equity)			388	388
Purchase			1,097	1,097
Sale	-21		-50	-71
Maturity/settlement			-116	-116
Transfers into Level 3			11	11
Transfers out of Level 3			-120	-120
Exchange rate differences			19	19
Level 3 Financial assets – closing balance	**725**	**8**	**3,891**	**4,624**

Changes in Level 3 financial assets (2020)

2020	Investments for risk of policyholders	Non-trading derivatives	Available-for-sale investments	Total
Level 3 Financial assets – opening balance	802	50	1,334	2,186
Amounts recognised in the profit and loss account	-2	-28	-69	-99
Revaluations recognised in other comprehensive income (equity)			54	54
Purchase			1,425	1,425
Sale	-13		-46	-59
Maturity/settlement			-2	-2
Other transfers and reclassifications			-19	-19
Transfers into Level 3			18	18
Exchange rate differences			-15	-15
Level 3 Financial assets – closing balance	**787**	**22**	**2,680**	**3,489**

36 Fair value of financial assets and liabilities continued

Changes in Level 3 financial liabilities (2021)

2021	Non-trading derivatives
Level 3 Financial liabilities – opening balance	42
Amounts recognised in the profit and loss account	-19
Level 3 Financial liabilities – closing balance	**23**

Changes in Level 3 financial liabilities (2020)

2020	Non-trading derivatives
Level 3 Financial liabilities – opening balance	59
Amounts recognised in the profit and loss account	-19
Other transfers and reclassifications	2
Level 3 Financial liabilities – closing balance	**42**

Level 3 – Amounts recognised in the profit and loss account during the year (2021)

2021	Held at balance sheet date	Derecognised during the period	Total
Financial assets			
Investments for risk of policyholders	-41		-41
Non-trading derivatives	-14		-14
Available-for-sale investments	-18		-18
Financial assets	**-73**	**-**	**-73**
Financial liabilities			
Non-trading derivatives	-19		-19
Financial liabilities	**-19**	**-**	**-19**

Level 3 – Amounts recognised in the profit and loss account during the year (2020)

2020	Held at balance sheet date	Derecognised during the period	Total
Financial assets			
Investments for risk of policyholders	-2		-2
Non-trading derivatives	-28		-28
Available-for-sale investments	-69		-69
Financial assets	**-99**	**-**	**-99**
Financial liabilities			
Non-trading derivatives	-19		-19
Financial liabilities	**-19**	**-**	**-19**

Level 3 Financial assets at fair value

Financial assets measured at fair value in the balance sheet as at 31 December 2021 of EUR 154,554 million (2020: EUR 169,141 million) include an amount of EUR 4,625 million (3.00%) that is classified as Level 3 (2020: EUR 3,489 million (2.10%)). Changes in Level 3 are disclosed above in the table 'Level 3 Financial assets'.

36 Fair value of financial assets and liabilities continued

Financial assets in Level 3 include both assets for which the fair value was determined using valuation techniques that incorporate unobservable inputs and assets for which the fair value was determined using quoted prices, but for which the market was not actively trading at or around the balance sheet date. Unobservable inputs are inputs which are based on NN Group's own assumptions about the factors that market participants would use in pricing an asset, developed based on the best information available in the circumstances. Unobservable inputs may include volatility, correlation, spreads to discount rates, default rates and recovery rates, prepayment rates and certain credit spreads. Fair values that are determined using valuation techniques using unobservable inputs are sensitive to the inputs used. Fair values that are determined using quoted prices are not sensitive to unobservable inputs, as the valuation is based on unadjusted external price quotes. These are classified in Level 3 as a result of the illiquidity in the relevant market, but are not significantly sensitive to NN Group's own unobservable inputs.

Unrealised gains and losses that relate to 'Level 3 Financial assets' are included in the profit and loss account as follows:

- Those relating to Investments for risk of policyholders are included in 'Underwriting expenditure'
- Those relating to Non-trading derivatives are included in 'Valuation results on non-trading derivatives'
- Those relating to financial assets designated as at fair value through profit or loss are included in 'Valuation results on non-trading derivatives – Valuation results on assets and liabilities designated as at fair value through profit or loss (excluding trading)'

Unrealised gains and losses that relate to available-for-sale investments are recognised in other comprehensive income (equity) and included in reserves in 'Unrealised revaluations available-for-sale investments and other'.

Investments for risk of policyholders

Investments for risk of policyholders classified as 'Level 3 Financial assets' amounted EUR 725 million as at 31 December 2021 (2020: EUR 787 million). Net result is unaffected when reasonable possible alternative assumptions would have been used in measuring these investments.

Non-trading derivatives

Non-trading derivatives classified as 'Level 3 Financial assets' are mainly used to hedge the fair value risk of the mortgage loan portfolio at NN Bank. These derivatives classified as Level 3 amounted EUR 8 million as at 31 December 2021 (2020: EUR 22 million).

Available-for-sale investments

The available-for-sale investments classified as 'Level 3 Financial assets' amounted EUR 3,891 million as at 31 December 2021 (2020: EUR 2,680 million) mainly consists of investments in debt securities and shares in real estate investment funds and private equity investment funds of which the fair value is determined using (unadjusted) quoted prices in inactive markets for the securities or quoted prices obtained from the asset managers of the funds. It is estimated that a 10% change in valuation of these investments would have no significant impact on net result but would increase or reduce shareholders' equity by EUR 389 million (2020: EUR 268 million), being approximately 1.1% (before tax) (2020: 0.7% (before tax)), of total equity.

Level 3 Financial liabilities at fair value

Non-trading derivatives

The total amount of financial liabilities classified as Level 3 at 31 December 2021 of EUR 23 million (2020: EUR 42 million) relates to non-trading derivative positions. In 2021, EUR 9 million (2020: EUR 22 million) relates to derivatives used to hedge the interest rate risk associated with the funding position of NN Bank. EUR 12 million (2020: EUR 17 million) relates to longevity hedges closed by NN Group. It is estimated that a 5% increase in mortality assumptions for these longevity hedges reduces result and equity before tax by EUR 13 million (2020: EUR 13 million) and a 5% decrease in mortality assumptions increases result and equity before tax by EUR 17 million (2020: EUR 18 million).

36 Fair value of financial assets and liabilities continued

Financial assets and liabilities at amortised cost

The fair value of the financial instruments carried at amortised cost in the balance sheet (where fair value is disclosed) was determined as follows:

Methods applied in determining the fair value of financial assets and liabilities at amortised cost (2021)

2021	Level 1	Level 2	Level 3	Total
Financial assets				
Cash and cash equivalents	6,929			6,929
Loans	4	3,832	68,761	72,597
Financial assets	**6,933**	**3,832**	**68,761**	**79,526**
Financial liabilities				
Subordinated debt	2,624			2,624
Debt securities issued	2,351			2,351
Other borrowed funds	6,372	941	51	7,364
Investment contracts for risk of company	49		927	976
Customer deposits and other funds on deposit	9,980	6,480		16,460
Financial liabilities	**21,376**	**7,421**	**978**	**29,775**

Methods applied in determining the fair value of financial assets and liabilities at amortised cost (2020)

2020	Level 1	Level 2	Level 3	Total
Financial assets				
Cash and cash equivalents	12,382			12,382
Loans	5	4,456	65,663	70,124
Financial assets	**12,387**	**4,456**	**65,663**	**82,506**
Financial liabilities				
Subordinated debt	2,734			2,734
Debt securities issued	1,781			1,781
Other borrowed funds	5,243	2,456	2	7,701
Investment contracts for risk of company	46		1,011	1,057
Customer deposits and other funds on deposit	9,792	6,793		16,585
Financial liabilities	**19,596**	**9,249**	**1,013**	**29,858**

37 Fair value of non-financial assets

The following table presents the estimated fair value of NN Group's non-financial assets that are measured at fair value in the balance sheet. Reference is made to Note 1 'Accounting policies' in the sections 'Real estate investments' and 'Property and equipment' for the methods and assumptions used by NN Group to estimate the fair value of the non-financial assets.

Fair value of non-financial assets

	Estimated fair value		Balance sheet value	
	2021	2020	2021	2020
Real estate investments	2,719	2,444	2,719	2,444
Property in own use	71	74	71	74
Fair value of non-financial assets	**2,790**	**2,518**	**2,790**	**2,518**

The fair value of the non-financial assets were determined as follows:

Methods applied in determining the fair value of non-financial assets at fair value (2021)

2021	Level 1	Level 2	Level 3	Total
Real estate investments			2,719	2,719
Property in own use			71	71
Non-financial assets	**-**	**-**	**2,790**	**2,790**

Methods applied in determining the fair value of non-financial assets at fair value (2020)

2020	Level 1	Level 2	Level 3	Total
Real estate investments			2,444	2,444
Property in own use			74	74
Non-financial assets	**-**	**-**	**2,518**	**2,518**

Changes in Level 3 non-financial assets (2021)

2021	Real estate investments	Property in own use
Level 3 non-financial assets – opening balance	2,444	74
Amounts recognised in the profit and loss account during the year	241	-2
Purchase	156	
Sale	-124	-2
Changes in the composition of the group and other changes	2	1
Level 3 non-financial assets – closing balance	**2,719**	**71**

Changes in Level 3 non-financial assets (2020)

2020	Real estate investments	Property in own use
Level 3 non-financial assets – opening balance	2,571	82
Amounts recognised in the profit and loss account during the year	-21	-2
Purchase	66	1
Revaluation recognised in equity during the year		-4
Sale	-176	
Changes in the composition of the group and other changes	3	-2
Exchange rate differences	1	-1
Level 3 non-financial assets – closing balance	**2,444**	**74**

37 Fair value of non-financial assets continued

Level 3 – Amounts recognised in the profit and loss account during the year on non-financial assets (2021)

2021	Held at balance sheet date	Derecognised during the year	Total
Real estate investments	241		241
Property in own use	-2		-2
Level 3 Amounts recognised in the profit and loss account during the year on non-financial assets	**239**	**-**	**239**

Level 3 – Amounts recognised in the profit and loss account during the year on non-financial assets (2020)

2020	Held at balance sheet date	Derecognised during the year	Total
Real estate investments	16	-37	-21
Property in own use	-2		-2
Level 3 Amounts recognised in the profit and loss account during the year on non-financial assets	**14**	**-37**	**-23**

Real estate investments and Property in own use

Valuation methodology

The fair value of real estate is based on regular appraisals by independent, qualified valuers. The fair value is established using valuation methods that take into account recent comparable market transactions (CMT), capitalisation of income (CI) methods and/or discounted cash flow (DCF) calculations.

The underlying assumption used in the valuation is that the properties are let or sold to third parties based on the actual letting status. Future rental income is taken into account in accordance with the terms in existing leases, (expected) vacancies, estimations of the rental values for new leases when leases expire and incentives like rent-free periods. These estimated cash flows are discounted using market-based discount rates that reflect appropriately the risk characteristics of the real estate investments.

37 Fair value of non-financial assets continued

Key assumptions

Key assumptions in the valuation of real estate include the estimated current rental value per square metre, the estimated future rental value per square metre (ERV), the net initial yield and the vacancy rate. These assumptions were in the following ranges:

Significant assumptions

	Fair value	Valuation technique	Current rent/m2	ERV/m2	Net initial yield %	Vacancy %	Average lease term in years
The Netherlands							
Office	155	DCF	334-345	330-356	3.7-4.2	0-4.3	5.1
Residential	67	DCF	211	239	3.3	3.5	
Industrial	183	DCF	53-56	55	2.9-3.6		4.7
Retail	12	DCF	133	198	5.0	35.7	7.2
Ground positions	16	Residual approach					
Germany							
Retail	242	DCF	184-313	175-314	4.3-4.6	10.9	3.6
Industrial	278	DCF	48-87	54-87	3.1-4.2	2.2	7.4
France							
Office	76	DCF	623	617	3.4		5.4
Residential	209	DCF	260-388	213-336	3.7-4.4	4.3	3.3
Industrial	366	DCF	45-70	45-72	3.5-4.5		4.5
Residential	13	Comparison approach	322	5			
Spain							
Retail	244	DCF	189-229	194-234	5.3-7.1	5.1	4.6
Industrial	117	DCF	0-44	28-42	1.0-6.2	8.8	3.1
Italy							
Retail	229	DCF	112-816	156-780	0.9-4.5	5.2	6.4
Industrial	33	DCF	42	44	4.6		3.4
Denmark							
Residential	120	DCF	217	311	3.6	0.9	
Industrial	65	DCF	155-167	144-154	4.4-5.0		11.5
Belgium							
Retail	119	DCF	83-342	99-322	4.9-7.6	4.8	3.5
Industrial	35	DCF	44	43	4.5		1.7
Office	9	Income Capitalisation	224	196	5.3	14.4	6.7
Poland							
Retail	84	DCF	150	160	7.7	6.0	3.6
Real estate under construction and other	47						
Total real estate	**2,719**						

37 Fair value of non-financial assets continued

Sensitivities

Significant increases (decreases) in the estimated rental value and rent growth in isolation would result in a significantly higher (lower) fair value of the real estate investments. Significant increases (decreases) in the long-term vacancy rate and discount rate in isolation would result in a significantly lower (higher) fair value of the real estate investments.

NN Group uses quarterly appraisals by external valuers as main input for the determination of fair value of its real estate investments. The fair value is established using valuation methods that take into account recent comparable market transactions (CMT), capitalisation of income (CI) methods and/or discounted cash flow (DCF) calculations. In 2020, uncertainties related to the Covid-19 pandemic have led to the inclusion of 'material valuation uncertainty' clauses in certain external valuation reports. Such clauses do not imply that the valuation cannot be relied upon, but are used to indicate that – in the extraordinary circumstances – less certainty could be attached to valuations than would otherwise be the case. This was primarily the case for real estate investments in the retail sector. At the end of 2021, valuators no longer included such clauses in the valuation reports for assets in the portfolio of NN Group. As for the different sectors the fair value of industrial and logistic real estate developed positive during the reporting period, as result of continuing favourable letting, capital markets and comparable market transactions, whereas for the retail sector, the vacancy and yield assumptions were updated as to be in accordance with the current (Covid-19 dominated) situation.

38 Derivatives and hedge accounting

Use of derivatives and hedge accounting

NN Group uses derivatives for effective portfolio management and the management of its asset and liability portfolios. The objective of economic hedging is to enter into positions with an opposite risk profile to an identified exposure to reduce that exposure.

The accounting treatment of hedge transactions varies according to the nature of the instrument hedged and whether the hedge qualifies under the IFRS-EU hedge accounting rules. Derivatives that qualify for hedge accounting under IFRS-EU are classified and reported in accordance with the nature of the hedged item and the type of IFRS-EU hedge model that is applicable. The three models applicable under IFRS-EU are: cash flow hedge accounting, fair value hedge accounting and net investment hedge accounting. The company's detailed accounting policies for these three hedge models are set out in Note 1 'Accounting policies' in the section on 'Accounting policies for specific items'.

To qualify for hedge accounting under IFRS-EU, strict criteria must be met. Certain hedges that are economically effective from a risk management perspective do not qualify for hedge accounting under IFRS-EU. The fair value changes of derivatives relating to such non-qualifying hedges are taken to the profit and loss account. However, in certain cases, NN Group mitigates the profit and loss account volatility by designating hedged assets and liabilities at fair value through profit or loss. If hedge accounting is applied under IFRS-EU, it is possible that a hedge relationship no longer qualifies for hedge accounting and hedge accounting cannot be continued, even if the hedge remains economically effective. As a result, the volatility arising from undertaking economic hedging in the profit and loss account may be higher than would be expected from an economic point of view.

With respect to exchange rate and interest rate derivative contracts, the notional or contractual amount of these instruments is indicative of the nominal value of transactions outstanding at the balance sheet date; however, they do not represent amounts at risk.

In 2017, NN Group entered into a longevity hedge, based on a general index of Dutch mortality. The maximum pay-out of the hedge amounts to EUR 100 million, payable after 20 years. The hedge is financed by annual premium payments to the counterparty. The longevity hedge is accounted for as derivative. The hedge reduces the impact of longevity trend scenarios implying more improvement in life expectancy. The regulator gave approval to include the effects of this specific hedge on the SCR. The purpose of the hedge is to reduce the longevity risk.

Interest rate benchmark reform

Almost all hedge accounting applied by NN Group relates to interest rate risk based on Euribor. The calculation method of Euribor changed during 2019 and Euribor will continue to be used after the benchmark reform. As a result, NN Group expects that Euribor will continue to exist as a benchmark and does not anticipate replacing Euribor in its interest rate risk management and related hedge accounting. Furthermore, all of NN Groups Euribor based hedging instruments which are settled via clearing houses (the majority of NN Groups hedging instruments) have changed in July 2020 from EONIA to the Euro Short-Term Rate '€STR' as a reference rate to discount the future cash flows of the respective contracts in line with market practice. The remainder of NN Groups hedging instruments (primarily bilateral agreements) execute this change at the end of 2021, induced by market practice. This change does not impact the cash flows of the individual contracts, but only the calculation method of the fair value of the contracts.

38 Derivatives and hedge accounting continued

Cash flow hedge accounting

NN Group's hedge accounting consists mainly of cash flow hedge accounting. NN Group's cash flow hedges principally consist of Euribor based (forward) interest rate swaps and cross-currency interest rate swaps that are used to protect against its exposure to variability in future interest cash flows on assets and liabilities that bear interest at variable rates or are expected to be refunded or reinvested in the future. The amounts and timing of future cash flows, representing both principal and interest flows, are projected for each portfolio of financial assets and liabilities, based on contractual terms and other relevant factors including estimates of prepayments and defaults.

Gains and losses on the effective portions of derivatives designated under cash flow hedge accounting are recognised in Shareholders' equity. Interest income and expenses on these derivatives are recognised in the profit and loss account consistent with the manner in which the forecast cash flows affect Net result. The gains and losses on ineffective portions of such derivatives are recognised immediately in the profit and loss account.

For the year ended 31 December 2021, NN Group recognised EUR -3,383 million (2020: EUR 3,422 million) in equity as effective fair value changes on derivatives under cash flow hedge accounting. The balance of the cash flow hedge reserve in equity as at 31 December 2021 is EUR 11,906 million (2020: EUR 16,293 million) gross and EUR 8,837 million (2020: EUR 12,220 million) after deferred tax. This cash flow hedge reserve will fluctuate with the fair value of the underlying derivatives and will be reflected in the profit and loss account under Interest income/expenses over the remaining term of the underlying hedged items. The cash flow hedge reserve relates to a large number of derivatives and hedged items with varying maturities up to 49 years with the largest concentrations in the range 1 year to 13 years. Accounting ineffectiveness on derivatives designated under cash flow hedge accounting resulted in EUR 10 million loss (2020: EUR 2 million income) which was recognised in the profit and loss account.

As at 31 December 2021, the fair value of outstanding derivatives designated under cash flow hedge accounting was EUR 3,718 million (2020: EUR 10,371 million), presented in the balance sheet as EUR 4,622 million (2020: EUR 10,530 million) positive fair value under assets and EUR 904 million (2020: EUR 159 million) negative fair value under liabilities.

As at 31 December 2021 and 2020, there were no non-derivatives designated as hedging instruments for cash flow hedge accounting purposes.

Included in 'Interest income and Interest expenses on non-trading derivatives' is EUR 164 million (2020: EUR 192 million) and EUR 98 million (2020: EUR 88 million), respectively, relating to derivatives used in cash flow hedges.

Fair value hedge accounting

NN Group's fair value hedges principally consist of interest rate swaps and cross-currency interest rate swaps that are used to protect against changes in the fair value of fixed-rate instruments due to movements in market interest rates.

Gains and losses on derivatives designated under fair value hedge accounting are recognised in the profit and loss account. The effective portion of the fair value change on the hedged item is also recognised in the profit and loss account. As a result, only the net accounting ineffectiveness has an impact on the net result.

For the year ended 31 December 2021, NN Group recognised EUR 481 million (2020: EUR -670 million) of fair value changes on derivatives designated under fair value hedge accounting in the profit and loss account. This amount was offset by EUR -486 million (2020: EUR 678 million) fair value changes recognised on hedged items. This resulted in EUR -5 million (2020: EUR 8 million) net accounting ineffectiveness recognised in the profit and loss account. As at 31 December 2021, the fair value of outstanding derivatives designated under fair value hedge accounting was EUR 25 million (2020: EUR -546 million), presented in the balance sheet as EUR 29 million (2020: EUR 1 million) positive fair value under assets and EUR 4 million (2020: EUR 547 million) negative fair value under liabilities.

NN Group applies fair value hedge accounting for portfolio hedges of interest rate risk (macro hedging) under the EU 'carve out' of IFRS-EU. The EU 'carve-out' for macro hedging enables a group of derivatives (or proportions) to be viewed in combination and jointly designated as the hedging instrument and removes some of the limitations in fair value hedge accounting relating to hedging core deposits and under-hedging strategies. Under the IFRS-EU 'carve-out', hedge accounting may be applied to core deposits and ineffectiveness only arises when the revised estimate of the amount of cash flows in scheduled time buckets falls below the designated amount of that bucket. NN Group applies the IFRS-EU 'carve-out' to hedge the interest rate risk of mortgage loans. The hedging activities are designated under a portfolio fair value hedge on the mortgages, under IFRS-EU.

39 Assets by contractual maturity

Amounts presented in these tables by contractual maturity are the amounts as presented in the balance sheet.

Assets by contractual maturity (2021)

2021	Less than 1 month[1]	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Total
Assets							
Cash and cash equivalents	4,268	2,661					6,929
Financial assets at fair value through profit or loss:							
– investments for risk of policyholders[2]						39,261	39,261
– non-trading derivatives	5	98	84	108	6,124		6,419
– designated as at fair value through profit or loss	552			28		411	991
Available-for-sale investments	1,747	2,576	6,086	20,787	64,721	11,966	107,883
Loans	20	301	1,447	6,451	59,992	-11	68,200
Reinsurance contracts	25	32	130	137	596	34	954
Intangible assets	5	15	49	198	309	553	1,129
Deferred acquisition costs	53	26	111	309	1,392	2	1,893
Assets held for sale[3]			4,121				4,121
Deferred tax assets	-13		1	1	24	34	47
Other assets	1,935	794	548	156	271	2	3,706
Remaining assets (for which maturities are not applicable)[4]						10,052	10,052
Total assets	**8,597**	**6,503**	**12,577**	**28,175**	**133,429**	**62,304**	**251,585**

1 Includes assets on demand.
2 Investments for risk of policyholders are managed on behalf of policyholders on a fair value basis. Although individual instruments may (or may not) have a maturity depending on their nature, this does not impact the liquidity position of NN Group.
3 Assets held for sale consist of the assets of the disposal groups classified as held for sale as disclosed in Note 12 'Assets and liabilities held for sale'. For these assets and liabilities, the underlying contractual maturities are no longer relevant to NN Group. The assets and liabilities held for sale have been classified in accordance with the agreed or expected closing date.
4 Included in remaining assets for which maturities are not applicable are Property and equipment, Real estate investments and Associates and joint ventures. Due to their nature remaining assets consist mainly of assets expected to be recovered after more than 12 months.

Assets by contractual maturity (2020)

2020	Less than 1 month[1]	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Total
Assets							
Cash and cash equivalents	10,021	2,361					12,382
Financial assets at fair value through profit or loss:							
– investments for risk of policyholders[2]						34,797	34,797
– non-trading derivatives	44	187	42	284	14,276		14,833
– designated as at fair value through profit or loss	887		1	24	-1	425	1,336
Available-for-sale investments	1,373	2,093	5,937	25,485	71,988	11,299	118,175
Loans	329	182	1,235	6,503	57,164	15	65,428
Reinsurance contracts	21	27	117	184	639	75	1,063
Intangible assets	5	16	45	238	226	533	1,063
Deferred acquisition costs	41	22	105	277	1,424	2	1,871
Assets held for sale			113				113
Deferred tax assets		1	3	7	56	6	73
Other assets	2,213	1,057	613	98	56	2	4,039
Remaining assets (for which maturities are not applicable)[3]						8,565	8,565
Total assets	**14,934**	**5,946**	**8,211**	**33,100**	**145,828**	**55,719**	**263,738**

1 Includes assets on demand.
2 Investments for risk of policyholders are managed on behalf of policyholders on a fair value basis. Although individual instruments may (or may not) have a maturity depending on their nature, this does not impact the liquidity position of NN Group.
3 Included in remaining assets for which maturities are not applicable are Property and equipment, Real estate investments and Associates and joint ventures. Due to their nature remaining assets consist mainly of assets expected to be recovered after more than 12 months.

40 Liabilities by maturity

The tables below include all financial liabilities by maturity based on contractual, undiscounted cash flows. Furthermore, the undiscounted future coupon interest on financial liabilities payable is included in a separate line and in the relevant maturity bucket. Derivative liabilities are included on a net basis if cash flows are settled net. For other derivative liabilities the contractual gross cash flow payable is included.

Non-financial liabilities, including insurance and investment contracts, are included based on a breakdown of the (discounted) balance sheet amounts by expected maturity. Reference is made to the Liquidity risk paragraph in Note 52 'Risk management' for a description on how liquidity risk is managed.

Liabilities by maturity (2021)

2021	Less than 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Adjustment[1]	Total
Liabilities								
Subordinated debt[2]			500	1,000	850		6	2,356
Debt securities issued		600		500	1,200		-8	2,292
Other borrowed funds	55	675	385	2,805	3,381			7,301
Customer deposits and other funds on deposit	10,113	150	602	2,168	2,912			15,945
Financial liabilities at fair value through profit or loss:								
– non-trading derivatives	30	125	307	1,154	8,328		-8,040	1,904
Financial liabilities	**10,198**	**1,550**	**1,794**	**7,627**	**16,671**	**-**	**-8,042**	**29,798**
Insurance and investment contracts	821	1,187	3,961	16,796	108,051	37,996		168,812
Liabilities held for sale[3]			3,464					3,464
Deferred tax liabilities	4	6	-14	58	4,459	304		4,817
Other liabilities	7,853	495	516	287	633	-8		9,776
Non-financial liabilities	**8,678**	**1,688**	**7,927**	**17,141**	**113,143**	**38,292**	**-**	**186,869**
Total liabilities	**18,876**	**3,238**	**9,721**	**24,768**	**129,814**	**38,292**	**-8,042**	**216,667**
Coupon interest due on financial liabilities	15	25	102	660	1,924			2,726

1 This column reconciles the contractual undiscounted cash flow on financial liabilities to the balance sheet values. The adjustments mainly relate to valuation differences, the impact of discounting and, for derivatives, to the fact that the contractual cash flows are presented on a gross basis (unless the cash flows are actually settled net).
2 Subordinated debt maturities are presented based on the first call date. For the legal date of maturity reference is made to Note 15 'Subordinated debt'.
3 Liabilities held for sale consist of the assets of the disposal groups classified as held for sale as disclosed in Note 12 'Assets and liabilities held for sale'. For these assets and liabilities, the underlying contractual maturities are no longer relevant to NN Group. The assets and liabilities held for sale have been classified in accordance with the agreed or expected closing date.

40 Liabilities by maturity continued

Liabilities by maturity (2020)

2020	Less than 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Adjustment[1]	Total
Liabilities								
Subordinated debt[2]				1,500	850		33	2,383
Debt securities issued				1,100	600		-6	1,694
Other borrowed funds	124	303	1,254	3,373	2,488			7,542
Customer deposits and other funds on deposit	9,915	128	595	2,188	2,977			15,803
Financial liabilities at fair value through profit or loss:								
– non-trading derivatives	71	361	290	1,036	2,630		-376	4,012
Financial liabilities	**10,110**	**792**	**2,139**	**9,197**	**9,545**	**-**	**-349**	**31,434**
Insurance and investment contracts	1,148	1,063	4,523	17,744	112,395	33,799		170,672
Liabilities held for sale			93					93
Deferred tax liabilities	17	-4	-22	55	6,024	259		6,329
Other liabilities	14,093	526	640	400	710	69		16,438
Non-financial liabilities	**15,258**	**1,585**	**5,234**	**18,199**	**119,129**	**34,127**	**-**	**193,532**
Total liabilities	**25,368**	**2,377**	**7,373**	**27,396**	**128,674**	**34,127**	**-349**	**224,966**
Coupon interest due on financial liabilities	65	30	119	709	2,007			2,930

1 This column reconciles the contractual undiscounted cash flow on financial liabilities to the balance sheet values. The adjustments mainly relate to the impact of discounting and, for derivatives, to the fact that the contractual cash flows are presented on a gross basis (unless the cash flows are actually settled net).

2 Subordinated debt maturities are presented based on the first call date. For the legal date of maturity reference is made to Note 15 'Subordinated debt'.

41 Assets not freely disposable

Assets not freely disposable of EUR 136 million (2020: EUR 161 million) relates to the mandatory reserve deposit at De Nederlandsche Bank and cash balances held at BNG Bank regarding the structured entities Arena NHG, Hypenn RMBS entities and the Covered Bond companies.

Assets relating to securities lending are disclosed in Note 42 'Transferred, but not derecognised financial assets'. Assets in securitisation programmes originated by NN Bank are disclosed in Note 47 'Structured entities'.

42 Transferred, but not derecognised financial assets

The majority of NN Group's financial assets that have been transferred, but do not qualify for derecognition, are debt instruments used in securities lending. NN Group retains substantially all risks and rewards of those transferred assets. The assets are transferred in return for cash collateral or other financial assets. Non-cash collateral is not recognised in the balance sheet. Cash collateral is recognised as an asset and an offsetting liability is established for the same amount as NN Group is obligated to return this amount upon termination of the lending arrangement.

Transfer of financial assets not qualifying for derecognition

	2021	2020
Transferred assets at carrying value		
Available-for-sale investments	17,761	17,514
Associated liabilities at carrying value		
Other borrowed funds	580	247

The table above does not include assets transferred to consolidated securitisation entities, as these related assets are not transferred from a consolidated perspective. Reference is made to Note 47 'Structured entities'.

43 Offsetting of financial assets and liabilities

The following tables include information about rights to offset and the related arrangements. The amounts included consist of all recognised financial instruments that are presented net in the balance sheet under the IFRS-EU offsetting requirements (legal right to offset and intention to settle on a net basis) and amounts presented gross in the balance sheet but subject to enforceable master netting arrangements or similar arrangement.

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements (2021)

2021					Related amounts not offset in the balance sheet		
Balance sheet line item	Financial instrument	Gross financial assets	Gross financial liabilities offset in the balance sheet	Net financial assets in the balance sheet	Financial instruments	Cash and financial instruments collateral	Net amount
Non-trading derivatives	Derivatives	6,411		6,411	-1,152	-5,231	28
Financial assets at fair value through profit or loss		**6,411**	**-**	**6,411**	**-1,152**	**-5,231**	**28**
Other items where offsetting is applied in the balance sheet		**127**	**-**	**127**	**-56**	**-70**	**1**
Total financial assets		**6,538**	**-**	**6,538**	**-1,208**	**-5,301**	**29**

Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements (2020)

2020					Related amounts not offset in the balance sheet		
Balance sheet line item	Financial instrument	Gross financial assets	Gross financial liabilities offset in the balance sheet	Net financial assets in the balance sheet	Financial instruments	Cash and financial instruments collateral	Net amount
Non-trading derivatives	Derivatives	14,776		14,776	-3,214	-11,368	194
Financial assets at fair value through profit or loss		**14,776**	**-**	**14,776**	**-3,214**	**-11,368**	**194**
Other items where offsetting is applied in the balance sheet		**157**	**-**	**157**	**-63**	**-93**	**1**
Total financial assets		**14,933**	**-**	**14,933**	**-3,277**	**-11,461**	**195**

43 Offsetting of financial assets and liabilities continued

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements (2021)

2021					Related amounts not offset in the balance sheet		
Balance sheet line item	Financial instrument	Gross financial liabilities	Gross financial assets offset in the balance sheet	Net financial liabilities in the balance sheet	Financial instruments	Cash and financial instruments collateral	Net amount
Non-trading derivatives	Derivatives	1,679		1,679	-1,152	-495	32
Financial liabilities at fair value through profit or loss		**1,679**	**-**	**1,679**	**-1,152**	**-495**	**32**
Other items where offsetting is applied in the balance sheet		**58**		**58**	**-56**	**-2**	**-**
Total financial liabilities		**1,737**	**-**	**1,737**	**-1,208**	**-497**	**32**

Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements (2020)

2020					Related amounts not offset in the balance sheet		
Balance sheet line item	Financial instrument	Gross financial liabilities	Gross financial assets offset in the balance sheet	Net financial liabilities in the balance sheet	Financial instruments	Cash and financial instruments collateral	Net amount
Non-trading derivatives	Derivatives	3,726		3,726	-3,214	-500	12
Financial liabilities at fair value through profit or loss		**3,726**	**-**	**3,726**	**-3,214**	**-500**	**12**
Other items where offsetting is applied in the balance sheet		**84**		**84**	**-63**	**-21**	**-**
Total financial liabilities		**3,810**	**-**	**3,810**	**-3,277**	**-521**	**12**

44 Contingent liabilities and commitments

In the normal course of business NN Group is party to activities whose risks are not reflected in whole or in part in the Consolidated annual accounts. In response to the needs of its customers, NN Group offers financial products related to loans. These products include traditional off-balance sheet credit-related financial instruments.

Contingent liabilities and commitments (2021)

2021	Less than 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Total
Commitments	550	1,347	3,260	2,312	135	343	7,947
Guarantees			40	1			41
Contingent liabilities and commitments	**550**	**1,347**	**3,300**	**2,313**	**135**	**343**	**7,988**

Contingent liabilities and commitments (2020)

2020	Less than 1 month	1-3 months	3-12 months	1-5 years	Over 5 years	Maturity not applicable	Total
Commitments	655	772	1,983	1,947	203	104	5,664
Guarantees			40	1			41
Contingent liabilities and commitments	**655**	**772**	**2,023**	**1,948**	**203**	**104**	**5,705**

NN Group has issued certain guarantees, other than those included in 'Insurance contracts', which are expected to expire without being drawn on and therefore does not necessarily represent future net cash outflows. In addition to the items included in 'Contingent liabilities', NN Group has issued guarantees as a participant in collective arrangements of national industry bodies and as a participant in government required collective guarantee schemes which apply in different countries.

44 Contingent liabilities and commitments continued

ING Group

During 2016, ING Group, NN Group's former parent company, sold its remaining stake in NN Group. Therefore, ING Group has ceased to be a related party of NN Group in the course of 2016. The following agreements with ING Group are still relevant:

Master claim agreement

In 2012, ING Groep N.V., Voya Financial Inc. (formerly ING U.S., Inc.) and ING Insurance Eurasia N.V. entered into a master claim agreement to (a) allocate existing claims between these three parties and (b) agree on criteria for how to allocate future claims between the three parties. The master claim agreement contains further details on claim handling, conduct of litigation and dispute resolution.

Indemnification and allocation agreement

ING Groep N.V. and NN Group N.V. have entered into an indemnification and allocation agreement, in which ING Group has agreed to indemnify NN Group for certain liabilities that relate to the business of or control over certain (former) U.S. and Latin American subsidiaries of NN Group in the period until 30 September 2013 or, if the relevant subsidiary was divested by NN Group after 30 September 2013, such later date of divestment. These liabilities mainly include contingent liabilities that may arise as a result of the initial public offering of ING U.S. (such as prospectus liability), the sales of the Latin American businesses (such as claims under warranties and other buyer protection clauses) and the liabilities for the claims concerning the performance of certain interest-sensitive products that were sold by a former subsidiary of NN Group in Mexico.

Other agreements

In connection with the initial public offering of NN Group N.V., ING Groep N.V. entered in 2014 into several other agreements with NN Group N.V. which are currently, partly or wholly, in force, such as a joinder agreement, an equity administration agreement and a Risk Management Programme (RMP) indemnity agreement. In 2015, NN Group N.V. and ING Groep N.V. entered into an agreement providing amongst others for allocation between them of insurance payments under the public offering securities insurance taken out by ING Groep N.V. with respect to the IPO of NN Group N.V.

45 Legal proceedings

General

NN Group is involved in litigation and arbitration proceedings in the Netherlands and in a number of foreign jurisdictions, involving claims by and against NN Group which arise in the ordinary course of its business, including in connection with its activities as insurer, lender, seller, broker-dealer, underwriter, issuer of securities and investor and its position as employer and taxpayer. In certain of such proceedings, very large or indeterminate amounts are sought, including punitive and other damages. While it is not feasible to predict or determine the ultimate outcome of all pending or threatened legal and regulatory proceedings, NN Group believes that some of the proceedings set out below may have, or have in the recent past had, a significant effect on the financial condition, profitability or reputation of NN Group.

Because of the geographic spread of its business, NN Group may be subject to tax audits in numerous jurisdictions at any point in time. Although NN Group believes that it has adequately provided for its tax positions, the ultimate outcome of these audits may result in liabilities that are different from the amounts recognised.

Unit-linked products in the Netherlands

Since the end of 2006, unit-linked products (commonly referred to in Dutch as 'beleggingsverzekeringen') have received negative attention in the Dutch media, from the Dutch Parliament, the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten) and consumer protection organisations. Costs of unit-linked products sold in the past are perceived as too high and Dutch insurers are in general being accused of being less transparent in their offering of such unit-linked products.

On 29 April 2015, the European Court of Justice issued its ruling on preliminary questions submitted by the District Court in Rotterdam, upon request of parties, including Nationale-Nederlanden, to obtain clarity on principal legal questions with respect to cost transparency in relation to unit-linked products. The main preliminary question considered by the European Court of Justice was whether European law permits the application of information requirements based on general principles of Dutch law that extend beyond information requirements as explicitly prescribed by laws and regulations in force at the time the policy was written. The European Court of Justice ruled that the information requirements prescribed by the applicable European directive may be extended by additional information requirements included in national law, provided that these requirements are necessary for a policyholder to understand the essential characteristics of the commitment and are clear, accurate and foreseeable. Dutch courts will need to take the interpretation of the European Court of Justice into account in relevant proceedings.

45 Legal proceedings continued

In 2013 Woekerpolis.nl and in 2017 Consumentenbond and Wakkerpolis, all associations representing the interests of policyholders of Nationale-Nederlanden, individually initiated so-called 'collective actions' against Nationale-Nederlanden. These claims are all based on similar grounds and have been rejected by Nationale-Nederlanden and Nationale-Nederlanden defends itself in these legal proceedings.

Woekerpolis.nl requested the District Court in Rotterdam to declare that Nationale-Nederlanden sold products which are defective in various respects. Woekerpolis.nl alleges that Nationale-Nederlanden failed to meet the required level of transparency regarding, cost charges and other product characteristics, failed to warn policyholders of certain product related risks, such as considerable stock depreciations, the inability to realise the projected final policy value, unrealistic capital projections due to differences in geometric versus arithmetic returns and that certain general terms and conditions regarding costs were unfair. On 19 July 2017, the District Court in Rotterdam rejected all claims of Woekerpolis.nl and ruled that Nationale-Nederlanden has generally provided sufficient information on costs and premiums. Woekerpolis.nl has lodged an appeal with the Court of Appeal in The Hague against the ruling of the District Court in Rotterdam. On 23 February 2021, the Court of Appeal in The Hague rendered an interim ruling submitting preliminary questions to the Dutch Supreme Court to obtain clarity on the interpretation of certain principle questions of law that are relevant in disputes concerning unit-linked policies. The questions concern the relationship between the specific Dutch regulations applicable to insurers regarding the provision of (pre)contractual information, and Dutch civil law and the impact thereon by European law. On 11 February 2022, the Supreme Court answered the questions of law submitted to it by the Court of Appeal in The Hague. The Supreme Court primarily considers that Dutch civil law is applicable to the legal relationship between insurer and policyholder. It is up to lower courts to decide whether Dutch civil law entails obligations to provide information in addition to the obligations arising from specific regulations and, if so, which obligations. The Supreme Court holds that potential additional information obligations must satisfy the criteria formulated by the European Court of Justice in the abovementioned judgment of 2015. The Supreme Court finds that, if the lower court were to decide that certain additional information obligations apply, the courts have to judge whether these information obligations 1) pertain to information that is clear and accurate, 2) are necessary for a proper understanding of the essential characteristics of the unit-linked policy, and 3) enable the insurer to identify with sufficient foreseeability the additional information that must be provided and that the policyholder may expect. The judgment has no direct consequences for customers with a unit-linked policy. The Court of Appeal in The Hague will now resume the collective proceedings between Woekerpolis.nl and Nationale-Nederlanden.

Consumentenbond alleges that Nationale-Nederlanden failed to adequately inform policyholders on cost charges, risk premium for life insurance cover and the leverage and capital consumption effect and that Nationale-Nederlanden provided misleading capital projections. Consumentenbond requested the District Court in Rotterdam to order a recalculation of certain types of unit-linked insurance products and to declare that Nationale-Nederlanden is liable for any damage caused by a lack of information and misleading capital projections. On 29 July 2020, the District Court in Rotterdam rejected all claims of Consumentenbond. The court ruled that Nationale-Nederlanden has provided sufficient information on the effect of costs and risk premiums for life insurance cover included in the gross premium, leading to agreement between parties (wilsovereenstemming) on these costs and risk premiums and on the manner in which these costs components are set off during the term of the insurance. Consumentenbond has lodged an appeal with the Court of Appeal in The Hague against the ruling of the District Court.

Wakkerpolis primarily concentrates on the recovery of initial costs for policyholders by claiming that there is no contractual basis for charging initial costs and that the insurer is obliged to warn against the leverage and capital consumption effect. In an interim ruling in the collective action initiated by Wakkerpolis rendered on 22 April 2020, the District Court in Rotterdam dismissed Wakkerpolis' claim to recalculate the value of unit-linked products without initial costs. With respect to unit-linked products issued after 1994, the District Court concluded that Nationale-Nederlanden complied with the precontractual information requirements prescribed by law and regulations applicable at the time and in principle all costs (including initial costs) were agreed upon by parties (wilsovereenstemming). With respect to unit-linked products issued before 1994, Nationale-Nederlanden is to demonstrate that for these unit-linked products it provided precontractual information on the (effect of) costs and risk premiums for life insurance cover included in the gross premium and net example capitals. For unit-linked products issued before 1 August 1999, the District Court ruled that policyholders were not sufficiently informed by Nationale-Nederlanden on the effect of costs on the surrender value or paid up value of a policy, leading to an absence in the agreement between parties (leemte). Nationale-Nederlanden is requested to inform the District Court whether the allocation system used by Nationale-Nederlanden to settle initial costs would negatively affect the value of policies in case of early surrendering or conversion into paid up policies, compared to another common allocation system used in the insurance industry. On 2 June 2021, the District Court rendered an interim judgment granting Wakkerpolis the right to supplement its claims. A final ruling in first instance is expected in Q2 2022.

45 Legal proceedings continued

There has been for some time and there continues to be political, regulatory and public attention focused on the unit-linked issue in general. Elements of unit-linked policies are being challenged or may be challenged on multiple legal grounds in current and future legal proceedings. There is a risk that one or more of those legal challenges will succeed. Customers of NN Group's Dutch insurance subsidiaries have claimed, among others, that (a) the investment risk, costs charged or the risk premium was not, or not sufficiently, made clear to the customer, (b) the product costs charged on initial sale and on an ongoing basis were so high that the expected return on investment was not realistically achievable, (c) the product sold to the customer contained specific risks that were not, or not sufficiently, made clear to the customer (such as the leverage capital consumption risk) or was not suited to the customer's personal circumstances, (d) the insurer owed the customer a duty of care which the insurer has breached, (e) the insurer failed to warn of the risk of not realising the projected policy values and/or that these projected policy values were incorrect, (f) the policy conditions were unfair, or (g) the costs charged or the risk premium had no contractual basis. These claims may be based on general standards of contract or securities law, such as reasonableness and fairness, error, duty of care, or standards for proper customer treatment or due diligence, such as relating to the fairness of terms in consumer contracts and may be made by customers, or on behalf of customers, holding active policies or whose policies have lapsed, matured or been surrendered. There is no assurance that further proceedings for damages based on aforementioned legal grounds or other grounds will not be brought. The timing of reaching any finality in last instance on these pending legal claims and proceedings is uncertain and such uncertainty is likely to continue for some time.

Rulings or announcements made by courts or decision-making bodies or actions taken by regulators or governmental authorities against NN Group's Dutch insurance subsidiaries or other Dutch insurance companies in respect of unit-linked products, or settlements or any other actions to the benefit of customers (including product improvements or repairs) by other Dutch insurance companies towards consumers, consumer protection organisations, regulatory or governmental authorities or other decision-making bodies in respect of the unit-linked products, may affect the (legal) position of NN Group's Dutch insurance subsidiaries and may force such subsidiaries to take (financial) measures that could have a substantial impact on the financial condition, results of operations, solvency or reputation of NN Group and its subsidiaries. As a result of the public and political attention the unit-linked issue has received, it is also possible that sector-wide measures may be imposed by governmental authorities or regulators in relation to unit-linked products in the Netherlands. The impact on NN Group's Dutch insurance subsidiaries of rulings made by courts or decision-making bodies, actions taken by regulators or governmental bodies against other Dutch insurance companies in respect of unit-linked products, or settlements or any other actions to the benefit of customers (including product improvements or repairs), may be determined not only by market share but also by portfolio composition, product features, terms and conditions and other factors. Adverse decisions or the occurrence of any of the developments as described above could result in outcomes materially different than if NN Group's Dutch insurance subsidiaries or its products had been judged or negotiated solely on their own merits.

The book of policies of NN Group's Dutch insurance subsidiaries dates back many years, and in some cases several decades. Over time, the regulatory requirements and expectations of various stakeholders, including customers, regulators and the public at large, as well as standards and market practice, have developed and changed, increasing customer protection. As a result, policyholders and consumer protection organisations have initiated and may in the future initiate proceedings against NN Group's Dutch insurance subsidiaries alleging that products sold in the past fail to meet current requirements and expectations. In any such proceedings, it cannot be excluded that the relevant court, regulator, governmental authority or other decision-making body will apply current norms, requirements, expectations, standards and market practices on laws and regulations to products sold, issued or advised on by NN Group's Dutch insurance subsidiaries.

Although the financial consequences of any of these factors or a combination thereof could be substantial for the Dutch insurance business of NN Group and, as a result, may have a material adverse effect on NN Group's business, reputation, revenues, results of operations, solvency, financial condition and prospects, it is not possible to reliably estimate or quantify NN Group's exposures at this time.

Dispute on reinsurance agreement

NN Group had reinsured with another insurance company part of the exposure on certain insured pension obligations. The counterparty acknowledged the existence of a reinsurance arrangement, but disputed the applicability of fundamental aspects of the reinsurance agreement. NN Group started legal proceedings in 2019. A provision was recognised in 2019. In 2021, both parties agreed on a settlement. As a result, the reinsurance was cancelled and a settlement amount was received. The net positive impact of the settlement was recognised in 2021.

Argentina

On 10 April 2019, NN Group filed a claim with the International Centre for Settlement of Investment Disputes (ICSID) under the Bilateral Investment Treaty between Argentina and the Netherlands, in order to resolve a dispute with the Argentine Republic. The dispute relates to the nationalisation of Orígenes – NN Group's former pension fund manager in Argentina – by the Argentine Government in 2008. These proceedings may last for several years. As the case is still pending, it is unclear at this stage whether and to what extent any compensation will be granted to NN Group and therefore no compensation has been recognised.

45 Legal proceedings continued

Australia

In April 2015, the Australian Taxation Office (ATO) commenced a Tax Audit on ING Australia Holdings Ltd. The Tax Audit concerns the years 2007-2013 and focused on the currency denomination of and interest on intercompany loans which resulted from the transfer of the insurance and asset management businesses in Australia. ING Australia Holdings was transferred by NN Group to ING Group in 2013 as part of which it was agreed that NN Group remains liable for any damages resulting from tax claims. An Independent Review of the Tax Audit was completed by the ATO in July 2017. In 2017, NN Group recognised a provision on the IFRS and Solvency II balance sheets for an amount of AUD 279 million (EUR 185 million) to cover the costs of the expected ATO claim including penalties, interest and related expenses. In December 2020, a final agreement was reached with the ATO on all aspects of the Tax Audit resulting in a final payment to the ATO and the release of the remainder of the provision (net of related expenses). The release of EUR 109 million is recognised in 2020 in Result on disposal of group companies (Result on divestments in the segment Other). The Tax Audit concerns a former subsidiary of NN Group and, therefore, does not impact NN Group's business or strategy going forward.

46 Companies and businesses acquired and divested

Acquisitions (2021)

In July 2021, NN Group announced it had reached agreement to acquire MetLife's businesses in Poland and Greece for a consideration of EUR 584 million. This is in line with the strategy to consolidate NN Group's leading positions in attractive growth markets in which NN is already active. In January 2022 the acquisition of MetLife Greece was completed. The acquisition of MetLife Poland is expected to be completed in 2022.

In July 2021 NN Group announced that it had reached an agreement to acquire a 70% stake in Dutch insurance broker and service provider Heinenoord, for a total consideration of EUR 179 million. In addition, NN Group refinanced the outstanding debt granted to Heinenoord for an amount of EUR 129 million. Furthermore, the agreement includes an option structure to acquire the remaining 30% of shares within four years following the closing of the transaction. The acquisition closed in October 2021 and was accounted for in 2021. Heinenoord is consolidated 100% by NN Group; a liability is recognised for the estimated remaining price to be paid under the put option of EUR 85 million. Intangible assets for the brand name and customer relationships were recognised for an amount of EUR 120 million. In addition, goodwill was recognised for an amount of EUR 291 million. There are no other assets and liabilities in the balance sheet of Heinenoord that are significant to NN Group. Heinenoord is included in the segment Netherlands Non-life.

Divestments (2021)

Bulgaria

In February 2021, NN Group announced that it has reached an agreement with KBC Group N.V. (KBC) to sell its Bulgarian operations for a total consideration of EUR 78 million to KBC's Bulgarian insurance business DZI. The transaction closed in July 2021. The sale did not have a significant impact on the net result, equity or the Solvency II ratio of NN Group.

NN IP

In August 2021, NN Group announced that it had reached an agreement to sell its asset management activities executed by NN Investment Partners (NN IP) to Goldman Sachs for total cash proceeds of EUR 1.7 billion. Closing of the transaction is subject to customary conditions, and is expected to take place in the first half of 2022.

Following the announced disposal, the asset management activities are classified as Held for sale. Therefore, the assets and liabilities of NN IP are presented in 'Assets held for sale' and 'Liabilities held for sale' in the balance sheet. Reference is made to Note 12 'Assets and liabilities held for sale'. The results from NN IP are presented as Result from discontinued operations. Reference is made to Note 31 'Discontinued operations'.

Closed book portfolio NN Belgium

In November 2021, NN Group's subsidiary NN Insurance Belgium sold a closed book life portfolio to Athora Belgium. The closed book portfolio, comprising life insurance policies that are no longer being sold, reflect approximately EUR 3.3 billion of assets and liabilities. The agreement has no impact on the services and guarantees that NN Group provides to its policyholders. The transaction is subject to customary conditions, including obtaining the necessary regulatory and competition clearances and consultation of the NN Belgium works council. Closing of the transaction is expected by mid-2022.

Following the announced disposal, the closed book life portfolio is classified as Held for sale. Therefore, the assets and liabilities of the closed book life portfolio are presented in 'Assets held for sale' and 'Liabilities held for sale' in the balance sheet. Reference is made to Note 12 'Assets and liabilities held for sale'.

46 Companies and businesses acquired and divested continued

Acquisitions (2020)

VIVAT Non-life

In April 2020, NN Group announced the completion of its acquisition of VIVAT Schadeverzekeringen N.V. ('VIVAT Non-life'). Included below is an overview of the transaction, a description of VIVAT Non-life, the rationale for the transaction, the accounting at the acquisition date and certain additional disclosures on the acquisition.

Overview of the transaction

On 7 June 2019, NN Group announced to acquire 100% of the voting equity interest of VIVAT Non-life for a consideration of EUR 416 million. NN Group announced that it would acquire VIVAT Non-life from Athora, following the acquisition of the VIVAT Group (VIVAT) by Athora. In addition, NN Group announced that it would acquire the intercompany Tier 2 loans granted by VIVAT to VIVAT Non-life for a consideration of EUR 150 million plus accrued interest. The acquisition of the intercompany Tier 2 loans is considered part of the acquisition of VIVAT Non-life for IFRS accounting purposes. The approvals for the acquisition were received in the first quarter of 2020. The transaction closed on 1 April 2020. As a result, VIVAT Non-life is included in the consolidation from 1 April 2020.

Description of VIVAT Non-life

VIVAT Non-life is a Dutch insurance company that offers a variety of non-life insurance products. VIVAT Non-life provides mainly property & casualty and disability insurance. VIVAT Non-life operates in the Netherlands. VIVAT Non-life was a 100% subsidiary of VIVAT N.V. VIVAT N.V, was previously owned by Anbang Group Holdings Co Ltd until it was sold to Athora immediately before NN Group purchased VIVAT Non-life from Athora.

Rationale for the transaction

The acquisition of VIVAT Non-life by NN Group is in line with NN Group's strategic goal of long-term value creation for its stakeholders – increasing operating capital generation and driving growth in attractive markets. The completion of the acquisition of VIVAT Non-life adds additional scale and capabilities to NN Group's non-life platform, enabling further improvement of customer propositions and increasing NN Group's ability to invest in digital capabilities and innovation.

The acquisition of VIVAT Non-life will help achieve the strategic goals, extracting the synergy benefits from the transaction and further reducing expenses. This acquisition will enable NN Group to continue to optimise the Non-life business by building data capabilities and leveraging on its additional scale.

Accounting at the acquisition date

The acquisition date of VIVAT Non-life by NN Group for acquisition accounting under IFRS is 1 April 2020. On this date, NN Group acquired 100% of the ordinary shares in VIVAT Non-life and thus obtained control. Therefore, VIVAT Non-life is included in the NN Group consolidation from 1 April 2020.

NN Group has performed the accounting for the acquisition using the values below.

The accounting values of certain assets and liabilities acquired as at 1 April 2020 as disclosed below differ from the values of the assets and liabilities in the balance sheet of VIVAT Non-life immediately before the acquisition by NN Group. This difference is mainly a result of the following most significant amendments as a result of the purchase price allocation as required under IFRS:

- Insurance liabilities and reinsurance contracts were remeasured to fair value as defined in IFRS; this resulted in a decrease in insurance liabilities. The fair value of the insurance liabilities was determined based on the price that a market participant would charge to assume the insurance liabilities of VIVAT-Non-life in an orderly transaction at the measurement date. In arriving at the fair value of the insurance liabilities, the future cash flows were estimated using current best estimate actuarial assumptions. The future cash flows were then adjusted for the compensation a market participant would require for assuming the risks and uncertainties relating to the insurance liabilities. Where relevant these adjusted future cash flows were discounted using a current market discount rate to reflect the time value of money. Whilst the determination of the fair value of the insurance liabilities involved estimates and expert judgement, there are no elements in the valuation where using reasonably supportable alternative assumptions would have had a material impact on NN Group. In accordance with IFRS 4 and in line with NN Group's accounting policies, NN Group opted to recognise the difference between the fair value and the existing book value of the insurance liabilities as an asset (Value of Business Acquired, or 'VOBA') and to report the Liabilities for insurance contracts in the balance sheet at the existing book values.
- Subordinated debt was revalued from amortised cost to fair value. This resulted in an increase in the value of the subordinated debt.
- Acquisition related intangible assets were recognised. This mainly related to a distribution agreement. The distribution agreement was valued using the excess earnings method. Under this method the fair value is calculated by adjusting the forecasted income for the remaining useful life for contributory asset charges. This amount is then discounted using an adjusted cost of equity. The value of the distribution agreement is estimated at EUR 10 million and will be amortised through the profit and loss account over its useful life of 20 years.

46 Companies and businesses acquired and divested continued

Acquisition date fair values of the assets and liabilities acquired (2020)

2020	Acquisition date
Cash paid to acquire shares	-416
Cash paid to acquire the intercompany Tier 2 loans (including accrued interest)	-152
Cash in company acquired	29
Cash flow on acquisition	**-539**

2020	Acquisition date
Assets	
Cash and cash equivalents	29
Financial assets at fair value through profit or loss:	
– non-trading derivatives	62
Available-for-sale investments	1,517
Loans	43
Reinsurance contracts	70
Associates and joint ventures	21
Intangible assets	12
VOBA	141
Other assets	128
Total assets	**2,023**
Liabilities	
Subordinated debt	171
Insurance and investment contracts	1,278
Deferred tax liabilities	18
Other liabilities	142
Total liabilities	**1,609**
Net assets acquired	**414**
Fair value of purchase consideration	
- To acquire shares in VIVAT Non-life	416
- To acquire the intercompany Tier 2 loans (including accrued interest)	152
Total fair value of purchase consideration	**568**
Fair value of net assets acquired	
- Net assets acquired VIVAT Non-life	414
- Acquired intercompany Tier 2 loans	166
Total fair value of net assets acquired	**580**
Difference	**-12**

The purchase consideration paid was in total EUR 12 million lower than the net assets acquired; the difference represents negative goodwill. This negative goodwill is recognised in Other income in the profit and loss account immediately (presented in the segment Netherlands Non-life). The (negative) goodwill is not taxable.

Other information

2020	Acquisition date
Acquisition-related costs recognised as expense	9
Total income recognised in profit and loss since date of acquisition	529
Net profit recognised in profit and loss since date of acquisition	27
Total income that would have been recognised in profit and loss if acquired from the start of the year[1]	736
Net profit that would have been recognised in profit and loss if acquired from the start of the year[2]	31

1 The sum of Total income since the date of acquisition plus the first quarter 2020 Total income for VIVAT Non-life stand-alone.
2 The sum of Net profit since the date of acquisition plus the first quarter 2020 Net profit for VIVAT Non-life stand-alone.

46 Companies and businesses acquired and divested continued

No significant acquisition-related costs were recognised on this transaction. The financial assets acquired do not include any significant receivables, other than investments in debt securities and Loans. There were no significant contingent liabilities that were recognised at the date of acquisition.

Divestments (2020)

Sigorta Cini

In December 2020, NN Group sold Sigorta Cini, the intermediary business in Turkey, to BUBA Ventures. The transaction, which was completed in December 2020, did not have a material impact on the result and capital position of NN Group.

47 Structured entities

NN Group's activities involve transactions with structured entities in the normal course of business. A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed through contractual arrangements. NN Group's involvement in these entities varies and includes both debt financing and equity financing of these entities as well as other relationships. Based on its accounting policies, as disclosed in Note 1 'Accounting policies', NN Group establishes whether these involvements result in no significant influence, significant influence, joint control or control over the structured entity.

The structured entities over which NN Group can exercise control are consolidated. NN Group may provide support to these consolidated structured entities as and when appropriate, however, this is fully reflected in the Consolidated annual accounts of NN Group as all assets and liabilities of these entities are included in the Consolidated balance sheet and off-balance sheet commitments are disclosed.

NN Group's activities involving structured entities are explained below in the following categories:

- Consolidated NN Group originated liquidity management securitisation and covered bond programmes
- Investments – NN Group managed investment funds
- Investments – Third-party managed structured entities

Consolidated NN Group originated liquidity management securitisation and covered bond programmes

Mortgage loans issued are partly funded by issuing residential mortgage-backed securities under NN Group's Dutch residential mortgage-backed securities programmes (Hypenn and Arena) and covered bonds. The mortgage loans transferred to these securitisation vehicles continue to be recognised in the balance sheet of NN Group. Total amounts of mortgage loans securitised (notes issued) and notes held by third parties as at 31 December is as follows:

Mortgage loans securitised

	Maturity year	Related mortgage loans		RMBS issued and held by third parties	
		2021	**2020**	**2021**	**2020**
Arena NHG 2016-I			337		223
Hypenn RMBS I	2023	**1,169**	1,304		
Hypenn RMBS V			307		283
Hypenn RMBS VI	2022	**503**	578	**333**	385
Hypenn RMBS VII	2026	**1,563**	1,918		
NN Conditional Pass-Through Covered Bond Company	2024-2039	**2,925**	2,923	**2,587**	2,585
Soft Bullet Covered Bonds	2030-2041	**1,900**	1,548	**1,742**	1,244
Total		**8,060**	**8,915**	**4,662**	**4,720**

NN Group companies hold the remaining notes.

NN Group managed investment funds

NN Group originates investment funds. NN Group may hold investments in these funds for its own account through the general account investment portfolio of the insurance operations. Other investments in these funds may be held for the risk of policyholders or by third parties. For the majority of these funds, NN Group also acts as the fund manager. NN Group considers both NN Group's financial interests for own risk and its role as asset manager to establish whether control exists and whether the fund is consolidated. In general, NN Group maintains a minority interest in these funds and NN Group receives a fixed fee over assets under management, at arm's length basis, for its asset management activities. These funds are generally not consolidated by NN Group. Financial interests for risk of policyholders are not taken into account when the policyholders decide on the investment allocations of their insurance policies (i.e. the policyholder has the 'power') and assume all risks and benefits on these investments (i.e. the policyholder assumes the variable returns).

47 Structured entities continued

Reference is made to Note 5 'Available-for-sale investments' in which investments in equity securities are specified by NN Group managed investment funds and Third-party managed investment funds. The maximum exposure to loss for NN Group is equal to the reported carrying value of the investment recognised in the balance sheet of NN Group.

Third-party managed structured entities

As part of its investment activities, NN Group invests both in debt and equity instruments of structured entities originated by third parties.

Most of the investments in debt instruments of third-party managed structured entities relate to Asset-backed securities (ABS), classified as loans. Reference is made to Note 5 'Available-for-sale investments' where the ABS portfolio is disclosed.

The majority of the investments in equity instruments of third-party managed structured entities relate to interests in investment funds that are not originated or managed by NN Group. Reference is made to Note 5 'Available-for-sale investments' in which investments in equity securities are specified by NN Group managed investment funds and Third-party managed investment funds.

NN Group has significant influence for some of its real estate investment funds as disclosed in Note 7 'Associates and joint ventures'.

The maximum exposure to loss for NN Group is equal to the reported carrying value of the investment recognised in the balance sheet of NN Group.

48 Related parties

In the normal course of business, NN Group enters into various transactions with related parties. Parties are considered to be related if one party has the ability to control or exercise significant influence over the other party in making financial or operating decisions. Related parties of NN Group include, among others, associates, joint ventures, key management personnel and close family members and the defined benefit and defined contribution plans. Transactions between related parties have taken place on an arm's length basis and include distribution agreements, sourcing and procurement agreements, human resources-related arrangements, and rendering and receiving of services.

There are no significant provisions for doubtful debts or individually significant bad debt expenses recognised on outstanding balances with related parties.

NN Group identifies the following (groups of) related party transactions:

Transactions with key management personnel

Transactions with members of NN Group's Executive Board, Management Board and Supervisory Board and close family members are considered to be transactions with key management personnel. Reference is made to Note 49 'Key management personnel compensation' for more information on these transactions.

Transactions with consolidated entities

Entities over which NN Group can exercise control are considered to be related parties of NN Group. These entities are consolidated by NN Group. Transactions with or between entities controlled by NN Group are eliminated in the Consolidated annual accounts. More information on the NN Group originated liquidity management securitisation programmes is disclosed in Note 47 'Structured entities'.

Transactions with associates and joint ventures

Associates and joint ventures of NN Group are related parties of NN Group. The transactions with associates and joint ventures can be summarised as follows:

Transactions with associates and joint ventures

	2021	2020
Assets	210	205
Income	8	5

Transactions with post-employment benefit plans

Entities administering or executing post-employment benefit plans of the employees of NN Group are considered to be related parties of NN Group. This relates to NN Group's pensions funds, i.e. the ING Group DB pension fund (joint with ING Bank), the Stichting Pensioenfonds Delta Lloyd, the NN CDC pension fund in the Netherlands and Instelling voor Bedrijfspensioenvoorziening Delta Lloyd Life OFP in Belgium. For more information on the post-employment benefit plans, reference is made to Note 28 'Staff expenses'.

48 Related parties continued

Transactions with other related parties

Investment funds

Other related parties include NN Group managed investment funds. Reference is made to Note 47 'Structured entities' for more information.

Pension entities

NN Group operates several pension entities in the Netherlands, including BeFrank PPI N.V. and De Nationale Algemeen Pensioenfonds. For these entities, all asset management and other services are provided by NN Group entities on an arm's length basis. NN Group has no financial interest in the pension schemes that are executed by these entities. These entities are considered related parties.

49 Key management personnel compensation

Transactions with key management personnel (Executive Board, Management Board and Supervisory Board) are transactions with related parties. These transactions are disclosed in more detail as required by Part 9 Book 2 of the Dutch Civil Code in sections II and III in the remuneration report in the financial report. These sections of the remuneration report are therefore part of the annual accounts.

2021

Executive Board and Management Board (2021)

amounts in thousands of euros	Executive Board	Management Board[3]	Total
Fixed compensation:			
– base salary (cash)	2,557	3,947	6,504
– base salary (fixed shares)	639	889	1,528
– pension costs[1]	49	162	211
– individual saving allowance[1]	692	953	1,645
Variable compensation:			
– upfront cash	118	206	324
– upfront shares	118	206	324
– deferred cash	176	241	417
– deferred shares	176	309	485
Other[2]		67	67
Fixed and variable compensation	**4,525**	**6,980**	**11,505**
Other benefits	350	322	672
Employer cost social security[4]	131	270	401
Total compensation	**5,006**	**7,572**	**12,578**

1 The pension costs consist of an amount of employer contribution (EUR 211 thousand) and an individual savings allowance (EUR 1,645 thousand), which is 23.3% of the amount of base salary above EUR 112,189.
2 For the NN Investment Partners business, 50% of deferred awards are made in a deferred investment in funds managed by the business instead of awarding deferred cash. In this way, alignment of interests is achieved between staff working in the NN Investment Partners business and the clients who invest in funds managed by that business.
3 Satish Bapat was appointed to the Management Board as CEO NN Investment Partners on 1 April 2017 and stepped down on 19 August 2021.
4 The employer cost social security do not impact the overall remuneration received by the Executive Board and Management Board members.

In the table above, 'Executive Board' refers to the two members of the Executive Board as at 31 December 2021. The two members of the Executive Board are also members of the Management Board. In the table above, 'Management Board' refers to the six members of the Management Board as at 31 December 2021, i.e. those members that are not also member of the Executive Board. In the table above 'Total' refers to all members of the Management Board during 2021.

Remuneration of the members of the Executive Board and the Management Board is recognised in the profit and loss account in 'Staff expenses' as part of 'Total expenses'. The total remuneration as disclosed in the table above (for 2021: EUR 12.6 million) includes all variable remuneration related to the performance year 2021. Under IFRS-EU, certain components of variable remuneration are not recognised in the profit and loss account directly, but are allocated over the vesting period of the award. The comparable amount recognised in staff expenses in 2021 and therefore included in 'Total expenses' in 2021, relating to the fixed expenses of 2021 and the vesting of variable remuneration of 2021 and earlier performance years, is EUR 13.4 million.

As at 31 December 2021, members of the Executive Board and Management Board held a total of 166,577 NN Group N.V. shares.

In 2021, 35,645 share awards on NN Group N.V. (both deferred and upfront) were granted to the Executive Board and Management Board.

49 Key management personnel compensation continued

Supervisory Board (2021)

amounts in thousands of euros	Supervisory Board
Fixed fees	831
Expense allowances	71
Compensation Supervisory Board	**902**

The above mentioned amounts include VAT of EUR 37 thousand for 2021. NN Group does not provide for any pension arrangement, termination arrangements (including termination or retirement benefits) or variable remuneration, for members of the Supervisory Board.

As at 31 December 2021, members of the Supervisory Board held no NN Group N.V. shares.

Loans and advances to members of the Executive Board and Management Board (2021)

amounts in thousands of euros	Amount outstanding 31 December	Average interest rate	Repayments
Executive Board members		5.28%	320
Management Board members	401	1.77%	74
Loans and advances	**401**		**394**

As at 31 December 2021, no loans and advances were provided to members of the Supervisory Board.

2020

Executive Board and Management Board (2020)

amounts in thousands of euros	Executive Board	Management Board[3]	Total
Fixed compensation:			
– base salary (cash)	2,557	3,376	5,933
– base salary (fixed shares)	639		639
– pension costs[1]	48	148	196
– individual saving allowance[1]	693	628	1,321
Variable compensation:			
– upfront cash	107	392	499
– upfront shares	107	392	499
– deferred cash	159	494	653
– deferred shares	159	589	748
Other[2]		95	95
Fixed and variable compensation	**4,469**	**6,114**	**10,583**
Other benefits	367	711	1,078
Employer cost social security[4]	131	200	331
Total compensation	**4,967**	**7,025**	**11,992**

1 The pension costs consist of an amount of employer contribution (EUR 196 thousand) and an individual savings allowance (EUR 1,321 thousand), which is 23.3% of the amount of base salary above EUR 110,111.

2 For the NN Investment Partners business, 50% of deferred awards are made in a deferred investment in funds managed by the business instead of awarding deferred cash. In this way, alignment of interests is achieved between staff working in the NN Investment Partners business and the clients who invest in funds managed by that business.

3 Bernhard Kaufmann was appointed Chief Risk Officer and Member of the Management Board NN Group on 1 June 2020. Leon van Riet was appointed CEO Netherlands Life & Pensions and Member of the Management Board NN Group on 1 June 2020.

4 The employer cost social security do not impact the overall remuneration received by the Executive Board and Management Board members.

In the table above, 'Executive Board' refers to the two members of the Executive Board as at 31 December 2020. The two members of the Executive Board are also members of the Management Board. In the table above, 'Management Board' refers to the seven members of the Management Board as at 31 December 2020, i.e. those members that are not also member of the Executive Board. In the table above 'Total' refers to all members of the Management Board during 2020.

49 Key management personnel compensation continued

Remuneration of the members of the Executive Board and the Management Board is recognised in the profit and loss account in 'Staff expenses' as part of 'Total expenses'. The total remuneration as disclosed in the table above (for 2020: EUR 12.0 million) includes all variable remuneration related to the performance year 2020. Under IFRS-EU, certain components of variable remuneration are not recognised in the profit and loss account directly, but are allocated over the vesting period of the award. The comparable amount recognised in staff expenses in 2020 and therefore included in 'Total expenses' in 2020, relating to the fixed expenses of 2020 and the vesting of variable remuneration of 2020 and earlier performance years, is EUR 10.7 million.

As at 31 December 2020, members of the Executive Board and Management Board held a total of 124,172 NN Group N.V. shares.

In 2020, 40,278 share awards on NN Group N.V. (both deferred and upfront) were granted to the Executive Board and Management Board.

Supervisory Board (2020)

amounts in thousands of euros	Supervisory Board
Fixed fees	870
Expense allowances	73
Compensation Supervisory Board	**943**

The above mentioned amounts include VAT of EUR 164 thousand for 2020. NN Group does not provide for any pension arrangement, termination arrangements (including termination or retirement benefits) or variable remuneration, for members of the Supervisory Board.

As at 31 December 2020, members of the Supervisory Board held no NN Group N.V. shares.

Loans and advances to members of the Executive Board and Management Board (2020)

amounts in thousands of euros	Amount outstanding 31 December	Average interest rate	Repayments
Executive Board members	320	5.10%	95
Management Board members	476	1.71%	95
Loans and advances	**796**		**190**

As at 31 December 2020, no loans and advances were provided to members of the Supervisory Board.

50 Fees of auditors

Fees of auditors

	2021	2020
Audit fees	18	17
Audit related fees	4	2
Fees of auditors	**22**	**19**

Fees as disclosed above relate to the network of the NN Group's auditors and are the amounts related to the respective years, i.e. on an accrual basis (excluding VAT).

The audit related fees include the services in relation to prospectuses, internal control reports provided to external parties, reporting to regulators and in 2021 IFRS 9 and 17.

Auditor fees are included in 'External advisory fees' as part of the Other operating expense.

51 Subsequent events

ABN AMRO life insurance subsidiary

In February 2022 NN Group, ABN AMRO Bank and their joint venture ABN AMRO Verzekeringen announced that they have reached an agreement to sell the life insurance subsidiary of ABN AMRO Verzekeringen to Nationale-Nederlanden Levensverzekering Maatschappij N.V. (NN Life). ABN AMRO Verzekeringen is a joint venture between NN Group (51%) and ABN AMRO Bank (49%). The life insurance subsidiary of ABN AMRO Verzekeringen is already consolidated by NN Group and, therefore, this transaction will not have significant impact on NN Group.

Share buyback programmes

In February 2022 NN Group announced that it will execute an open market share buyback programme for an amount of EUR 250 million. The programme will be executed within 12 months and commenced on 1 March 2022. NN Group also announced in February that it will execute an additional open market share buyback programme for an amount of EUR 750 million after completion of the sale of NNIP. This intended additional share buyback programme is expected to be completed before 1 March 2023. Both share buybacks will be deducted in full from Solvency II Own Funds in the first half of 2022 and are estimated to reduce NN Group's Solvency II ratio by approximately 10%-points.

52 Risk management

Introduction

Accepting and managing risks is an integral part of our insurance, banking and investment management business and therefore, risk management is fundamental. Appropriate risk management enables NN Group to meet obligations towards clients, regulators and other stakeholders.

The Risk Management paragraph has the following structure:

I. Covid-19; impact of the Covid 19 pandemic on NN Group during 2021

II. Risk Management System, consisting of:
III. Risk Governance, based on the Three lines of defence model; and
IV. Risk Control Cycle, covering Risk Strategy (incl. Risk Appetite Statements, Limits and Tolerances), Risk Assessment, Risk Monitoring, Risk Reporting and Risk Culture

V. Risk Profile, categorised into:
VI. Strategic and emerging risks, including climate change;
VII. Financial risks (based on the structure of our Internal Model); and
VIII. Non-Financial risks

52 Risk management continued

I. Covid-19 pandemic

With reference to Note 2 on the Covid-19 pandemic, the most significant Covid-19 related risks that NN Group is facing in the current context are related to the political and regulatory environment (how governments and supervisors respond to the crisis), volatility in financial markets (including interest rates, equity prices, inflation and spreads) and operational risk (continuity and security of business processes). NN Group is constantly monitoring the developments and the (potential) impact on NN Group through:

- A dedicated Covid-19 coordination team monitoring regularly developments in different areas, discuss our response, and set into motion required actions. The Covid-19 coordination team has regular contact with internal and external stakeholders, such as with supervisors DNB and AFM and senior management and employees, to communicate any changes to corporate policies, remedial actions required and provide regular progress reporting.
- Monitoring of financial markets: To make sure financial positions are monitored, and losses are avoided or mitigated, several financial indicators related to volatility and liquidity of markets are monitored, for example interest rates, inflation rates, equity prices, bond spreads, etc.
- Applying stress testing and scenario analysis to assess impact of financial market developments on our solvency and liquidity positions. As part of scenario analysis, we analysed both the impact of a prolonged Covid-19 crisis when vaccine-resistant mutations arise, as well as scenarios where Covid-19 will become endemic. In other words the pandemic will not end with the virus disappearing, but that enough people will gain immunity protection from vaccination or natural infection, such that there will be less transmission and much less Covid-19-related hospitalisation and death, even as the virus continues to circulate.
- Monitoring of impact on customers: Monitoring morbidity and mortality rates (customers passing away due to Covid-19), claim rates from customers getting sick by Covid-19 or longer disability where treatments are postponed, lapse and prepayment behaviour, and whether products still fit customer' needs.
- Monitoring of third parties and business partners: To ensure that services outsourced by NN, are delivered according to agreed service levels, and to ensure that our sales and support networks via tied agents and brokers remain healthy, and extra measures are taken as necessary.
- Monitoring business continuity and IT security: To make sure that customers can be serviced in a normal way using our digital channels, where necessary via accelerated digital initiatives, to ensure that NN Group's employees could work safely from home and to make sure financial market operations and payments could continue as normally as possible, while potential IT (security) risks are mitigated.

We will continue to monitor further developments related to the Covid-19 pandemic, and adjust our response accordingly. Where relevant, in the rest of this Note 52 we discuss the impact of the Covid-19 pandemic on the different risk types in more detail.

52 Risk management continued

II. Risk Management System

III. Risk Governance / System of Governance

NN Group's System of Governance comprises amongst others the following elements:

- General governance elements, including amongst others reporting lines, decision structures, company policies, and segregation of duties,
- Remuneration,
- Persons who effectively run NN Group or have other key functions, who should be 'Fit and Proper',
- Key Functions: the Risk Management, Compliance, Actuarial and Internal Audit Functions,
- System of Risk Management and Internal Control,
- Investment activities,
- Capital Management, and
- Managing and overseeing outsourcing critical or important operational functions and activities.

In 2021, a review of NN Group's System of Governance, as required under Solvency II was conducted by the Management Board and discussed with the Supervisory Board. The review was based, amongst others, on self-assessments by each Key Function on its compliance with requirements and on its operational effectiveness, as well as on a self-assessment by each Business Unit on the effectiveness of their local System of Risk Management and Internal Control (challenged by the Risk Management and Compliance Key Functions). Overall, whilst some improvement areas were identified with actions defined and taken, the Management Board concluded that NN Group's System of Governance is adequate and effective, supports its strategic objectives and operations and provides for sound and prudent management of the business.

NN Group's risk governance follows the 'three lines of defence' concept, which outlines the decision-making, execution and oversight responsibilities for NN Group's risk management. This structure has been embedded at both Head Office and Business Unit level.

The prudent person principle stipulates that insurers may only invest in assets and instruments whose risks the undertaking concerned can properly identify, measure, monitor, manage, control and report and appropriately take into account in the assessment of its overall solvency needs.

Three lines of defence

The three lines of defence defines three risk management levels, each with distinct roles, decision authorities, execution responsibilities, and oversight responsibilities. This concept helps to ensure that risks are managed in line with the risk appetite as defined by the Executive Board, ratified by the Supervisory Board, and cascaded throughout NN Group.

- First line of defence consists of the CEO of NN Group and the CEOs of the Business Units, as well as their first line management board members that collectively make business decisions, with primary accountability for financial performance, sales, operations, investments, and related risks affecting their businesses. Business Units design and sell products that reflect local needs and thus know their customers and are well-positioned to act in both the customers' and NN Group's best interest.
- Second line of defence consists of independent oversight functions at BU and head office level, most notably risk management, model validation, actuarial, compliance, and legal functions. Those functions support the commercial departments in their decision-making, but also provide sufficient countervailing power to prevent risk concentrations and other forms of unwanted or excessive risk taking. Second line functions have the following responsibilities:
  - Developing the policies, standards, guidance and charters for their specific risk and control area
  - Encouraging and objectively challenging/monitoring sound risk management throughout the organisation and coordinating the reporting of risks
  - Supporting the first line of defence in making proper risk-return trade-offs
  - Escalation power in relation to business activities that are judged to present unacceptable risks to NN Group
- Third line of defence: Corporate Audit Services (CAS) provides independent assurance on the effectiveness of NN Group's business and support processes, including governance, quality of risk management and quality of internal controls. CAS assesses first line of defence activities as well as second line of defence activities.

Executive management – First line of defence

Management of our Business Units take business decisions and are the primary 'risk-takers' in our company. They are also responsible, both on the executive as well as process level of the organisation, for properly managing risks on a daily basis.

52 Risk management continued

Executive Board and Management Board

The Executive Board is responsible for ensuring that the company has adequate internal risk management and control systems in place so that it is aware, in good time, of any material risks the company has and that these risks can be managed properly. While the Executive Board retains responsibility for NN Group's risk management, it has entrusted the day-to-day management and the overall strategic direction of the company, including the management of the structure, operation and effectiveness of NN Group's internal risk management and control systems, to the Management Board. The Executive Board ('EB') of NN Group has established four committees: Crisis, Disclosure, Compensation and Asset and Liability Committee.

The crises committee is responsible for the content of the Preparatory Crisis Plan. More details regarding this plan can be found under section Risk Reporting/Preparatory Crisis Plan.

Supervisory Board and its committees

The Supervisory Board is responsible for supervising the management of the Executive Board and the general course of affairs of NN Group and its businesses. The Supervisory Board also assists the Executive Board with advice. Each entity in the NN Group legal structure has its own Management and Supervisory Board. For supervising, advising and monitoring the Executive Board, the Supervisory Board is assisted by two committees:

- The Risk Committee focuses on (1) NN Group's risk appetite, risk strategy and policies, (2) risk exposures resulting from the strategy and business plan, such as significant acquisitions and divestments, (3) the design, operation and effectiveness of the internal risk management and control systems of the group and (4) NN Group's public disclosures on risk and risk management.
- The Audit Committee focuses on (1) the related design, operation and effectiveness of the internal risk management and control systems; (2) the integrity and quality of the financial reporting process including risks related to IT (security); and (3) the periodic financial reports and any ad hoc financial information. As part of this role, the Audit Committee evaluates the findings and outcome as reported by the internal auditor CAS and external auditor with regard to governance, risk management and internal control. The Audit Committee is the principal contact for the external auditor, including matters such as (re)appointment, remuneration and monitoring independence.

For more details on these two committees, read more in the section 'Report of the Supervisory Board' of this Annual Report.

NN Group has a Head Office that gives direction toward Business Units around risk taking via the Risk Policy Framework and Risk Appetite Framework (see Risk control cycle step 1: Risk strategy). NN Group's risk policy framework ensures that all risks are managed consistently and that NN Group as a whole operates within set risk appetite and related risk limits and tolerances. The policies and minimum standards focus on risk measurement, risk management and risk governance. Policies and standards have to be approved by the Management Board of NN Group. Any potential waivers to Group policies or standards require delegated approval of the CRO or General Counsel.

Business Units may independently perform all activities that are consistent with the strategy of NN Group and the approved (three year) business plan (the 'Business Plan') as long as these are consistent and compliant with the internal risk management and control frameworks, applicable laws and regulations, applicable collective agreements, NN Group's risk appetite, NN Group Values, and provided that these activities are not under the decision-making authority of the Management Board. Each business unit is expected to operate transparently and must provide all relevant information to the relevant Management Board members and Support Function Head(s) at Head Office.

The Business Unit CEOs are responsible for:

- Execution of the strategy and the financial performance, of business and operational activities, in their respective area, as well as the related risks
- Ensuring that the business operates in compliance with laws and regulations, NN Group policies and standards and internal controls
- Fulfilling their statutory responsibilities
- Operating a sound internal risk and control system and operating in accordance with NN Group's values
- Viability of the corresponding business unit in the long term

Regular oversight interaction between Head Office and Business Units takes place with respect to, amongst others, product approval, mandate approval, risk limit setting, risk reporting, Own Risk and Solvency Assessment (ORSA), policy setting and implementation monitoring, model and assumption review and validation. These interactions cover all types of risks, both financial and non-financial risks.

Ad-hoc interactions also take place when a Business Unit proposes a material business initiative for which any Management Board member has the right to initiate a risk review. A risk review may also be initiated to investigate a significant incident or unexpected significant adverse business performance in and by Business Units. A risk review is an in-depth risk analysis of the object in scope concluded with a risk opinion and advice when and where relevant.

52 Risk management continued

Risk, Compliance and Actuarial – Second line of defence

Risk Management Function:

Within the Management Board, the CRO is entrusted with the day-to-day execution of the Risk Management Function, while the Legal Function and Compliance Function fall within the responsibility of the General Counsel.

The NN Group CRO steers an independent risk organisation which supports the first line in their decision-making with sufficient countervailing power to prevent excessive risk taking. The NN Group CRO is also responsible for the organisation of Group Risk at Head Office level. Each business unit has its own CRO, who reports hierarchically to the BU CEO, and has a functional line to the NN Group CRO. The NN Group CRO must ensure that both the Management Board and the Supervisory Board are at all times informed of, and understand the material risks to which NN Group is exposed.

Responsibilities of the Risk Management Function include:
- Setting and monitoring compliance with NN Group's overall risk policies issued by the Risk Management Function
- Formulating NN Group's risk management strategy and ensuring that it is implemented throughout NN Group
- Supervising the operation of NN Group's risk management and business control systems
- Reporting of NN Group's risks, as well as the processes and internal controls
- Making risk management decisions with regard to matters which may have an impact on the financial results of NN Group or its reputation, without limiting the responsibility of each individual member of the Management Board in relation to risk management
- Sharing best practices across NN Group

Group Risk supports the NN Group CRO in the execution of his duties and responsibilities. To ensure solid understanding, oversight, and support to the international Business Units, the NN Group CRO is supported by a dedicated CRO International and a CRO International Organisation department at Group level. Risk governance and frameworks, as well as internal and external risk reporting, is supported by the Enterprise Risk Management (ERM) team, which team also covers Operational Risk Management and IT Risk Management. The newly established Risk Models & Analytics team takes care of the coordination, implementation and operation of NN Group's Partial Internal Model. A specialised ALM & Investment Risk Management team provides extra emphasis to the management of those risk types.

Model Validation Function:

Model Validation aims to ensure that NN Group's models are fit for their intended use. For this purpose, Model Validation carries out validations of risk and valuation models in particular those related to Solvency II. Any changes to models that have an impact larger than certain pre-set materiality thresholds require approval from either the Group CRO, Group CFO, or the NN Group Management Board.

Model validation is not a one-off assessment of a model, but an ongoing process whereby the reliability of the model is verified at different stages during its life cycle: at initiation, prior to approval, when the model has been redeveloped or modified, and on a regular basis, based on a planning discussed and agreed with the Model Development departments. It is not only a verification of the mathematics and/or statistics of the model but encompasses both a quantitative and qualitative assessment of the model. Accordingly, the validation process covers a mix of developmental evidence assessment, process verification and outcome analysis.

The validation cycle determines the maximum period between two model validations, which can be up to five years. This means that each model in scope will be independently validated at least once within the validation cycle. In general, the length of the validation cycle relates to the relative materiality of the models in scope. Model Validation can also start validating before the due date, for example following specific portfolio/market developments or regulatory changes. Materiality of a model is determined based on quantitative and qualitative criteria. Quantitative criteria relate to, amongst others, a percentage of Market Value of Liabilities/Assets, or Solvency Capital Requirement. Qualitative criteria cover model complexity, strategic importance and other factors. Depending on materiality of the model as well as the severity of findings resulting from a model validation, models receive a Validation Opinion. Models with severe findings require remediation actions by management, such as further adjustments of the model.

52 Risk management continued

Compliance Function:

To effectively manage business conduct risk, NN Group has an independent Compliance Function headed by a Chief Compliance Officer who has a direct reporting line to the General Counsel and Management Board member. The Compliance Function is positioned independently from the business it supervises. This independent position is, amongst others, warranted by independent reporting, unrestricted access to senior management as well as structural, periodic meetings of the Chief Compliance Officer with the CEO and the Chairman of the Risk Committee of the Supervisory Board. Within NN Group's broader risk framework, the purpose of the Compliance Function is to:

- Understand and advocate rules, regulations and laws for the effective management of risks in scope of the compliance function
- Proactively work with and advise the business to manage business conduct and product suitability risk throughout our products' life cycle and our business' activities to meet stakeholder expectations
- Develop and enhance tools to strengthen the three lines of defence to detect, communicate, manage and to report on business conduct risks
- Support NN Group's strategy by establishing clear roles and responsibilities to help embed good compliance practices throughout the business by using a risk-based approach to align business outcomes with NN Group's risk appetite
- Deepen the culture of compliance by partnering with the business to increase the culture of trust, accountability, transparency and integrity in evaluating, managing and in reporting on business conduct risk
- Developing and maintaining a framework to support the first line in adhering to material laws and regulations which is aligned with NN Group's Risk & Control framework
- Monitor that management and employees act in accordance with NN Group's policies and standards in scope of the function, as well as relevant material laws and regulation.

At the business unit level, management establishes and maintains a Compliance Function and appoints a Local Compliance Officer (LCO). The LCO hierarchically primarily reports to the CEO.

The LCOs have a functional reporting line to the Chief Compliance Officer.

Actuarial Function:

The Actuarial Function reports hierarchically to the CRO and has in addition a functional reporting line to the CFO as of June 2021. The primary objective of the Actuarial Function, is to ensure that technical provisions (under Solvency II and IFRS) are reliable and adequate, and as such that NN Group is able to meet its obligations towards policyholders and to protect NN Group from loss or reputational damage.

The Actuarial Function operates within the context of NN Group's broader Risk Management System. Within this system, the role of the Actuarial Function is to:

- Understand and advocate the rules, regulations and laws for effective management of the calculation process of technical provisions, covering elements such as data quality, assumption setting, models and methods, as well as underwriting and reinsurance arrangements; proactively advise the business to manage the risk of unreliable and inadequate technical provisions
- Inform management and the supervisory board on its opinion on the adequacy and the reliability of the technical provisions, the adequacy of reinsurance arrangements and the underwriting policy at least on an annual basis through the Actuarial Function Report
- Develop and enhance tools to strengthen the three lines of defence to detect, communicate, manage and to report on risks related to unreliable or inadequate technical provisions
- Support NN Group's strategy by establishing clear roles and responsibilities to help embed good (actuarial) practices throughout the organisation by using a risk-based approach aligned with NN Group's risk appetite
- Strengthen the culture of professional risk management by challenging management and experts to increase the culture of trust, accountability, transparency and integrity in evaluating, managing of and reporting on risks to unreliable or inadequate technical provisions
- Provide second line opinion when first line business initiatives can materially impact the risk profile of a business unit or NN Group and/or provide additional assurance for presented key first line risk related information

Corporate Audit Services – Third line of defence

Internal Audit Function:

Corporate Audit Services NN Group, the internal audit department within NN Group, is an independent assurance function and its responsibilities are established by the Executive Board of NN Group, pre-discussed with the Audit Committee and approved by the Supervisory Board of NN Group. CAS provides independent assurance on the effectiveness of NN Group's business and support processes, including governance, quality of risk management and quality of internal controls.

CAS keeps in close contact with home and local supervisors and regulators as well as with the external auditor via regular meetings in which current (audit) issues are discussed, as well as internal and external developments and their impact on NN Group and CAS. CAS also provides information like risk assessments and relevant (audit) reports.

52 Risk management continued

The General Manager and staff of CAS are authorised to:

- Obtain without delay, from General Managers within NN Group, information on any significant incident concerning NN Group's operations including but not limited to security, reputation and/or compliance with regulations and procedures
- Obtain without delay, from responsible managers within NN Group, a copy of all letters and reports received from external review agencies (e.g. external auditor, supervisors, regulators and other agencies providing assurance related services)
- Have free, full, unrestricted and unfettered access, at any time deemed appropriate, to all NN Group departments, offices, activities, books, accounts, records, files, information. CAS must respect the confidentiality of (personal) information acquired
- Require all NN Group staff and business management to supply such information and explanations, as may be needed for the performance of assessments, within a reasonable period of time
- Allocate resources, set frequencies, select subjects, determine scope of work and apply appropriate techniques required to accomplish the CAS's objectives
- Obtain the necessary assistance of personnel in various departments/offices of NN Group where CAS performs audits, as well as other specialised/professional services where considered necessary from within or outside NN Group. CAS should exercise its authority with the minimum possible disruption to the day-to-day activities of the area being assessed

In compliance with the Dutch Corporate Governance Code, the Executive Board is responsible for the role and functioning of CAS, supervised by the Supervisory Board, supported by the Audit Committee. The General Manager of CAS is accountable to the CEO and functionally to the chair of the Audit Committee. On a day-to-day basis the General Manager of CAS reports to the CEO.

IV. Risk Control Cycle

NN Group's business model exposes NN Group to inherent risks and obligations. As such, the environment determines the playing field and rules against which to calibrate risk management activities. These activities are carried out within NN Group's risk appetite and framework.

Every employee has a role in identifying risk in their area of responsibility and to manage risk in a proactive way. It is paramount to know which risks we take and why, to be aware of large existing and emerging risks and to ensure an adequate return for the risk assumed in the business.

NN Group's risk control cycle consists of four steps, supported by a sound risk culture. The cycle starts with (1) setting business and risk objectives, resulting in a risk strategy (risk appetite, policies and standards). The next steps of the cycle are: (2) to identify and assess the risks that need to be managed; followed by (3) effective mitigation through controls; and (4) continuous monitoring effectiveness of controls, including reporting of risk levels. This cycle is supported by a sound risk culture.

The risk control cycle ensures that BUs and NN Group operate within the risk appetite. The risk control cycle supports the NN Group strategy, the Business Plan (financial control cycle) and the performance management (HR cycle) which enable BUs and NN Group to meet its business objectives.

Step 1 of the risk control cycle: Risk Strategy

NN Group's risk appetite is the key link between NN Group's strategy, capital plan and regular risk management as part of business plan execution. NN Group's risk appetite, and the related risk limits and tolerances, is established in conjunction with the business strategy.

The Risk Appetite Statements define how NN Group weighs strategic decisions and communicates its strategy to key stakeholders and BU CEOs with respect to accepting risk. The statements describe how NN Group wants to avoid unwanted or excessive risk taking and aim to optimise use of capital. Risk limits and tolerances are the qualitative and quantitative boundaries for risk taking and are derived in a consistent way from the risk appetite statements.

52 Risk management continued

NN Group expresses its risk appetite via three key risk appetite statements, which are then internally detailed further into ten sub-statements, relevant risk limits and tolerances, control objectives and reporting. These three statements are also aligned with the NN Group's strategy:

Risk Appetite Statement	Description
Strategic Challenges (Shaping the business)	We manage our portfolio of businesses on a risk-return basis to meet our strategic objectives whilst considering the interests of all stakeholders.
Strong Balance Sheet (Running the business – financially)	We would like to avoid having to raise equity capital after a 1-in-20 year event and do not want to be a forced seller of assets when markets are distressed.
Sound Business Performance (Running the business – operationally)	We conduct our business with the NN Group Values at heart and treat our customers fairly. We aim to avoid human or process errors in our operations and to limit the impact of any errors.

Risk Taxonomy

NN Group has defined and categorised its generic risk landscape with the risk taxonomy as outlined below:

Risk Appetite Statement	Risk Class	Description
Strategic Challenges (Shaping the business)	Emerging Risks	Newly developing risks, or changing risks, that cannot yet be fully assessed or quantified but that could, in the future, affect the viability of NN Group's strategy.
	Strategic Risks	Risks arising from making incorrect business decisions, implementing decisions poorly, or being unable to adapt to changes in the operating environment.
Strong Balance Sheet (Running the business – financially)	Market Risks	Risks related to (the volatility of) financial and real estate markets. This includes liquidity risk.
	Counterparty Default Risks	Risks related to counterparties failing to meet contractual debt obligations.
	Non-Market Risks	Financial risks related to the products NN Group markets.
Sound Business Performance (Running the business – operationally)	Non-Financial Risks	Risks related to people, inadequate or failed internal processes, including information technology and communication systems, and/or external events.

Risk Limits and Tolerances

Risk appetite statements are implemented within the business through the use of risk tolerances and limits, as prescribed in specific policies for relevant risk categories. A risk limit is the maximum exposure of a risk, management is willing to accept, and should not be breached. A risk tolerance is the level of exposure of a risk, where management wants to be actively informed – it is set to function as a trigger for reviewing the exposure regularly and might lead to taking action.

52 Risk management continued

Risk Appetite Statement	Primary Impact Area	Key Risk Limits and Tolerances
Strategic Challenges (Shaping the business)	License to operate	Various metrics related to the Business Plan, such as progress on main strategic initiatives.
Strong Balance Sheet (Running the business – financially)	Financial	**Solvency II ratio:** the ratio of Eligible Own Funds (EOF) to Solvency Capital Requirement (SCR). NN Group aims to capitalise its operating units adequately at all times. To ensure adequate capitalisation, they are managed to their commercial capital levels (based on the Solvency II ratio) in accordance with the risk associated with the business activities. **Solvency II ratio sensitivities:** assess the changes for both NN Group EOF and SCR under various scenarios decided by NN Group Management Board. **Cash capital position at the holding company:** cash capital is defined as net current assets available at the holding company. NN Group holds a cash capital position in the Holding company to cover stress events and to fund holding company expenses and interest expenses. **Own Funds at Risk limits:** NN Group has implemented limits to monitor the impact of moderate stress events at Business Units and is monitoring the required level of capital and financial flexibility at the holding level in relation to this. **Interest Rate Risk limits:** NN Group has implemented limits and tolerances for interest rate risk exposures at NN Group and BU level. **Concentration Risk limits:** in order to prevent excessive concentration risk, NN Group has a concentration risk limit framework. The framework sets a risk appetite and concentration limits on corporate and sovereign issuers, asset type and country of risk. **Bank capitalisation:** amount of capital NN Bank has to hold as required by the regulator as part of Basel III framework, expressed as a capital adequacy ratio of equity that must be held as a percentage of risk-weighted assets. **Liquidity risk:** liquidity risks are monitored by assessing the ratio between liquid assets and liquidity requirements for severe stress scenarios and different time horizons.
Sound Business Performance (Running the business – operationally)	Reputation, Operations	**Annual Loss Tolorance and materiality**: Tolerances on potential yearly loss, reputation impact and financial reporting accuracy. **Restricted List**: to prevent investments in securities that are not in line with NN Group's values and/or applicable laws and regulations.

Step 2 of the risk control cycle: Risk Assessment

Risk assessments are regularly performed throughout NN Group. For market, counterparty default and non-market risks, NN Group's internal and associated models are leading in risk assessments/measurement. Risks that do not directly impact the balance sheet generally require professional judgement in identification and quantification: qualitative risk assessments (non-financial risks) and scenario analysis (strategic/ emerging risks) are used to assess identified risks and set up adequate controls.

Risk Appetite Statement	Risk Class	Risk Assessment and main mitigation technique
Strategic Challenges (Shaping the business)	Emerging Risks	Strategic Risk Assessment, Scenario analysis and contingency planning.
	Strategic Risks	Scenario analysis and business planning.
Strong Balance Sheet (Running the business – financially)	Market Risks	Quantified via NN Group's Partial Internal Model. Assessed in New Asset Class Assessment (NACA) ALM studies and Strategic Asset Allocation(SAA). Mitigated by limit structure and use of derivatives.
	Counterparty Default Risks	NN Group's Partial Internal Model; Limit structure.
	Non-Market Risks	NN Group's Partial Internal Model; product approval and review process (PARP), Limit structure, reinsurance.
Sound Business Performance (Running the business – operationally)	Non-Financial Risks	Detailed risk assessments on (sub-) processes (including IT aspects, financial economic crime, fraud, etc.); Business and key controls, control testing, incident management and external insurance.

In the remainder of the paragraph, we describe some of the assessments as described above in more detail. Main mitigation techniques, such as our limit structure for financial risks, are discussed in more detail in the Risk profile paragraph, where we discuss all our main risk types and how we measure and manage them.

52 Risk management continued

Own Risk and Solvency Assessment (ORSA)

As part of the regular Own Risk and Solvency Assessment (ORSA), a strategic risk assessment is performed at least annually. Detailed risk assessments, performed bottom up by responsible managers throughout the organisation, serve as a main input. Outcomes of the strategic risk assessment are key risks, that are potentially solvency threatening, or that may have a significant negative impact on the achievement of one or more of the business objectives from NN Group's strategy or business plan. NN Group, and each of its regulated (re) insurance subsidiaries, prepares an ORSA at least once a year, including the non Solvency II entities Japan and Turkey. In the ORSA, NN Group articulates its strategy and risk appetite, describes its key risks and how they are managed, analyses whether its risks and capital are appropriately modelled, and evaluates how susceptible the capital position is to shocks through stress and scenario testing, including a multi-year view. Stress testing examines the effect of severe but plausible scenarios on the capital position of NN Group. Stress testing can also be initiated outside the ORSA, either internally or by external parties such as De Nederlandsche Bank (DNB) and European Insurance and Occupational Pensions Authority (EIOPA). The ORSA includes a forward-looking overall assessment of NN Group's solvency position considering the risks it holds. As part of the ORSA, the emerging risks are covered, that in the longer run might impact our balance sheet, including sustainability risks. For more information we refer to paragraph Risk Profile/Strategic and Emerging Risks. As part of the ORSA, NN Group also assesses the ongoing appropriateness of its Internal Model which is used to calculate the EOF/SCR ratio. Group Risk also prepares a separate annual report on the performance and appropriateness of the Internal Model for the Management Board and the Risk Committee of the Supervisory Board.

Equivalent to the ORSA NN Bank and NN IP performed an Internal Capital Adequacy Assessment and Internal Liquidity Adequacy assessment to assess whether current capital and liquidity positions, respectively, are adequate for the risks that our banking and asset management entities bear.

The key risks as identified in 2021 by the Group Management Board in the strategic risk assessment are:

- Delivering on strategic commitments; Risk of not delivering on commitments towards our stakeholders due to undisciplined strategic execution, too ambitious targets or a full strategic/inorganic growth agenda
- Change agility; Risk of NN Group not being able to timely identify threats and opportunities in the environment and to successfully and sufficiently implement necessary change
- Data capabilities; Risk of not being able to attract, develop and/or apply best-in-class big data capabilities for pricing, underwriting and distribution
- Sustainable cost levels; Risk of expenses levels remaining at a too high level compared to competitors
- Regulatory and (geo)political environment; Risk of disintegration of existing economic and political structures, adverse regulatory change or increased supervisory scrutiny which may have a profound impact on our business model or performance (e.g. Solvency II regulation, Internal Model, crisis measures, sustainable finance & reporting, (Anti) Money Laundering)
- Corporate social responsibility; Risk of NN Group not adequately balancing stakeholder interests, deviating from societal norms or not being transparent, on areas like responsible investments, climate change, equality, diversity, taxes and remuneration
- Asset Liability Management (ALM) and investment risk; Risk of reduced available capital or lower investment returns, due to financial market volatility, low interest rate environment or Environmental, Social and Governance (ESG) matters (such as climate change)
- Longevity risk; Risk of higher technical provisions or required capital if life expectancy increases faster than expected
- Product suitability; Risk that products do not appropriately cover customers' interests over the full product lifetime
- IT & change risk; Risk of material failures, or insufficiently managed change, in IT systems, networks or platforms, leading to higher expenses, operational losses or disruption of operations i.e. due to full change agenda, legacy data quality issues
- Cyber risk; Risk of cyber-attacks, leading to misuse, loss of information or privacy breaches, discontinuity of operations or financial or reputation loss

For more information we refer to the section Managing our risks see page 61.

Product approval and review process (PARP)

The PARP has been developed to enable effective design, underwriting and pricing of all insurance products, as well as to ensure that they can be managed throughout their lifetime. This process establishes requirements to the product risk profile features to ensure that products are aligned with NN Group's strategy. The PARP takes into account customer benefits and product suitability, expected sales volumes, value-oriented pricing metrics and relevant policies. It includes requirements and standards to assess risks as per the risk categories, as well as the assessment of the administration and accounting aspects of the product.

52 Risk management continued

New asset class assessment (NACA) and investment mandate process

NN Group maintains a NACA for approving investments in new asset classes NN Group establishes a global list of asset classes in which NN Group entities can invest. The investments in these asset classes are governed through investment mandates given by the insurance entities to the asset manager(s).

Responsible Investment Framework policy and Restricted List

NN Group has a policy framework in place to ensure that our assets are invested responsibly. Amongst others, the policy includes requirements to systematically incorporate environmental, social and governance (ESG) factors into the investment process. Furthermore, the Restricted List should prevent investments in securities that are not in line with NN Group's values, and/or applicable laws and regulations.

Internal Capital Adequacy Assessment (ICAAP) and Internal Liquidity Adequacy assessment (ILAAP) for non-insurance entities

At least once a year, NN Group's banking and asset management operations run a process for ICAAP, and the bank also for ILAAP, in conformity with Basel III requirements. ICAAP and ILAAP test whether current capital and liquidity positions, respectively, are adequate for the risks that our banking and asset management entities bear.

Step 3 of the risk control cycle: Risk Control

Risk Control refers to activities undertaken to ensure proper mitigating measures are designed, documented and executed such that risks are managed within defined risk limits and tolerances.

Activities that theoretically are beyond the formulated risk appetite shall not be started. Inherent risks that are assessed as beyond the risk appetite shall be controlled to the extent it meets the relevant risk appetite statement(s).

In the Risk Profile section we describe per risk type the mitigating activities.

Step 4 of the risk control cycle: Risk Monitoring (& Reporting)

Risk monitoring helps to assess and evaluate developments in the risk profile. It determines whether risks are within the risk appetite, related limits and tolerances and in line with policies and standards. Results of the Risk monitoring are reported regularly to responsible managers of departments, as well as management and supervisory boards of both NN Group and its operating entities. This includes information on control effectiveness, control deficiencies and incidents, financial risk limits and developments, as well as second line opinion and advice. Action shall be taken by management when monitoring indicates that risks are not adequately controlled.

Risk Appetite Statement	Risk Reporting and Monitoring
Strategic Challenges (Shaping the business)	We actively monitor and manage our products, distribution channels and organisation, as well as key performance and risk drivers of our business. We monitor alignment of investments with the Restricted List. This function is performed by Corporate Citizenship.
Strong Balance Sheet (Running the business – financially)	We monitor financial risks on our balance sheet via our Solvency II capital position and related limits and tolerances. We monitor our capacity to meet our payment and collateral obligations, even under severe liquidity stress scenarios.
Sound Business Performance (Running the business – operationally)	We monitor alignment with applicable laws and regulations, NN Group policies and standards. We actively monitor and manage employee conduct and foster a business culture demonstrating that we live the NN Group values. We accept but limit losses from non-financial risk and therefore manage to agreed tolerances by regularly evaluating controls, deficiencies and incidents.

52 Risk management continued

Risk Reporting

On a quarterly basis, the Management Board and Supervisory Board of NN Group are presented with an Own Funds and Solvency Capital Requirement Report and an Enterprise Risk Management (ERM) Report.

The Own Funds and Solvency Capital Requirement Report aims to provide an overview of the quarterly Solvency II capital position and development, including the Solvency II ratio sensitivities assessing the changes in various scenarios for both Eligible Own Funds and SCR at NN Group level. The size and type of the shocks applied for each sensitivity is decided by the Management Board. The Solvency II SCR is a Value at Risk-measure. Solvency II ratio sensitivities are therefore the alternative analysis for market risk sensitivities that NN Group needs to disclose, instead of IFRS sensitivities, as required based on IFRS 7 Financial Instruments: Disclosures.

The ERM report is a quarterly report to provide one consistent, holistic overview of the risks of NN Group. It focuses on comparing current risk levels to our risk appetite and aims to encourage forward-looking risk management. In the ERM report the different Business Units of NN Group report back on their risk profile versus their risk appetite. This also includes a second line opinion by Risk, Legal and Compliance.

In addition, NN Group has determined via its Crisis Plan a set of measures for early detection of and potential response to a financial or non-financial crisis, should it occur.

Following the entering into force of the Dutch law on Recovery and Resolution (as of now R&R Law) (in Dutch: 'Wet Herstel en Afwikkeling Verzekeraars'), NN Group N.V. (hereafter referred to as 'NN Group') has updated the 2020 edition of its Recovery Plan in 2021 to ensure there are effective strategies in place to deal with severe financial distress.

The aim of this Preparatory Crisis Plan is to ensure that tools, measures and processes are in place that enable NN Group to:

- Avoid going into Recovery
- Timely anticipate an approaching financial distress and/or potential recovery situation
- Quickly recover to an acceptable minimum solvency (and liquidity) level when faced with financial distress and/or Recovery
- The Management Board is responsible for the Preparatory Crisis Plan and the plan is regularly reassessed and updated by Group Finance, which is filed with DNB.

Risk Control Cycle: Risk Culture

Management plays a vital role in creating a sound risk culture as they are role models and the main messengers of sound risk management. This includes to:

- show a solid risk management focus in decision making, with a view to long term stability of the business, including understanding and use of risk models when relevant,
- foster diversity of thoughts and solicits different views in decision making,
- foster a culture of transparency in which early identification of risk issues and material incidents are communicated timely to relevant parties,
- ensure operational management take their proper responsibilities in the risk control cycle,
- address dysfunctional behaviour of staff,
- ensure adequate staffing and ensure employees are well trained for their roles, and
- actively manage risks throughout the lifetime of products and not just at the moment of sale.

Within our risk management cycle, we perform regular assessments with regard to risk culture and maturity, to assess and learn whether this supports the effective functioning of the risk control cycle. The ECF Maturity Reflection is an assessment that provides the BU CEO with a periodical confirmation that the framework is still materially complete and operated by first and second line as intended, ensuring he will be timely informed on things he needs to know from risk perspective, either by lower first line levels or by the second line, and if not, what the ambition is. In addition it creates awareness on what a good (risk) culture entails and fosters internal discussions on the same. We refer to the Safeguarding Value Creation for further information.

52 Risk management continued
V. Risk profile

VI. Strategic and emerging risks
- Business Model Risk: Risk of NN Group's business model not being able to timely adapt to changing market circumstances (resulting in lower revenues vs. our cost base) (this includes risks related to NN Group's strategy, M&A, product portfolio, legal structure and operating model)
- HR Risk: Risk of not being able to attract, retain and pay competent employees, including world class talents, to shape and build NN Group's business
- Disruptive Technology Risk: Risk of technological developments having a profound impact on the businesses of NN Group
- Political & Regulatory Risk: Risk of political and regulatory developments having a profound impact on the businesses of NN Group
- Societal Risk: Risk of evolving norms and values in society, including its view on dealing with the environment, having a profound impact on the business of NN Group

Strategic risks
Risk profile

Economic, technological, ecological and demographic developments are impacting the strategic context in which we operate. To remain relevant to our customers in the long run, we need to timely anticipate these developments. Strategic risks are risks arising from making incorrect business decisions, implementing decisions poorly, or being unable to adapt to changes in the operating environment.

NN Group manages its portfolio of businesses on a risk-return basis to meet strategic objectives whilst considering the interests of all stakeholders.

In the annual Strategic Risk assessment (for more detail see section: Steps 2 & 3 of the risk control cycle: Risk Assessment & Control) the Management Board of NN Group identified the following strategic and emerging risks: Delivering on strategic commitments, Change agility, Lack of data capabilities, Sustainable cost levels, Regulatory and (geo)political environment and Corporate social responsibility. For more details on these key risks we refer to Managing our risks.

Risk mitigation

Strategic risks are mainly managed by undertaking strategic projects to adjust our organisation, products or businesses to address new regulatory, technological or demographic developments. We realise organic growth in the markets we are active by developing new ecosystems or products. Further, we undertake targeted acquisitions or sale of businesses in markets where we feel we can grow/withdraw. Recent transactions include the divestment of NN Investment Partners, the acquisition of MetLife entities in Poland and Greece and the majority stake we acquired in broker Heinenoord to further strengthen our Dutch non-life business. The Risk, Compliance and Legal teams are involved in M&A activities through providing a second line opinion prior to decision making, or involvement in the integration/separation programmes. We also undertake scenario analysis to analyse potential future events that can impact our strategy and/or capital position, among others in the ORSA.

Risk measurement

Strategic risks are not fully quantified, instead several metrics are reported, such as (externally) progress versus our strategic commitments and (internally) progress on strategic initiatives. We refer to Our strategy & performance for more details.

Emerging risks (including risks related to ESG matters)
Risk profile

Emerging risks are newly developing risks, or changing risks, that cannot yet be fully assessed or quantified but that could, in the future, affect the viability of NN Group's strategy. Most of these risks have a high degree of uncertainty with regard to how they can impact us, or the size of the impact.

An important topic that receives significant attention are risks related to ESG matters, including climate change. They represent drivers that create risks in multiple parts of our operations. The Group Management Board identified the following key risks, partially driven by ESG and climate change developments: ALM and investment risk (physical and transitional) which covers the financial risks impacting our business, Corporate social responsibility that covers the reputational part and Regulatory and (geo)political environment that covers the regulatory changes that impact our business (a.o. sustainability regulations). For more information on these specific risks, we refer to the section Managing our risks.

52 Risk management continued

With regard to impact of climate change on ALM and investment risk, we distinguish physical and transition climate risks. Physical risk is most prominent on the short term in our Dutch Non-life business, caused by weather events such as windstorms or hail, resulting in higher expenditures, influencing the margins of our property & casualty insurance products.

For our life & pension and banking businesses, transition risk is most important. Transition risk, meaning risks related to transition to lower carbon economies which may adversely affect individual businesses, sectors and the broader economy, thereby also having an impact on our investment portfolio and related results. Pricing and investment returns of financial assets may be influenced by such factors as public policy (carbon tax, subsidies, etc.), technological developments (resulting in invested companies that will be able to profit, or that will be negatively impacted, by the transition) and changing consumer preferences (e.g. customers favouring greener products). Climate risk is further discussed in the section Safeguarding value creation – How NN deals with climate change – our response to the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD).

Risk mitigation

NN Group manages emerging risks by performing regular risk assessments, that help to further understand how emerging risks evolve, and how a combination of events can impact us. An important tool is scenario analysis to further understand how our risk profile would be impacted under certain circumstances, but also creating backup and contingency plans in case events would realise. Our main mitigant is adjusting our strategy to proactively react to these risks.

Around climate change the main mitigating activities are:

- Dealing with climate change is an integral part of our strategy. We have set specific non-financial targets, as part of our strategic commitment Society a.o. to integrate ESG aspects in our investments and our net zero commitments.
- For all our life businesses, we further integrate Environmental, Social & Governance (ESG) aspects in our investment strategy, as laid down in the Responsible Investment Framework, where we are phasing out our investments in certain industries, as well as shifting to others. Furthermore we use concentration limits to avoid concentration risk in certain counterparties/industries, as well as apply stress testing to further understand sensitivities of our investments.
- In our non-life business: (1) helping customers to take precautionary measures, (2) monitor claims experience and reprice or adjust contract conditions where necessary, (3) develop and use catastrophe models for underwriting, and (4) making use of a groupwide catastrophe reinsurance programme.
- Deploying qualitative and quantitative scenario based analysis, a.o. as part of our ORSA, helps us to better understand the impact of both physical and transitional risks on our investments and products, for different time horizons. We use the insights gained as further input for formulating our investment strategy and integrating climate change aspects in our risk management practices. In the TCFD section we give more insight in these scenarios.
- In 2022, an amendment to the Solvency II directive aims to integrate ESG risks into the risk management framework, amongst others considering ESG risks in actuarial and risk management and performing a mandatory risk assessment that assesses material risks to which NN is exposed (as part of ORSA). NN has composed a project to implement these requirements.

Risk measurement

Emerging risks are assessed via scenario analysis and stress testing. We refer to TCFD for more details.

VII. Financial risks

Partial Internal Model (PIM)

The Solvency Capital Requirement (SCR) is calculated based on actual NN Group risks exposure. Under Solvency II, the SCR is defined as the loss in basic own funds of the Solvency II balance sheet resulting from a 1-in-200-year adverse event over a one-year horizon. The risk-based framework for calculating solvency capital requirements at NN Group is a combination of Internal Model and Standard Formula components. The largest component covering major Dutch insurance entities uses internally developed methodologies for modelling the market, counterparty default, business and insurance risks to determine the solvency position for local reporting and Group consolidation purposes. For the EU-based international insurance businesses and smaller insurance undertakings in the Netherlands, NN Group uses the Solvency II Standard Formula to calculate the SCR for local reporting and for Group consolidation. The capital requirement for operational risk is based on the Standard Formula approach across the group.

The non-insurance businesses (e.g. Pension funds, NN Bank) and international insurance undertakings not based in the EU (e.g. Japan, Turkey) are consolidated in the group SCR based on the local applicable (sectoral) capital requirements. The Solvency II concept of Equivalence is granted to capital frameworks that are deemed to have similarity with the Solvency II framework and/or principles and as such can be relied-upon to assess capital requirements, at NN Group this applies to Japan. The total group SCR is obtained from the Internal Model and Standard Formula capital requirements using EIOPA's integration technique 3.

52 Risk management continued

The choice for a Partial Internal Model is based on the conviction that an Internal Model better reflects the risk profile of the major Dutch insurance entities and has additional benefits for risk management purposes, whilst the Standard Formula adequately captures the risk profile of the international businesses and smaller Dutch entities:

- An Internal Model approach can better reflect the specific assets and therefore the market risk in the portfolio of Dutch businesses e.g., sovereign and other credit spread risks
- The approach used for most significant non-market risks within the Life businesses such as longevity (trend uncertainty) and expense risk (closed block treatment) and within the Non-Life business (morbidity and P&C) can be better tailored to NN Group's specific portfolio characteristics. Diversifications effects that intuitive to the business model can be captured in a more adequate way
- Variable Annuity risks in a portfolio of NN Re are not adequately addressed by the Standard Formula, while the Internal Model captures the integrated market risks and hedging programmes more accurately if not adequate for re insurance business
- The granularity of the PIM and close alignment of the modelling techniques and parameters to NN's risk management approach also means that it can support a wide range of business decisions

Assumptions and limitations

Risk-free rate and volatility adjustment:

The assumptions regarding the underlying risk-free curve are crucial in discounting future cash flows when calculating the market values of assets and liabilities. For liabilities, NN Group uses the methodology prescribed by EIOPA for the risk-free rate including the credit risk adjustment (CRA) and the ultimate forwards rate (UFR). Where appropriate, the risk-free rate is adjusted with the volatility adjustment for the calculation of Own Funds.

Valuation assumptions – replicating portfolios:

NN Group uses replicating portfolio techniques to represent the insurance product-related cash flows, options and guarantees by means of standard financial instruments in the risk calculations. This approach is also used for a small part of the mortgages. The replications are used to determine and revalue insurance liabilities and mortgages under a large number of Monte Carlo scenarios.

Diversification and correlation assumptions:

As for any integrated financial services provider offering a variety of products across different business segments and geographic regions, and investing into wide range of assets, diversification is key to NN Group's business model. The resulting diversification reflects the fact that not all potential worst-case losses are likely to materialise at the same time. The Internal Model takes diversification effects into account when aggregating results between different risk types as well as at Group level. Diversification benefits result from diversification across regions, Business Units and risk categories.

Where possible, correlation parameters are derived through statistical analysis based on historical data. In case historical data or other portfolio-specific observations are insufficient or not available, correlations are set by expert judgement via an established, well-defined and controlled process. Similar to other risk models, correlations and expert judgements are also monitored for appropriateness given availability of more historical data (e.g. inclusion of Covid-19 related market stress), and are subject to regular development, validation and regulatory oversight. Based on these correlations, industry-standard aggregation approaches such as Gaussian copula and VaR–CoVaR approach are used to determine the dependency structure of quantifiable risks.

Model limitations

NN Group's Partial Internal Model (PIM) resulted from balancing between (1) an easy-to-communicate methodology and (2) efficient calculations with appropriate accuracy and granularity in the underlying risks. Despite several limitations stemming from this, the overall PIM is considered to be materially robust, appropriate and compliant with Solvency II.

As a result of the granular modelling approach and the wide variety of NN Group's assets and liabilities, the PIM is more complex than the Standard Formula.

Inherent model limitations related to the calibration of a 1-in-200-year stress events for a full spectrum of market and non-market risks include the use of limited historical data to determine a distribution of forward-looking risk factor stresses as well as the use of modelling assumptions and expert judgements.

Risks that cannot be directly modelled in the same way as Market Risk or Insurance Risk, for example strategic, reputational and model risks, and also emerging risks are managed through qualitative risk assessments. In addition, and as part of the ORSA, NN Group holistically assesses its risk exposure to both quantifiable and non-quantifiable risks in order to agree mitigating actions as required.

52 Risk management continued

The components of NN Group's Partial Internal Model for market and counterparty default risk and the models risk aggregation and replication have been developed centrally by Group Risk, with the inherent risk that the developed models have aspects which might be less appropriate for individual entities. On a regular basis the Business Units perform Fit For Local Use assessments and model reviews are performed by independent model validation department. Such reviews could result in additional monitoring and locally calculated and further centrally processed adjustments.

The Risk Management Function informs the Management and Supervisory Board on an annual basis on the performance of the Internal Model.

EIOPA Solvency II 2020 review

EIOPA's Opinion on the Solvency II review to the European Commission (EC) was published on 17 December 2020. The Opinion consists of a proposed package of measures and will be used as input for the European Commission to draft a legislative proposal which will be discussed with the European Council and European Parliament in the coming years.

On 22 September 2021 the European Commission published as part of the Solvency II 2020 Review the proposed Level I texts (Directive) and insights in the upcoming Level II (Delegated Acts) regulations. Since this proposal mainly contains details on the Solvency II Directive, full detailed specifications of Delegated Acts are not yet clear. Furthermore, this EC proposal forms the basis for the upcoming political process, which can take several quarters and can lead to further changes in the proposals. The EC advice is on many items broadly in line with the earlier EIOPA proposal published in December 2020. However, some noteworthy changes in the EC advice can be summarised as follows:

- Interest rate curve: The implementation of the alternative extrapolation methodology used for the valuation of (long) insurance cash-flows will lead to a higher valuation of liabilities. The phasing-in of this negative impact will follow a simpler phasing-in mechanism and the initial impact on the Solvency II ratio is expected to be smaller compared to the original EIOPA proposals.
- Risk margin: EC proposes to lower the cost-of-capital rate from 6% to 5%. Furthermore, it is proposed to remove the floor in the so called 'lambda approach' that was part of the EIOPA advice. These changes will lower the valuation of the risk margin. The exact details will be part of the Level II regulations, but the EC already included in its communication that these changes are considered.
- Volatility adjustment and Enhanced Prudency Principle: The entity specific liquidity haircut for volatility adjustment is not included in the proposals of the EC. This will increase the effectiveness of the volatility adjustment compared to the EIOPA advice and it impacts the Enhanced Prudency Principle.

The resulting updated legislation is currently expected to be implemented at the earliest in 2024.

Solvency Capital Requirement

Solvency II ratio of NN Group

The following table shows the NN Group Solvency II ratio as at 31 December 2021 and 31 December 2020, respectively.

Solvency II ratio of NN Group

	2021	2020
Eligible Own Funds	20,927	20,028
Solvency Capital Requirement	9,840	9,534
NN Group Solvency II ratio (Eligible Own Funds/SCR)	213%	210%

The Solvency Capital Requirement is based on NN Group's Partial Internal Model. This comprises Internal Model calculation for NN Life, NN Non-life, NN Re and the main holding companies owned by NN Group N.V., and Standard Formula calculation for ABN AMRO Life and ABN AMRO Non-life, NN Insurance Services and the European international insurance entities of NN Group and operational risk SCR. The capital requirements of non-Solvency II entities, in particular NN Life Japan, Pension Funds, NN Investment Partners and NN Bank were calculated using local sectoral rules.

52 Risk management continued

Solvency Capital Requirement

The following table shows the NN Group Solvency Capital Requirement as at 31 December 2021 and 31 December 2020 respectively.

Solvency II Capital Requirements

	2021	2020
Market risk	7,397	5,493
Counterparty default risk	200	315
Non-market risk	5,903	6,933
Total BSCR (before diversification)	**13,500**	**12,741**
Diversification	-3,603	-3,102
Total BSCR (after diversification)	**9,897**	**9,639**
Operational risk	711	758
LACDT	-2,225	-2,225
TCLI	116	
Other	7	-6
Solvency II entities SCR	**8,506**	**8,166**
Non-Solvency II entities	1,334	1,368
Total SCR	**9,840**	**9,534**

The Solvency II total Basic Solvency Capital Requirements (Total BSCR after diversification) includes both the Internal Model businesses' BSCR and the Standard Formula businesses' BSCR. This figure also reflects the diversification benefits between the business units using Internal Model and Standard Formula.

The general developments of the SCR:
- higher Market risk (mainly due to refinement of Interest Rate risk SCR calculation)
- lower Counterparty default risk (mainly driven by the decrease in exposure)
- lower Non-market risk (mainly driven by updated Longevity risk models and new reinsurance contract and decrease due to higher interest rates)
- lower Operational risk
- stable LACDT
- inclusion of TCLI
- lower Non-Solvency II entities

The breakdown of the market and non-market risk SCR in specific risk types and explanations for the most important changes in the risk profile and Solvency Capital Requirement over the year of 2021 are presented in the next sections.

The loss-absorbing capacity of deferred taxes (LACDT) offset remains stable. In the above table, 'Other' includes loss-absorbing capacity of technical provisions (LACTP), capital for non-modelled Solvency II entities and some minor non-modelled risks including those required by the regulator.

Solvency Capital Requirement for Non-Solvency II entities include mainly NN Life Japan, Pension Funds, NN Investment Partners and NN Bank.

On 31 December 2020, Nationale-Nederlanden Schadeverzekering Maatschappij N.V. (NN Schade) entered into a legal merger with VIVAT Schadeverzekeringen N.V. (VIVAT Non-life). As a result, VIVAT Non-life ceased to exist as a separate legal entity and NN Schade assumed all assets and liabilities of VIVAT Non-life under universal title of succession. NN Non-life is in the process of expanding its Partial Internal Model (NN PIM) to include the former VIVAT Non-life business. Prior to the formal completion thereof, NN Schade calculates the SCR for the merged entity using the NN PIM including a Transitional Capital Lock-In (TCLI). The TCLI amounts to EUR 116 million and resembles the impact of reporting the former VIVAT Non-life business on the Solvency II standard formula versus the NN PIM. Once the inclusion of the former Vivat Non-life business in the NN PIM is formally approved, the TCLI will cease to exist.

52 Risk management continued

In 2021, DNB issued further guidance related to the treatment of contract boundaries for individual disability contracts. NN Group intends to reflect the consequence of this guidance in the solvency calculations of NN Non-life in first half of 2022, which is expected to have an impact of approximately -2%-points on the Solvency II Ratio of NN Group.

Solvency II ratio sensitivities

Along with the Solvency II Capital Requirement, NN Group regularly calculates the sensitivities of the Solvency II ratio under various scenarios, by assessing the changes for both Eligible Own Funds and SCR. The Solvency II ratio sensitivities are primarily designed to support the NN Group Management Board and the Risk Management functions in having a forward-looking view on the risks to solvency of the company, and to analyse the impacts of market or other events. The sensitivities are selected to reflect plausible, realistic scenarios that could materialise within the foreseeable future and are not calibrated on a pre-defined confidence interval or time horizon.

The effect on the Solvency II ratio is calculated based on applying an instantaneous stress on the balance sheet, and on ceteris paribus basis. For all insurance entities including NN Life Japan, the after stress own funds are calculated for each of the sensitivity scenarios; the SCR impacts are recalculated for BSCR and Operational risk SCR. LACDT is recalculated keeping the LACDT percentage fixed. 'Other' SCR components including the LACTP are kept constant.

The Solvency II sensitivities are disclosed for main market risks in the below sections.

Main types of risks

In the next sections the main risks associated with NN Group's business are discussed. Each risk type is analysed through the risk profile, risk mitigation and risk measurement. For Market and Non-market risks more detailed quantification of risk exposures is provided.

Market risk

Market risk comprises the risks related to the impact of changes in various financial markets indicators on NN Group's balance sheet. Market risks are taken in pursuit of returns for the benefit of customers and shareholders. Accordingly, risk and return consideration and optimisation are paramount for both policyholder and shareholder. In general, market risks are managed through a well-diversified portfolio under a number of relevant policies within clearly defined and monitored limits. NN Group reduces downside risk through various hedging programmes, in particular risks for which NN Group has no or only a limited appetite like interest rate, inflation and foreign exchange risk. NN Group also integrates Environmental, Social, and Governance (ESG) factors in the investment decision-making framework.

Market risk capital requirements

	2021	2020
Interest rate risk	1,455	4,519
Equity risk	3,474	3,463
Credit spread risk	4,725	4,345
Real estate risk	2,124	1,776
Foreign exchange risk	730	668
Inflation risk	135	313
Basis risk	74	101
Diversification market risk	-5,320	-9,692
Market risk	**7,397**	**5,493**

In 2021, the Market Risk SCR increased to EUR 7,397 million, driven by higher exposure to mortgages and real estate and significantly lower diversification of the market risks. Interest Rate SCR decreased due to higher rates and the refinement of Interest Rate risk SCR calculation. Credit spread risk SCR increase was driven by the increase of the duration of government bonds, the shift to higher-yielding assets and additional investments in mortgages. Real estate SCR increase was mainly driven by additional investments and market revaluations. Diversification decreased as a result of decreased interest rate risk and increased real estate and spread risks, which are dominant market risks: adding risks to the more dominant risks in general leads to lower diversification.

52 Risk management continued

The table below sets out NN Group's market value of assets for each asset class as at the end of 2021 and 2020. The values in these tables may differ from those included in the consolidated IFRS balance sheet as derivatives are excluded from this overview and furthermore due to classification and valuation differences to reflect a risk management view.

Investment assets

	Market value 2021	% of total 2021	Market value 2020	% of total 2020[1]
Fixed income	**163,876**	**83%**	**165,855**	**81%**
Government bonds and loans	63,126	32%	69,773	34%
Financial bonds and loans	10,063	5%	10,779	5%
Corporate bonds and loans	26,838	13%	26,029	13%
Asset-backed securities	3,850	2%	4,206	2%
Mortgages[2]	58,499	30%	53,555	26%
Other retail loans	1,500	1%	1,513	1%
Non-fixed income	**22,512**	**11%**	**20,641**	**10%**
Common & preferred stock[3]	5,830	3%	6,073	3%
Private equity	1,215	1%	881	1%
Real estate[4]	12,492	6%	10,725	5%
Mutual funds (money market funds excluded)[5]	2,975	1%	2,962	1%
Money market instruments (money market funds included)[6]	**11,455**	**6%**	**17,455**	**9%**
Total investments	**197,843**	**100%**	**203,951**	**100%**

1 Restated due to reclassification between different buckets
2 Mortgages are on amortised cost value. The mortgage value on the consolidated IFRS balance sheet differs from the value in the current table due to the acquisition premium of mortgages and the inclusion of mortgages underlying the mortgage structure vehicles. Mortgage mutual funds are reported under mortgages as of this year. Last year, they were reported as 'other retail loans'. Comparative figures have been restated as a result of this change.
3 All preference shares are included in 'common & preferred stock', even when preference shares are modelled as bonds.
4 The real estate values exclude the real estate forward commitments, since NN Group has no price risk related to them.
5 Fixed income mutual funds are included in mutual funds. Short term bonds purchased through the NNIP's money market mandate do not hedge long term liabilities but serve NN Group's cash management. Given the growing size of this portfolio, these short term bonds are reported under 'Money market instruments (money market funds included)' as of this year. Comparative figures have been restated as a result of this change.
6 Money market mutual funds and commercial papers are included in the Money market instruments.

Total investment assets have decreased from EUR 203,951 million at the end of 2020 to EUR 197,843 million at the end of 2021. The decrease is mainly due to a lower NN Group cash position (money market instruments). This is due to higher interest rates and the decrease of the swap portfolio, which implies a lower volume of cash collateral received. Main developments in the NN Group risk profile in 2021 are a reflection of the strategy of NN Group to increase operating capital generation by shifting to higher-yielding assets: gradual reduction in the exposure to low yielding core government bonds and an increase in allocation to mortgages, loans, real estate and private equity.

Interest rate risk

Interest rate risk is defined as the possibility of decrease in the Solvency II Own Funds due to adverse changes in the level or shape of the risk-free interest rate curve used for discounting assets and liabilities cash flows. Exposure to interest rate risk arises from asset or liability positions that are sensitive to changes in this risk-free interest rate curve. As of the second half of 2021, NN Group's Partial Internal Model SCR includes the change in value of the Solvency II technical provisions and the risk margin due to interest shocks.

Risk profile

The interest rate risk SCR of NN Group decreased from EUR 4,519 million in 2020 to EUR 1,455 million in 2021. The decrease is mainly driven by a refinement of Interest Rate risk SCR calculation. Moreover, it is reflecting market and portfolio movements during the year such as an increase of the risk-free interest curve (Euro-Zone 20-year swap rate increased by 55 bps) and also investments in long term government bonds to replace swaps. Volatility adjustment (VOLA) decreased by 4 bps from 7 bps to 3 bps at the end of 2021. The decrease of interest rate risk SCR also contributes to the decrease of the diversification across market risks.

Risk mitigation

The interest rate SCR indicates to what extent assets and liabilities are matched on a Solvency II basis. The majority of NN Group liability cash flows are predictable and stable, since exposure to policyholder behaviour and profit-sharing mechanisms is very limited. Until year 30, where markets for fixed income instruments are sufficiently deep and liquid, best estimate liability cash flows (excluding risk margin) are closely matched with government bonds, corporate bonds, mortgages and loans. Cash flows after 30 years are partially hedged on a duration basis with long term government bonds and interest rate swaps, due to price and illiquidity of markets.

52 Risk management continued

NN Group has implemented limits and tolerances for interest rate risk exposures at NN Group level as well as for relevant Business Units.

We continuously monitor and work on mitigating solutions for our new business and products, such as an development of defined contribution pension products in the Netherlands and a shift towards protection products in our markets in general.

Risk measurement

For the purpose of discounting EUR-denominated asset cash flows, NN Group uses market swap curves to value assets. For the asset cash flows denominated in other currencies, the relevant swap or government curve is used for that specific currency.

For the purpose of discounting the EUR-denominated liability cash flows NN Group uses a swap curve less credit risk adjustment (CRA) plus VOLA in line with definitions under the Solvency II. For the liability cash flows denominated in other currencies, the relevant swap or government curve is used where this curve is also lowered by the credit risk adjustment and adding the volatility adjustment specific for each currency. In line with Solvency II regulations, NN Group extrapolates the EUR swap curve starting from the last liquid point onwards to the Ultimate Forward Rate for each relevant currency in its portfolio. The last liquid point (LLP) used for EUR is 20 years. As such, the sensitivity of SCR for interest rate risk primarily depends on the level of cash flow matching between assets and liabilities up to the 20-year point, and the difference between the swap curve and the curve extrapolated to the UFR for longer cash flows.

The sensitivity of the Solvency II ratio to changes in interest rates is monitored on a quarterly basis. The table below presents the Eligible Own Funds, SCR and Solvency II ratio sensitivities to various changes in interest rates.

Solvency II Ratio sensitivities for interest rate comprise the following set of shocks, each of them is calculated independently as a standalone scenario: a parallel up and a parallel down shift of the discount curve, a steepening scenario for the interest rate used to discount asset cash flows after the last liquid point and a change of the ultimate forward rate.

NN Group's Solvency II ratio decreases when interest rates increase or the UFR decrease. The more stable SCR due to refinement of the SCR calculation for interest rate risk contributed to the change of interest rate sensitivity from -3% for a -50bps move in 2020 to +5% in 2021 (and +3% for +50bps in 2020 to -4% in 2021). UFR level for Euro decreased from 3.75% to 3.6% as of 1 January 2021, which had a negative effect on the Solvency II ratio of NN Group in line with the calculated sensitivity. The volatility adjustment decreased by 4bps to 3bps at year-end 2021 from 7bps at year-end 2020.

Solvency II ratio sensitivities: interest rate risk at 31 December 2021

2021	Own Funds impact	SCR impact	Solvency II ratio impact
Interest rate: Parallel shock +50 bps	-624	-101	-4%
Interest rate: Parallel shock -50 bps	803	153	5%
Interest rate: 10 bps steepening between 20y-30y	-580	96	-8%
UFR: Downward adjustment of 15 bps (EUR UFR at 3.45%)	-261	66	-4%

Solvency II ratio sensitivities: interest rate risk at 31 December 2020

2020	Own Funds impact	SCR impact	Solvency II ratio impact
Interest rate: Parallel shock +50 bps	-882	-554	3%
Interest rate: Parallel shock -50 bps	1,197	730	-3%
Interest rate: 10 bps steepening between 20y-30y	-725	-2	-8%
UFR: Downward adjustment of 15 bps (EUR UFR at 3.6%)	-314	49	-4%

Under the parallel shock scenarios, the base risk-free interest rate curves for each currency are shocked by +/-50 bps for all tenors up until the last liquid point. The other components of the basic risk-free interest rate curve – namely UFR, Credit Risk Adjustment, volatility adjustment and extrapolation technique towards UFR remain unchanged. The asset interest rate curves are shocked with the parallel shocks for all tenors.

In the interest rate steepening scenario, the EUR asset valuation curve is shocked after the last liquid point (the last liquid point for EUR is set at 20 years under Solvency II). The steepening is applied for interest rate curve tenors between 20 and 30 years (a linear increase from 0 to 10 bps of 1bp per tenor). After the 30 years point, the shift in the interest rate curve remains constant at 10bps. The discount curve for liability cash flows is not impacted in this scenario, asset only shock.

52 Risk management continued

For 2021, the UFR for EUR under Solvency II is set at 3.60%. In line with the EIOPA methodology, the calculated value of the UFR for EUR was 3.60% with annual changes to the UFR not higher than 15 bps. In 2021 EIOPA published the applicable UFR for 1 January 2022 to be at 3.45%. It will be for the first time when the calculated and updated UFR are same, meaning that further drops in the next few years might be lower than 15 bps per annum, as currently. The UFR downward adjustment scenario provides the impact in Own Funds and SCR using the applicable UFR downward adjustment of 15bps for each currency. The other components of the basic risk-free interest rate curve – namely the Credit Risk Adjustment, volatility adjustment and extrapolation technique towards UFR – are kept constant in this sensitivity.

Equity risk

Equity risk is defined as the possibility of decrease Solvency II Own Funds due to adverse changes in the level of equity market prices. Exposure to equity risk arises from direct or indirect asset or liability positions, including equity derivatives such as futures and options, that are sensitive to equity prices.

Risk profile

The table below sets out the market value of NN Group's equity assets as at the 31 December 2021 and 2020, respectively.

Equity assets

	2021	2020
Common & preferred stock	5,830	6,073
Private equity	1,215	881
Mutual funds (money market funds are excluded, fixed income mutual funds are included)	2,975	2,962
Total	**10,020**	**9,916**

NN Group is mostly exposed to public listed equity but also invests in private equity funds and equity exposures through mutual funds. The equity exposure is diversified mainly across the Netherlands (25% in 2021 and 2020) and remaining exposure in other countries, predominantly in EU (50% in 2021 compared with 55% in 2020). Note that mutual funds are classified as equity in the table above but include predominantly fixed income funds.

As shown in the 'Market risk capital requirements' table above, the Equity Risk SCR of NN Group remains stable (EUR 3,463 million in 2020 and EUR 3,474 million in 2021). Over 2021 parts of the public equity portfolio were disposed to benefit from attractive valuations.

Risk mitigation

Exposure to equities provides additional diversification and upside return potential in the asset portfolio of an insurance company with long-term illiquid liabilities. The concentration risk on individual issuers is mitigated by having issuer risk limits in place in investment mandates as well as at NN Group level. There is no natural hedge for equity risk on the liability side of the balance sheet. NN Group has the possibility to protect the downside risk of the equity portfolio by selling equity or buying put options and other hedge instruments.

Risk measurement

The sensitivity of the Solvency II ratio to changes in the value of equity is monitored on a quarterly basis. This scenario estimates the impact of an instantaneous shock of -25% applied to the value of direct equity and equity mutual funds. Derivatives like equity options or equity forwards which have equity as underlying are also revalued using the same shock applied to the underlying equities or equity indices.

The table below presents the Eligible Own Funds, SCR and Solvency II ratio sensitivity to a downward shock in equity prices at 31 December 2021 and 2020.

Solvency II ratio sensitivities: equity risk

	Own Funds impact		SCR impact		Solvency II ratio impact	
	2021	2020	2021	2020	2021	2020
Equity Downward shock -25%	-1,840	-1,863	-489	-305	-9%	-13%

52 Risk management continued

Credit spread risk

The credit spread risk is defined as the possibility of decrease in Solvency II Own Funds due to adverse movements in the credit spreads of fixed income assets. The credit spread widening (or narrowing) reflects market supply and demand, rating migration of the issuer and changes in expectation of default. Changes in liquidity and other risk premiums that are relevant to specific assets can play a role in the value changes.

In the calculation of the SCR for the Partial Internal Model entities, NN Group assumes no change to the volatility adjustment on the liability side of the balance sheet after a shock-event, but instead reflects the illiquidity of liabilities in the asset shocks to ensure appropriate solvency capital requirements. This approach ensures appropriate risk incentives and is approved by DNB. NN Group also shocks all government bonds and its mortgage portfolio in the calculation of spread risk capital requirements for the Partial Internal Model entities.

The main asset classes in scope of the credit spread risk module for Partial Internal Model entities are government and corporate bonds, mortgages and loans.

For the calculation of the SCR for credit spread risk of the Standard Formula insurance entities, the main asset classes in scope are corporate bonds and loans.

Risk profile

As shown in the 'Market risk capital requirements' table, the credit spread risk SCR of NN Group increased from EUR 4,345 million in 2020 to EUR 4,725 million in 2021. This increase is mainly driven by new investments in government bonds with very long duration and shift to higher-yielding assets.

The government securities market value delta can mostly be explained by valuation changes (60%). Transactions and redemptions count for 40% of the decrease. The corporate securities market value delta is explained by valuation (50%) and transactions (50%).

The table below shows the market value of NN Group's fixed-income bonds which are subject to credit spread risk SCR by type of issuer as at the 31 December 2021 and 31 December 2020, respectively.

Fixed-income bonds and loans by type of issuer

	Market value		Percentage	
	2021	2020[1]	2021	2020[1]
Sovereign	63,126	69,773	61%	63%
Manufacturing	8,022	8,093	8%	7%
Finance and Insurance	10,063	10,779	9%	10%
Asset-backed securities	3,850	4,206	4%	4%
Utilities	2,928	3,442	3%	3%
Information	2,365	2,263	2%	2%
Transportation and Warehousing	2,947	2,872	3%	2%
Real Estate and Rental and Leasing	2,070	1,879	2%	2%
Other	8,506	7,480	8%	7%
Total	**103,877**	**110,787**	**100%**	**100%**

1 Restated due to reclassification between different buckets, see footnotes 2 and 5 in table 'Investment assets'.

52 Risk management continued

The table below sets out the market value of NN Group's assets invested in government bonds and loans by country and maturity.

Market value government bond and loans exposures (2021)

			Market value of government bond and loans in 2021 by number of years to maturity[4]								
2021	Rating[1]	Domestic exposure[2]	0-1	1-2	2-3	3-5	5-10	10-20	20-30	30+	Total 2021
France	AA	0%	47	68	52	129	212	3,881	750	5,290	10,429
Japan	A+	99%	644	461	503	889	1,919	2,571	1,682	737	9,406
Belgium	AA-	33%	401	243	37	173	790	3,723	1,218	950	7,535
Germany	AAA	0%	30	95	488	140	1,977	3,030	733	396	6,889
Netherlands	AAA	99%	45	618		210	404	2,339	2,034	13	5,663
Austria	AA+	0%	171	11	190	517	737	1,303	1,048	2,012	5,989
Spain	A-	27%	24	15	136	155	420	1,999	648	59	3,456
Multilateral[3]	AAA	0%	194	48	135	175	202	969	732	15	2,470
United States	AAA	0%	1			1		282	2,085		2,369
Italy	BBB	0%	43	101	35	50	745	283	11		1,268
Finland	AA+	0%	5	3		166	82		981		1,237
Other[5] – Above Investment Grade			551	180	258	899	2,029	1,139	462	20	5,538
Other[5] – Below Investment Grade			107	119	141	144	208	139	19		877
Total			**2,263**	**1,962**	**1,975**	**3,648**	**9,725**	**21,658**	**12,403**	**9,492**	**63,126**

1 NN Group uses the second-best rating across Fitch, Moody's and S&P to determine the credit rating label of its bonds.
2 Percentage of the bonds held in the local unit, e.g., percentage of Dutch bonds held by entities registered in the Netherlands.
3 Includes EIB, ECB, EFSF, EU and ESM.
4 Based on legal maturity date.
5 Investment Grade reflects a rating of BBB or higher; Below Investment Grade reflects a rating below BBB.

Market value government bond and loans exposures (2020)

			Market value of government bond and loans in 2020 by number of years to maturity[4]								
2020	Rating[1]	Domestic exposure[2]	0-1	1-2	2-3	3-5	5-10	10-20	20-30	30+	Total 2020
France	AA	0%	52	47	70	125	268	3,022	2,460	6,057	12,101
Japan	A+	98%	342	492	484	1,069	2,028	2,798	1,603	707	9,523
Belgium	AA-	35%	51	432	250	86	1,026	2,839	3,173	20	7,877
Germany	AAA	0%	79	116	102	787	1,681	3,954	785	98	7,602
Netherlands	AAA	99%	319	81	772	320	908	2,522	2,382	15	7,319
Austria	AA+	0%	189	184	11	204	1,425	1,438	1,174	1,818	6,443
Spain	A-	26%	9	25	24	255	483	1,707	1,169	5	3,677
Multilateral[3]	AAA	0%	81	198	60	177	519	1,399	795	35	3,264
United States	AAA	0%	1	1		1		176	2,184		2,363
Italy	BBB-	0%	8	46	104	51	810	546	26		1,591
Finland	AA+	0%	43	5	4	274	143		1,079		1,548
Other[5] – Above Investment Grade			172	508	208	731	2,467	1,312	305	1	5,704
Other[5] – Below Investment Grade			62	45	113	201	152	155	33		761
Total			**1,408**	**2,180**	**2,202**	**4,281**	**11,910**	**21,868**	**17,168**	**8,756**	**69,773**

1 NN Group uses the second-best rating across Fitch, Moody's and S&P to determine the credit rating label of its bonds.
2 Percentage of the bonds held in the local unit, e.g., percentage of Dutch bonds held by entities registered in the Netherlands.
3 Includes EIB, ECB, EFSF, EU and ESM.
4 Based on legal maturity date.
5 Investment Grade reflects a rating of BBB or higher; Below Investment Grade reflects a rating below BBB.

60% (or EUR 38 billion) of NN Group total sovereign debt exposure is invested in AAA and AA rated eurozone countries in 2021 as compared to 62% in 2020. Of the EUR 38 billion core eurozone government bonds and loans held by NN Group, 78% will mature after year 10 and 40% after year 20 in 2021 while those for 2020 were EUR 42 billion, 76% and 43% respectively. The proceeds of the sales of government bonds were used partly to fund investments in mortgages and loans and partly to invest in government bonds with very long duration to reduce the NN Group's swap portfolio. With regard to Central and Eastern Europe, the government bond exposures are mainly domestically held. Exposure to Belgium decreased and United States remains stable. In the Partial Internal Model, all government bonds contribute to credit spread risk, including those rated AAA. The tables below shows the market value of non-government fixed-income securities (excluding mortgages and derivatives) by rating and maturity.

52 Risk management continued

Market value non-government bond securities and loans (2021)

	Market value of non-government bond securities and loans in 2021 by number of years to maturity								
2021	**0-1**	**1-2**	**2-3**	**3-5**	**5-10**	**10-20**	**20-30**	**30+**	**Total 2021**
AAA	153	201	257	597	352	1,017	1,365	2,097	6,039
AA	507	358	139	540	663	569	241	173	3,190
A	1,270	1,543	1,210	2,691	3,468	1,204	810	614	12,810
BBB	1,204	1,650	2,113	2,602	3,260	1,781	1,050	118	13,778
BB	271	242	282	777	1,253	51	31	30	2,937
B and below	126	262	219	661	500	21			1,789
No rating available	138	3			4			63	208
Total	**3,669**	**4,259**	**4,220**	**7,868**	**9,500**	**4,643**	**3,497**	**3,095**	**40,751**

Market value non-government bond securities and loans (2020[1])

	Market value of non-government bond securities and loans in 2020 by number of years to maturity								
2020	**0-1**	**1-2**	**2-3**	**3-5**	**5-10**	**10-20**	**20-30**	**30+**	**Total 2020**
AAA	392	245	271	406	543	1,183	1,225	2,684	6,949
AA	634	593	376	439	924	430	190	55	3,641
A	837	1,483	1,652	2,750	3,907	804	428	559	12,420
BBB	1,059	1,466	1,877	3,654	3,619	1,250	660	101	13,686
BB	215	164	478	862	1,211	29	33	28	3,020
B and below	79	161	218	334	321	16		9	1,138
No rating available	116	3	4	4	2			32	161
Total	**3,332**	**4,115**	**4,876**	**8,449**	**10,527**	**3,712**	**2,536**	**3,468**	**41,015**

1 Restated due to reclassification between different buckets, see footnotes 2 and 5 in table 'Investment assets'.

The table below shows NN Group's holdings of loans and other debt securities as at the 31 December 2021 and 2020, respectively.

Market value all loans and other debt securities (per credit rating)

	2021	**2020[1]**
AAA	22,479	26,755
AA	30,545	33,899
A	27,772	27,366
BBB	17,181	17,688
BB	3,868	3,749
B and below	1,824	1,169
No rating available	70	46
Mortgages[2]	58,499	53,555
Other Retail Loans	1,638	1,628
Total	**163,876**	**165,855**

1 Restated due to reclassification between different buckets, see footnotes 2 and 5 in table 'Investment assets'.
2 Mortgages refer to all mortgages using the same criteria and is aligned with the Mortgages figure in Investment assets above.

Mortgages

The required capital for mortgages within entities under the Partial Internal Model is calculated in the credit spread risk module while the required capital for mortgages within entities under Standard Formula is calculated in the counterparty default risk module. The credit spread risk module within the Partial Internal Model captures the behaviour of Own Funds when the valuation of mortgages changes with market mortgage rates, while the counterparty default risk module within Standard Formula captures the behaviour of Own Funds as a result of unexpected loss or default of mortgages.

The Loan-to-Value (LTV) for residential mortgages (which is based on the net average loan to property indexed value) at NN Life, the Banking business, NN Non-life and NN Belgium stood at 59%, 57%, 65% and 60% respectively at the end of December 2021 while those were 68%, 66%, 72% and 71% respectively at the end of December 2020. Sharply increasing house prices in 2021 (+17.5%) resulted in a migration towards lower LTV buckets. The average LTV for NN Group portfolio is 59% in 2021 (67% in 2020).

52 Risk management continued

The inherent credit risk of mortgages is backed primarily by means of the underlying property, but also through the inclusion of mortgages guaranteed by the Nationale Hypotheek Garantie (NHG) and other secondary covers like savings, investments and life insurance policies. Mortgages with NHG accounted for 26%, 32%, 20% and 28% at NN Life, the Banking business, NN Non-life, and NN Belgium respectively at the end of 2021 and 29%, 33%, 23% and 29% at NN Life, the Banking business, NN Non-life and NN Belgium respectively at the end of 2020. The relative NHG coverage is decreasing in the portfolios mostly due to the high house prices, so overall less mortgages are eligible for NHG coverage. Since the change in the Dutch tax regime in 2014 with regards to mortgage interest deductibility, a shift from interest-only mortgages to annuity and linear payment type mortgages is being observed.

Loan-to-Value on mortgage loans[1]

	2021	2020
NHG	28%	30%
LTV <= 80%	65%	53%
LTV 80% – 90%	5%	11%
LTV 90% – 100%	1%	5%
LTV > 100%	1%	1%
Total NN Group	**100%**	**100%**

1 Risk figures and parameters do not include third party originated mortgages and collateralised mortgages although they are on the balance sheet of NN Group.

The mortgage portfolio is under regular review to ensure troubled assets are identified early and managed properly. The loan is categorised as a non-performing loan (NPL) if the loan is 90 days past due, or the client was in default the previous month, and the minimum holding period (MHP) is active or the loan is classified as Unlikely To Pay (UTP) by the problem loans department. A loan is re-categorised as a performing loan again when the amount past due has been paid in full (and the UTP-status is withdrawn).

The main criterion for lifting the default status will be that no arrears greater than EUR 250 occurred during the Minimum Holding Period (MHP). For defaulted clients that are classified as 'distressed restructuring', the MHP is 12 months. For all other defaulted clients, the MHP is 3 months.

The impact of the definition of default is limited. Combined with low levels of unemployment, the outstanding non-performing loans decreased in 2021. Provisions decreased due to sharply increasing house prices in 2021 (+17.5%) and a decrease in non-performing loans.

The net exposure decreased because of increasing house prices.

Credit quality: NN Group mortgage portfolio, outstanding[1,2]

	Life business		Banking business		Other[3]		Total	
	2021	2020	2021	2020	2021	2020	2021	2020
Performing mortgage loans that are not past due	25,285	23,189	20,322	19,764	5,304	5,132	50,911	48,085
Performing mortgage loans that are past due	128	111	161	146	24	27	313	284
Non-performing mortgage loans[4]	77	113	104	116	12	22	193	251
Total	**25,490**	**23,413**	**20,587**	**20,026**	**5,340**	**5,181**	**51,417**	**48,620**
Provisions for performing mortgage loans	2	3	2	3	1	1	5	7
Provisions for non-performing mortgage loans	5	11	1	8		1	6	20
Total[5]	**7**	**14**	**3**	**11**	**1**	**2**	**11**	**27**

1 Risk figures and parameters do not include third party originated mortgages and collateralised mortgages although they are on the balance sheet of NN Group.
2 Amounts are excluding partial transfer of mortgages.
3 Other' column includes numbers for the Non-life entities, Belgium business and other small entities.
4 The non-performing loans include 'unlikely to pay' mortgage loans, which may not be past due.
5 Mortgage provisions have decreased as a result of the increase in the house prices, a decrease in non-performing loans due to low unemployment and an update in the default policy following ECB guidance on the definition of default.

52 Risk management continued

Collateral on mortgage loans

	Life business		Banking business		Other[1]		Total	
	2021	2020	2021	2020	2021	2020	2021	2020
Carrying value[2]	25,490	23,413	20,587	20,026	5,340	5,181	51,417	48,620
Indexed collateral value of real estate	49,536	38,902	41,478	34,793	9,685	8,041	100,699	81,736
Savings held[3]	985	1,006	1,408	1,416	75	77	2,468	2,499
NHG guarantee value[4]	5,480	5,600	5,328	5,463	1,113	1,152	11,921	12,215
Total cover value[5] + including NHG guarantee capped at carrying value	25,474	23,391	20,576	20,007	5,337	5,177	51,387	48,575
Net exposure	**16**	**22**	**11**	**19**	**3**	**4**	**30**	**45**

1 'Other' column includes numbers for the Non-life entities, Belgium business and other small entities.
2 Amounts are based on outstanding, excluding deduction of constructions deposits and excluding partial transfer of mortgages.
3 Savings held includes life policies excluding the effect of partial transfer of mortgages.
4 The NHG guarantee value follows an annuity scheme and is corrected for the 10% own risk (on the granted NHG claim).
5 The cover value of the real estate does not include haircuts, which are applied in the determination of loan loss provisions.

Risk mitigation

Our mortgages are subject to strict underwriting criteria and are well collateralised. NN Group has concentration risk limits for individual issuers which depend on the credit quality of the issuer. These limits ensure that large risk concentrations are avoided. In order to diversify the credit spread risk further, NN Group has increased its investments in non-listed assets.

Risk measurement

The sensitivity of the Solvency II ratio to changes in credit spreads is monitored on a quarterly basis. The table below presents the Eligible Own Funds, SCR and Solvency II ratio sensitivities to various changes in credit spreads.

Solvency II ratio sensitivities: credit spread risk at 31 December 2021

2021	Own Funds impact	SCR impact	Solvency II ratio impact
Credit spread: Parallel shock for AAA-rated government bonds +50 bps	-628	89	-8%
Credit spread: Parallel shock for AA and lower-rated government bonds +50 bps	-938	120	-12%
Credit spread: Parallel shock spreads corporates +50 bps	697	-209	12%
Credit spread: Parallel shock spreads mortgages +50 bps	-1,075	31	-12%

Solvency II ratio sensitivities: credit spread risk at 31 December 2020

2020	Own Funds impact	SCR impact	Solvency II ratio impact
Credit spread: Parallel shock for AAA-rated government bonds +50 bps	-706	3	-7%
Credit spread: Parallel shock for AA and lower-rated government bonds +50 bps	-968	-124	-8%
Credit spread: Parallel shock spreads corporates +50 bps	997	-161	14%
Credit spread: Parallel shock spreads mortgages +50 bps	-897	-7	-9%

NN Group has exposure to government, corporate and financial debt and is exposed to spread changes for these instruments. Furthermore, the volatility adjustment in the valuation of liabilities introduces an offset to the valuation changes on the asset side. The Solvency II sensitivities for spread changes cover four possible scenarios – spread widening for AAA rated government bonds, spread widening for non-AAA rated government bonds, spread widening for corporates and spread widening for mortgages. For all scenarios, a parallel widening of the respective spread curves of +50bps is assumed. There is a corresponding translation of the spread widening on asset valuations on the volatility adjustment according to EIOPA reference portfolio in each of the scenarios.

Government bond shocks are applied to the following asset classes: government bonds and loans, government-linked instruments (sub-sovereigns and supranational). Corporate spread shocks are applied to the following asset classes: corporate bonds (financials and non-financials), covered bonds, subordinated bonds, asset-backed securities and loans. Mortgages are subject to spread shocks in a separate scenario.

52 Risk management continued

NN Group's sensitivity to credit spread changes is mainly driven by the difference between NN's investment portfolio and the EIOPA reference portfolio. The reference portfolio represents the weights of an average European insurers' portfolio to different fixed income assets and is used to determine the level of the volatility adjustment to be applied for the valuation of liabilities. Asset spread changes impact the level of the volatility adjustment and therefore also the valuation of liabilities, and thus provide an offset to asset valuation changes. NN Group is exposed to widening in government bond spreads due to a higher exposure to well rated government debt compared with the reference portfolio. At the same time, the exposure to widening of credit spreads on corporate and financial bonds has a positive impact on the ratio due to a lower exposure of NN Group to these asset classes compared with the reference portfolio. Mortgages spread widening has a negative impact on the Solvency II Ratio, as mortgages are not part of the reference portfolio.

Real estate risk

Real estate risk is defined as the possibility of decrease in Solvency II Own Funds due to adverse changes in the value of real estate. Exposure to real estate risk arises mainly from holding direct real estate properties or positions in real estate mutual funds. With the long-term nature of the liabilities of NN Group, illiquid assets such as real estate play an important role in the asset allocation.

Risk profile

NN Group's real estate exposure (excluding forward commitments) increased from EUR 10,725 million at the end of 2020 to EUR 12,492 million at the end of 2021. The market value change is mainly (75%) due to valuation increase. The new investments count for 25% of market value increase. The real estate exposure is mainly present in the portfolios of NN Life, NN Non-life and NN Belgium Life.

NN Group has various categories of real estate: investments in real estate funds and joint-ventures, real estate directly owned and investments in buildings occupied by NN Group. Several of the real estate funds, in which NN Group participates, include leverage and therefore the actual real estate exposure is larger than NN Group's value of participation in real estate funds. The real estate portfolio is held for the long-term and is illiquid. Furthermore, there are no hedge instruments available in the market to effectively reduce the impact of market volatility.

The table below sets out NN Group's real estate exposure per region as at 31 December 2021 and 2020, respectively.

Real estate assets per region[1]

	2021	2020
Western Europe	60%	60%
Southern Europe	17%	19%
Nordics	7%	7%
Central and Eastern Europe	5%	5%
UK and Ireland	11%	9%
Total	**100%**	**100%**

1 Excludes real estate forward commitments, since NN Group has no price risk related to them.

As shown in the 'Market risk capital requirements' table, the real estate risk SCR of NN Group increased from EUR 1,776 million in 2020 to EUR 2,124 million in 2021. This increase is mainly due to increase in property investment valuations and new investments.

Risk mitigation

Exposure to real estate provides for additional diversification for the asset portfolio. The concentration risk on individual assets is limited under the relevant investment mandates. Real estate portfolio is also well diversified across European countries and sectors.

Risk measurement

The sensitivity of the Solvency II ratio to changes in the value of real estate is monitored on a quarterly basis. This scenario estimates the impact of an instantaneous shock of -10% to the value of direct real estate exposures and real estate within mutual funds. The table below presents the Eligible Own Funds, SCR and Solvency II ratio sensitivity to a downward shock in the value of real estate at 31 December 2021 and 2020.

52 Risk management continued

Solvency II ratio sensitivities: real estate risk

	Own Funds impact		SCR impact		Solvency II ratio impact	
	2021	2020	2021	2020	2021	2020
Real estate Downward shock -10%	-921	-794	-58	-12	-8%	-8%

Foreign exchange risk

Foreign exchange (FX) risk measures the impact of losses related to changes in currency exchange rates.

Risk profile

FX transaction risk can occur on a local entity level, while FX translation risk can occur when non-Euro entities are consolidated at the level of NN Group and show a risk in regard to NN Group's reporting currency, the Euro.

The SCR for foreign exchange risk increased from EUR 668 million in 2020 to EUR 730 million in 2021. This is mainly due to higher exposures to non-Euro currencies.

Risk mitigation

The FX risk at the local entity level is mitigated by limiting investment to the non-local currency assets or by hedging through FX forwards and cross currency swaps.

Inflation risk

Inflation risk is defined as the risk of adverse changes in inflation that result into decrease in Solvency II Own Funds. Inflation risk is calculated for the Dutch entities applying the Partial Internal Model for the SCR calculation.

Risk profile

The SCR for inflation risk decreased to EUR 135 million from EUR 313 million at the end of 2020. Inflation risk is limited and hedged to a large extent with inflation-linked swaps or bonds, which are exposed to lower inflation rates. The impact of the increase in inflation in 2021 on the NN Group Solvency II Ratio was approximately -3%-points. The impact of this scenario reduced as a result of higher inflation rates in 2021. Note that the vast majority of NN's pension contracts do not include any guaranteed pay-out linked to inflation developments.

Risk mitigation

The inflation risk is managed through the use of inflation swaps and investments in inflation bonds.

Basis risk

The SCR Basis risk is defined as a risk that the underlying asset or liability behaves differently than the underlying hedge instrument, which results in the loss in the Solvency II balance sheet.

Risk profile

The SCR for basis Foreign exchange risk from EUR 101 million in 2020 to EUR 74 million in 2021, mostly due to model changes.

Risk mitigation

The Basis Risk is mitigated by fund mapping of the underlying funds to risk factors, and also by constant monitoring of the fund performance compared to the benchmark.

Concentration risk

For SF entities there is an additional SCR for Concentration Risk calculated under SF, which is defined as the risk of loss in the Basic Own Funds as a result of the default of an issuer in which NN Group has a concentrated investment position.

Risk profile

The SCR for Concentration Risk remained at nil in 2021.

Risk mitigation

This Concentration Risk is mitigated by concentration risk limits aiming to have a well-diversified portfolio with credit risk concentrations in any particular issuer within the NN Group risk appetite.

52 Risk management continued

Market risks within separate account businesses

The separate account businesses are those in which the policyholder bears the majority of the market and credit risk. NN Group's earnings from the separate account businesses are primarily driven by fee income. However, in the case of variable annuities and the guaranteed separate account pension business in the Netherlands, NN Group retains risk associated with the guarantees provided to its policyholders. Businesses in this separate account category are (i) the group pension business in the Netherlands for which guarantees are provided and (ii) other separate account business, primarily the unit-linked business and variable annuities (VA).

Separate account guaranteed group pension business in NN Life

Risk profile

In the Dutch separate account guaranteed group pension portfolio, investments are held in separate accounts on behalf of the sponsor employer who concluded their contract with a business unit of NN Group. Regardless of actual returns on these investments, pension benefits for the beneficiaries are guaranteed under the contract. The value of the provided guarantee is sensitive to interest rates, movements in the underlying funds and the volatility of those funds.

The Assets under Management for NN Life's portfolio decreased from EUR 3.2 billion 31 December 2020 to EUR 2.9 billion 31 December 2021 mainly driven by interest rate changes. In general, the materiality of the separate account business within NN Group has reduced in the past few years due to the runoff of the portfolio.

Risk mitigation

NN Group currently hedges the value of the guarantees it provided under group pension contracts in the Netherlands. For the purpose of hedging, the exposure under such guarantees is discounted at the swap curve without the extrapolation to the UFR. The hedge programme includes equity basket options, swaps and equity futures. Upon contract renewal, NN Group offers policyholders defined contribution products with investments in portfolios that NN Group can more easily hedge, thus reducing the risk to NN Group.

Other separate account businesses

Risk profile

The other separate account business primarily consists of unit-linked insurance policies and variable annuity (VA) portfolios. Unit-linked insurance policies provide policyholders with selected fund returns combined with an insurance cover. The investment risk is borne by the policyholder, although there are some unit-linked products where NN Group has provided guarantees on the performance of specific underlying funds. Unit-linked products without guarantees do not expose NN Group to market risk, except to the extent that the present value of future fees is affected by market movements of the underlying policyholder funds. The variable annuities in the Japan Closed Block VA and VA Europe business consist of guaranteed minimum accumulation benefit products, guaranteed minimum death benefit products and guaranteed minimum withdrawal benefit products.

Risk mitigation

The market risks of the unit-linked and other separate account business are managed by the design of the product. Currently, NN Group does not hedge the market risks related to the present value of future fee income derived from this business (with the exception of the Japan Closed Block VA). For the Japan Closed Block VA business and European VA business NN Group has hedging programmes in place targeting equity, interest rate, credit spread and FX risk as well as volatility risk.

Risk measurement

NN Group determines eligible own funds for the market and credit risks of the separate account business through modelling the risks of the fee income and the guarantees including the impact of the hedge programmes.

Counterparty default risk

Counterparty default risk is the risk of loss due to default or deterioration in the credit standing of the counterparties and debtors (including reinsurers) of NN Group. The SCR for counterparty default risk is primarily based on the issuer's probability of default (PD) and the loss-given-default (LGD) of each individual position taking into account diversification across these positions.

The counterparty default risk module also covers any credit risk exposures which are not covered in the spread risk sub-module.

Risk profile

As shown in the 'Solvency II Capital Requirements' table above, the Counterparty default risk SCR of NN Group decreased from EUR 315 million at the end of 2020 to EUR 200 million at the end of 2021, due to lower cash positions and lower mortgage portfolio due to indexation of properties. In the Partial Internal Model the mortgages do not get the capital charge under the Counterparty default risk and are under Credit Risk SCR sub module for these Business Units.

52 Risk management continued

Risk mitigation

NN Group uses different credit risk mitigation techniques. For OTC derivatives, the exchange of collateral under the International Swaps and Derivatives Associations contracts accompanied with Credit Support Annexes is an important example of risk mitigation. Other forms of credit risk mitigation include reinsurance collateral exchange. For cash and money market funds, limits per counterparty are put in place.

Risk measurement

The Counterparty default risk (CDR) module comprises two sub-modules:

- CDR Type I: applicable to exposures which might not be diversified and where the counterparty is likely to be (externally) rated, e.g., reinsurance contracts, derivatives and money market exposures. The underlying model is the Ter Berg model (which was also the basis for Standard Formula calibration under Solvency II)
- CDR Type II: applicable to exposures that are usually (well) diversified and where the counterparty is likely to be unrated, like retail loans, but also other forms of term lending not covered in Type I

The capital charges for CDR Type I and CDR Type II exposures are calculated separately and subsequently aggregated.

Liquidity risk

Liquidity risk is the risk that one of NN Group's entities does not have sufficient liquid assets to meet its financial obligations when they become due and payable, at reasonable cost and in a timely manner. Liquidity in this context is the availability of funds, or certainty that funds will be available without significant losses, to honour all commitments when due. NN Group manages liquidity risk via a liquidity risk framework: ensuring that – even after shock – NN Group's businesses can meet immediate obligations. Liquidity stress events can be caused by a market-wide event or an idiosyncratic NN Group specific event. These events can be short-term or long-term and can both occur on a local, regional or global scale.

Subsidiaries that trade derivatives are responsible for maintaining sufficient liquidity levels to meet their collateral requirements. For this purpose, liquidity buffers are set to ensure sufficient liquidity is available in an adverse scenario and to ensure the liquidity thresholds are being met.

Risk profile

Liquidity risk covers three areas of attention. Operational liquidity risk is the risk that funds are unavailable to meet financial obligations when due. Market liquidity risk, is the risk that an asset cannot be sold on short-term without significant losses. Funding risk is the risk related to not being able to refinance maturing debt instruments and may lead to higher funding costs. The connection between market and operational liquidity risk stems from the fact that when payments are due and not enough cash is available, investment positions need to be converted into cash; if market liquidity is low or an adverse market movement took place in this situation, this could lead to a loss.

Risk mitigation

NN Group aims to match day-to-day cash in- and outflows and at the same time wants to be able to have sufficient cash in case of a liquidity stress event.

NN Group Liquidity Management Principles defines three levels of Liquidity Management:

- Short-term liquidity (including operational liquidity) management covers the day-to-day cash requirements under normal business conditions
- Long-term liquidity management considers business conditions, in which market liquidity risk materialises
- Stress liquidity management looks at the company's ability to respond to a potential crisis situation

Risk measurement

NN Group Liquidity Risk Management Standard measures liquidity risk in a stress event through the gap between liquidity needs and liquidity sources compared to available liquid assets for sale. This is calculated for different time horizons and different levels of availability of liquidity sources.

52 Risk management continued

Non-market risk

Within the SCR Partial Internal Model a differentiation is made for the classification of non-market risks for different NN Group entities depending on the model applied.

For the Business Units applying Partial Internal Model, non-market risks are split between:
- **Insurance risk:** is the risk related to the events insured by NN Group and comprise actuarial and underwriting risks like Life risk (mortality, longevity), Morbidity risk and Property & Casualty risk which result from the pricing and acceptance of insurance contracts
- **Business risks:** are the risks related to the management and development of the insurance portfolio but exclude risks directly connected to insured events. Business risk includes policyholder behaviour risks, expense risk, persistency risk and premium re-rating risk. Business risks can occur because of internal, industry, regulatory/political or wider market factors. Policyholder behaviour risk is the risk that policyholders use options available in the insurance contracts in a way that is different from that expected by NN Group. Depending on the terms and conditions of the insurance policy, and the laws and regulations applicable to the policy, policyholders could have the option to surrender, change premiums, change investment fund selections, extend their contracts, take out policy loans, and make choices about how to continue their annuity and pension savings contracts after the accumulation phase, or even change contract details. Policyholder behaviour therefore affects the profitability of the insurance contracts. Changes in tax laws and regulations can affect policyholder behaviour, particularly when the tax treatment of their products affects the attractiveness of these products for customers

For the Business Units applying Standard Formula, non-market risks are split between:
- **Life risk:** the life portfolio is mainly attributed to the individual and group business in the international entities of NN Group (mainly Belgium, Spain Life, Poland) and ABN AMRO Life. This risk comprises the mortality, longevity, disability-morbidity, expense, lapse and life catastrophe risks
- **Health risk:** this covers the Similar to Life Techniques (SLT) Health portfolio risk, the Non-SLT (NSLT) Health portfolio risk and the Health Catastrophe risk. Within NN Group, the health risk stems from morbidity riders in Belgium, Czech, Poland, Slovakia, Romania, from the yearly renewable health insurance portfolio of Greece. This risk is split between the SLT Health risk (comprising mortality, longevity, disability-morbidity, expense and lapse risks), the NSLT Health risk (comprising premium and reserve risk and lapse risk) and the Health Catastrophe risk
- **Non-life risk:** this covers non-life portfolio mainly contributed by ABN AMRO Non-life and NN Insurance Services. This risk covers the premiums and reserve risk, non-life catastrophe risk and lapse risk

Risk profile

The table below presents the non-market risk SCR composition at the end of 2021 and at the end of 2020 respectively. The main changes in the risk profile are explained in the subsequent section of this document.

Non-market risk capital requirements

	2021	2020
Insurance risk (IM entities)	4,326	5,144
Business risk (IM entities)	1,536	1,712
Life risk (SF entities)	957	871
Health risk (SF entities)	236	582
Non-life risk (SF entities)	113	341
Diversification non-market risk	-1,265	-1,717
Non-market risk	**5,903**	**6,933**

The insurance risk decreased mainly driven by a refinement of the Longevity risk models, by a transfer of longevity risk of approximately EUR 4 billion of liabilities via reinsurance contract and due to higher interest rates. Health risk and Non-life risk decreased due to the transfer of VIVAT Non-life to IM entities. Life risk SCR for Standard Formula entities remained relatively stable. The fact that VIVAT Non-life is reported on Standard Formula method is captured via TCLI (as an outside the model adjustment) which was the main trigger of the decrease in Health risk and Non-life risk for SF entities. The changes to the standalone risk drivers, lead to lower diversification.

52 Risk management continued

Risk mitigation

Proper pricing, underwriting, claims management and diversification are the main risk mitigating actions for insurance risks.

By expanding insurance liabilities to cover multiple geographies, product benefits, lengths of contract and both life and non-life risk, NN Group reduces the likelihood that a single risk event will have a material impact on NN Group's financial condition.

Management of the insurance risks is done by ensuring that the terms and conditions of the insurance policies that NN Group underwrites are correctly aligned with the intended policyholder benefits to mitigate the risk that unintended benefits are covered. This is achieved through NN Group's underwriting standards, product design requirements, and product approval and review processes – as referred to under Risk Management Policies, Standards and Processes.

Insurance risks are diversified between Business Units. Risk not sufficiently mitigated by diversification is managed through concentration and exposure limits and through reinsurance: retention limits for non-life insurance risks are set by line of business for catastrophic events and individual risk.

Insurance Risk

Insurance risk is the risk that the future insurance claims and other contractual benefits cannot be covered by premiums, policy fees and/ or investment income or that insurance liabilities are not sufficient because claims and benefits might differ from the assumptions used in determining the best estimate liability. Insurance risk manifests itself in the life as well as in the non-life portfolio of NN Group.

Risk profile

The table below presents the Partial Internal Model insurance risk SCR for the Dutch NN insurance entities of NN Group (namely NN Life, NN Non-life and NN Re) as at 31 December 2021 and 31 December 2020 respectively.

Insurance risk capital requirements

	2021	2020
Mortality (including longevity) risk	4,149	5,049
Morbidity risk	818	623
Property & Casualty risk	669	521
Diversification insurance risk	-1,310	-1,049
Insurance risk (IM entities)	**4,326**	**5,144**

The SCR for insurance risk is mostly driven by longevity risk which is included in mortality risk, for the Netherlands pension business. The insurance risk decreased mainly driven by the redesign of the Longevity risk models and by new reinsurance contract.

Mortality risk occurs when claims are higher due to higher mortality experience (for instance in relation to term insurance). Longevity risk is the risk that insured persons live longer than expected due to mortality improvements like better living conditions, improved health care and medical breakthrough. While NN Group is exposed to both longevity and mortality risks, these risks do not fully offset one another as the impact of the longevity risks in the pension business in the Netherlands is significantly larger than the mortality risk in the other businesses, which is not only due to the size of the business. Changes in mortality tables impact the future expected benefits to be paid and the present value of these future impacts is reflected directly in measures like Own Funds.

Morbidity risk is borne primarily by the health insurance portfolio which pays out a fixed amount benefit, reimburses losses (e.g. in the case of loss of income), or pays for expenses of medical treatment related to certain illness or disability events. The main exposures to morbidity risks within NN Group are the disability insurance policies underwritten in Netherlands Non-life.

The Netherlands Non-life portfolio includes Property & Casualty (P&C) products covering risks such as fire damage, car accidents, personal and professional liability, windstorms, hail, and third-party liabilities. The P&C risk is primarily underwritten by Netherlands Non-life and catastrophic losses are partially reinsured to external reinsurers through NN Re.

52 Risk management continued

Risk mitigation

Insurance risk is mitigated through diversification between mortality and longevity risks within NN Group Business Units, appropriate pricing and underwriting policies and risk transfer via reinsurance, which are used to reduce the Own Funds volatility.

In addition to the existing index-based longevity hedge and longevity reinsurance transaction of 2020 that were already in place, in December 2021 NN Group reinsured the longevity risk related to approximately EUR 4 billion of pension liabilities externally. Concentration risk is mitigated through spreading the risk over multiple counterparties. CPD risk is further mitigated through collateral mechanisms in place for these transactions.

The risks that are not sufficiently mitigated by diversification are managed through concentration and exposure limits and through reinsurance:

- Retention limits for life insurance risks are set per insured life and significant mortality events affecting multiple lives such as pandemics
- Retention is used to manage risk levels (such as non-life reinsurance and risk morbidity reinsurance in the COLI business in Japan Life)
- Retention limits for non-life insurance risks are set by line of business for catastrophic events and individual risk

For NN Non-Life natural catastrophic events are a major risk. One of the main natural catastrophe threatening the Netherlands is storms causing severe wind damage. NN Non-Life purchased a reinsurance contract offering protection against severe storms and other natural perils. In addition, reinsurance contracts per risk group are in place, covering NN Non-Life against large one- off events such as fires.

Reinsurance creates credit risk which is managed in line with the Reinsurance Standard of NN Group.

Business risk

Business risk include risks related to the management and development of the insurance portfolio risk, policyholder behaviour risks, persistency risk and expense risks. These risks occur because of internal, industry, regulatory/political, or wider market factors.

Risk profile

The table below presents the Partial Internal Model business risk SCR for the Dutch NN insurance entities of NN Group as at 31 December 2021 and 31 December 2020 respectively.

Business risk capital requirements

	2021	2020
Persistency risk	408	357
Premium risk	12	13
Expense risk	1,387	1,598
Diversification business risk	-271	-256
Business risk (IM entities)	**1,536**	**1,712**

The main contributors to persistency risk are NN Non-Life and NN Czech business and the Corporate Owned Life Insurance (COLI) business in Japan Life (both reinsured by NN RE). Persistency risk increased due to the assumption changes.

The risk that policyholders maintain their contracts longer than NN Group has assumed is specific to the variable annuity business when guarantees are higher than the value of the underlying policyholder funds, the pension business in the Netherlands, and the older, higher interest rate guaranteed savings business in Europe. The risk that policyholders hold their contracts for a shorter period than NN Group has assumed relates to the life business in Japan and the unit-linked businesses in Central and Eastern Europe. Within NN Group NN Re reinsures parts of the life business in Japan and Central and Eastern Europe.

Expense risk decreased due to regular assumption updates throughout NN Group, which is partially offset by the increase in inflation rates. This risk relates primarily to the variable part of NN Group's expenses and is the risk that future actual expenses exceed the expenses assumed. Total administrative expenses for NN Group for 2021 were EUR 2,280 million compared with EUR 2,121 million in 2020. Parts of these expenses are variable, depending on the size of the business and sales volumes, and parts are fixed and cannot immediately be adjusted to reflect changes in the size of the business.

Expense risk of NN Group mainly comprises the expense level and expense inflation risks in NN Life. A significant portion of it is incurred in the closed block operations of Netherlands Life, where NN Group is exposed to the risk that the expenses will not decrease in line with the gradual decrease of the in-force book, leading to a per policy expense increase. Furthermore, expense risk is also driven by the Group pension business in the Netherlands which includes long-term best estimate expense assumptions, discounted over a long period of time.

52 Risk management continued

Risk mitigation

Policyholder behaviour risks, such as persistency and premium risk, are managed through the product development, product approval and review processes and by ensuring that appropriate advice is given to the customer, not only at the point of sale but also during the lifetime of the product. The policyholder behaviour experience of in-force policies is assessed at least annually.

As part of its strategy, NN Group has put several programmes in place to own and improve the customer experience. These programmes improve the match between customer needs and the benefits and options provided by NN Group's products. Over time, NN Group's understanding and anticipation of the choice policyholders are likely to make, will improve, thereby decreasing the risk of a mismatch between actual and assumed policyholder behaviour.

Ongoing initiatives are in place to manage expense risk throughout NN Group, especially in the Netherlands where company targets are in place to reduce expenses, thus, lowering expense risk going forward. These initiatives seek to reduce expenses through the number of underlying contracts in place. This is particularly relevant for the Dutch individual life closed-block business that can only reduce in number of contracts.

Besides the already described mitigating actions, proper pricing, underwriting, claims management, and diversification are also risk mitigating actions for business risk.

Life Risk

Life risk includes risks arising from the underwriting of life insurances of the Business Units applying Standard Formula and is split into mortality risk, longevity risk, disability/morbidity risk, persistency risk, expense risk, revision risk and catastrophic risk. These risks refer to the adverse deviation from the best estimate liabilities due to the perils covered, policyholder behaviour and the processes used in the conduct of business.

Risk profile

Life risk capital requirements

	2021	2020
Mortality risk	142	138
Longevity risk	103	116
Morbidity risk	11	10
Expense risk	435	384
Lapse risk	546	500
Catastrophe risk	113	102
Diversification life risk	-393	-379
Life risk (SF entities)	**957**	**871**

As shown in the table above, the life risk SCR Business Units increased from EUR 871 million in 2020 to EUR 957 million in 2021 mainly due to model and assumption changes performed by the Business Units.

Risk mitigation

The majority of life risk is comprised of lapse, expense and mortality risks (in Standard Formula entities) mainly from the international NN Group entities (Belgium, Poland, Spain) as well as ABN AMRO Life.

The NN Group Standard Formula entities manage the expense risk through detailed budgeting and monitoring the costs using activity-based costing.

Lapse risk management serves an important objective for NN Group entities. When deviations from assumed lapse rates are observed over a prolonged period of time, a product review and further management actions will be taken to address the underlying reasons.

Health Risk

Health risk arises from issuing health insurance contracts, which is divided in Similar to Life Techniques (SLT) risk, Non-Similar to Life Techniques (NSLT) risk and catastrophe risk. SLT risk is associated to health obligations pursued on a similar technical basis to that of life insurance, while NSLT risk applies to health obligations not pursued on a similar technical basis to that of life insurance. These risks refer to the adverse deviation from the best estimate liabilities due to the perils covered, policyholder behaviour and the processes used in the conduct of business.

52 Risk management continued

Risk profile

Health risk capital requirements

	2021	2020
SLT	220	545
NSLT	20	40
Catastrophe risk	19	48
Diversification health risk	-23	-51
Health risk (SF entities)	**236**	**582**

As shown in the table above, the health risk SCR of the Business Units applying Standard Formula decreased from EUR 582 million in 2020 to EUR 236 million in 2021. The decrease is mainly explained by the fact that VIVAT Non-life is reported on a Standard Formula via TCLI captured outside Health risk module.

Risk mitigation

The majority of Health risk originates from international NN Group entities (Belgium, Czech, Poland, Slovakia, Romania, Greece). They mitigate the risks by strict acceptance policies and stringent claims-handling procedures. An acceptance policy is developed for each product line maintained by those entities. Random checks are also carried out to check whether underwriters are following the rules and regulations.

Non-life Risk

Non-life risk involves risks arising from the underwriting of non-life insurance, which includes premium and reserve risk, persistency risk and catastrophic risk. These risks refer to the adverse deviation from the best estimate liabilities due to the perils covered, policyholder behaviour and the processes used in the conduct of business.

Risk profile

Non-life risk capital requirements

	2021	2020
Premium and reserve risk	99	302
Lapse risk	18	36
Catastrophe risk	33	96
Diversification non-life risk	-37	-93
Non-life risk (SF entities)	**113**	**341**

As shown in the table above, the non-life risk SCR of the Business Units applying Standard Formula decreased from EUR 341 million in 2020 to EUR 113 million in 2021. Just as for Health risk the decrease is mainly explained by the fact that VIVAT Non-life is reported on a Standard Formula via TCLI adjustment which is captured outside Non-life risk module.

Risk mitigation

Non-life risk is mitigated through appropriate pricing and underwriting policies and through risk transfer via reinsurance. Most of the non-life risk comes from ABN AMRO Non-life and NN Insurance Services, and they manage the risk using various reinsurance contracts.

Within our non-life business, weather-related risks are managed through the use of catastrophe risk modelling in underwriting and risk assessment. We use external vendor models to estimate the impact and damage caused by large natural catastrophes such as windstorms, considered to be the main natural peril for the NN Group portfolio. Reinsurance covers are placed with strongly capitalised external reinsurers.

Natural catastrophic losses can become more severe and more frequent because of climate change. Although most of our non-life business is annually renewable, to accurately price our business it is essential that we monitor and understand linkages between natural disasters and climate change. NN Group therefore liaises with our external vendors and participates in industry initiatives to improve our knowledge, data and models to better prepare for changing weather patterns.

52 Risk management continued

VIII. Non-financial risks

- **Business operations risk:** risks related to inadequate or failed processes, including information technology and communication systems
- **Business continuity & security risk:** risks of accidents or external events impacting continuation or security of (people or assets in) our business operations
- **Business conduct risk:** is the risks related to unethical or irresponsible corporate behaviour, inappropriate employee behaviour and suitability of products

Business operations and continuity & security risk

Risk profile

Business operations and continuity & security risks are non-financial risks that include direct or indirect losses resulting from inadequate or failed processes (including as a result of fraud and other misconduct), systems failure (including information technology and communications systems), human error, and certain external events.

The business operations risk management areas covered within NN Group are:

- **Operational control risk:** the risk of not (timely) detecting adverse deviations from strategy, policies, procedures, work instructions or authorised activities
- **Operational execution risk:** the risk of human errors during (transaction) processing
- **Financial accounting risk:** the risk of human errors during general ledger/risk systems processing and subsequent financial reporting
- **Information (technology) risk (including cyber-risk):** the risk of data (information) corruption, misuse or unavailability in IT systems, either through external causes (e.g. cybercrime) or internal causes
- **Operational change risk:** the risk that actual results of changes to the organisation (this includes changes in processes, products, IT, methods and techniques) differs adversely from the envisaged results
- **Outsourcing risk:** the risk that outsourced activities or functions perform adversely as compared to performing them in-company. This includes the risk of unclear mutual expectations as documented in the outsourcing agreement, risk of unreliable outsourcing partner (both (un)intentional), operational control, information security and continuity risk of the outsourcing partner
- **Legal risk:** the risk that agreements, claims, regulatory inquiries or disclosures potentially result in damage to NN Group's brand and reputation, legal or regulatory sanctions or liability resulting in financial loss
- **External fraud risk:** the risk of intended acts by a third party to defraud, misappropriate property or circumvent the law

The business continuity & security risk management areas covered within NN Group are:

- **Continuity risk:** the risk of primary business processes being discontinued for a period beyond the maximum outage time
- **Personal & physical security risk:** the risk of criminal acts or environmental threats that could endanger NN Group employees' safety, NN Group's assets (including physically stored data/information) or NN Group's offices

Risk mitigation

Mitigation of risks can be preventive in nature (e.g. training and education of employees, preventive controls, etc.) or can be implemented upon discovery of a risk (e.g. enforcement of controls, disciplinary measures against employees). Risk mitigating actions or controls are based on a balance between the expected cost of implementation and execution, and the expected benefits.

Business operations and continuity risks are mitigated through controls. For specific areas like financial reporting, outsourcing of activities, and business continuity, specific Policies and Standards apply. In the case of outsourcing, an appropriate outsourcing agreement is required between outsourcing parties and the performance under the outsourcing agreement is required to be monitored regularly.

NN Group conducts regular risk and control monitoring to measure and evaluate the effectiveness of key controls. It determines whether the risks are within the norms for risk appetite and in line with requirements from policies and standards. The exposure of NN Group to non-financial risks is regularly assessed through risk assessments and monitoring. After identification of the risks, each quantifiable risk is assessed as to its likelihood of occurrence as well its potential impact, should it occur. Actions required to mitigate the risks are identified and tracked until the risk is either reduced, if such a reduction is possible, or accepted as a residual risk if the risk cannot be mitigated.

The business process owners are responsible for the actual execution of the controls and for assessing the adequacy of their controls.

The Chief Information Officer (CIO) function ensures Business Continuity Management, Cyber risk management and Business Information Security.

52 Risk management continued

For IT risks, CIO has adopted the Standard of Good Practice of the Information Security Forum (ISF) as the basis to manage IT, cyber and cloud risks within NN Group. ISF forms the basis of our ISF Policy and Standard, and ensures a consistent view and treatment of our risks in this area. Cyber security is an integral part of our risk management strategy. Within Group IT, the Enterprise Security & Compliance (ESC) Function leads all efforts within NN Group to further enhance our activities with regard to information security. ESC collaborates with BU Security Officers (BSOs) to provide 24/7 protection against cyberthreats. Education and awareness-raising are part of our security strategy at all levels of the organisation.

Main regular activities undertaken to manage this risk are amongst others:
- Regular IT risk assessments are performed on critical business environments, applications and supporting systems/networks, and testing of security measures is performed on a regular basis. Identified risks are documented, classified and monitored in the Security Action Plans.
- User identification and access management are in place, based on defined authorisation matrices and enforcing segregation of duties (especially for administrative accounts). Password parameters are system-enforced for user accounts on the network and critical applications. Multi-factor authentication on business-critical applications is required as an additional measure for protecting against unauthorised access.
- Anti-malware and anti-virus tooling and file integrity checking are implemented and kept up-to-date.
- Effective security logging and monitoring is defined, and corrective actions are taken for identified vulnerabilities. A security incident process is in place, and incidents are registered, assessed and solved within a predefined timeframe.
- Networks are protected by intrusion detection and prevention systems. All hardware and software on the network are monitored so that only authorised devices and software is granted access. The security configuration of laptops, servers, and workstations is managed via a configuration management and change control process.
- Data is classified based on its relevance and confidentiality. Depending on the risk classification, data is secured and encrypted according to required security standards.
- A change management process exists and is required for relevant systems and infrastructure, including relevant steps to ensure security such as impact analyses, testing, fall back scenarios and post implementation review.

Information Risk Management, as part of the second line of defence, is responsible for providing management with an objective assessment of the effectiveness of NN Group's risks and controls.

Risk measurement

NN Group's SCR for operational risk decreased from EUR 758 million as at the end of 2020 to EUR 711 million at the end of 2021 respectively. The SCR is calculated based on the Standard Formula. As it is additive to the modelled SCR, it should be considered as net of diversification with other NN Group risks. Business conduct risk is considered to be a part of the Operational Risk SCR and is therefore not specifically calculated. Progress is also tracked through monitoring control effectiveness and timeliness as well as tracking progress of open issues.

Business conduct risk

Risk profile

Through NN Group's retirement services, insurance, investments and banking products, NN Group is committed to help our customers care for what matters most to them. To fulfil this purpose, we base our work on three core values: care, clear, commit. Our values set the standard for conduct and provide a compass for decision-making. Further, NN Group is committed to the preservation of its reputation and integrity through compliance with applicable laws, regulations and ethical standards in each of the markets in which it operates. All employees are expected to adhere to these laws, regulations and ethical standards and management is responsible for ensuring such compliance. Compliance is therefore an essential ingredient of good corporate governance. NN Group continuously enhances its business conduct risk management programme to ensure that NN Group complies with international standards and laws.

Risk mitigation

NN Group separates business conduct risk into three risk areas: sound business conduct, employee conduct and product suitability. In addition to effective reporting systems, NN Group has also a Whistleblower Policy and procedure which protects and encourages staff to speak up if they know of or suspect a breach of external regulations, internal policies or our values. NN Group also has policies and procedures regarding anti-money laundering, anti-terrorist financing, sanctions, anti-bribery and corruption, product suitability, conflicts of interest and confidential and inside information, as well as a Code of Conduct for its personnel. Furthermore, NN Group designates specific countries as 'ultra-high risk' and prohibits client engagements and transactions (including payments of facilitation) involving those countries.

52 Risk management continued

NN Group performs a product approval and review process for our products and continuously invests in the maintenance of risk management, legal and compliance procedures to monitor current sales practices. Customer protection regulations as well as changes in interpretation and perception of acceptable market practices by both the public at large and governmental authorities might influence customer expectations. The risk of potential reputational and financial impact from products and sales practices exists because of the (changing) market situation, customer expectations, and regulatory activity. The Compliance Function and the business work closely together with the aim to anticipate changing customers' needs.

53 Capital and liquidity management

Objectives, policies and processes

Objective

The goal of NN Group's capital and liquidity management is to adequately capitalise NN Group and its operating entities at all times to meet the interests of our stakeholders, including our customers and shareholders. The balance sheet is assessed in line with our capital management framework which is based on regulatory, economic and rating agency requirements. NN Group closely monitors and manages the following metrics: Own Funds/Solvency Capital Requirement (SCR), cash capital at the holding company, financial leverage, fixed cost coverage, capital generation and liquidity.

Governance

The NN Group Capital Management and Corporate Treasury Department reports to the NN Group CFO. Activities of the department are executed on the basis of established policies, guidelines and procedures.

Capital Management is responsible for the sufficient capitalisation of NN Group entities, which involves the management, planning and allocation of capital within NN Group. Corporate Treasury is responsible for the management and execution of debt capital market transactions, term (capital) funding, cash management and risk management transactions.

Capital management and framework

The capital framework takes into account regulatory, economic and rating agency requirements:

- As a first principle, NN Group aims to capitalise its operating entities adequately at all times. Operating entities have to comply with the local statutory capital frameworks that are under supervision of local regulators. To ensure adequate capitalisation, they are managed to commercial capital target levels which are set in accordance with the risk associated with the business activities, commercial requirements and other relevant factors. The commercial capital target levels are set in local legal entity capital policies and approved by the Management Board of NN Group. Capital adequacy is ensured through the capital planning process which starts with the annual budgeting process in which a capital plan is prepared for NN Group and its operating entities with a time horizon of 5 years. NN Group's risk appetite statements, as further described in Note 52 'Risk Management', drive the target setting and are cascaded down to the operating entities in line with NN Group's risk management strategy. Other important factors which are considered in the capital plan are efficient capital allocation, the cost of capital and capital generation. Capital positions of operating entities are closely monitored and, if necessary, measures are taken to ensure capital adequacy. At the end of 2021, all operating entities were capitalised above their local regulatory requirements.
- In addition, cash capital is held at the holding company. The cash capital position is available to cover capital needs of the entities after a stress event and to cover financial leverage costs and holding company expenses for a period of at least 12 months. Stress tests are based on 1-in-20 year scenarios and specific stress scenarios that might change from time to time. The free cash flow to the holding is the cash made available to NN Group, which can be distributed to shareholders (reference is made to Note 14 'Equity' for information on distributable reserves), used to reduce debt or for other corporate purposes. The free cash flow to the holding is closely monitored and forecasted on a regular basis.
- NN Group assesses its funding mix via the financial leverage and fixed-cost coverage ratio. Financial leverage measures the amount of debt that NN Group issued to capitalise its operations. Debt used for funding or liquidity needs for the operating companies is not considered financial leverage. The fixed-cost coverage ratio measures the ability of NN Group to pay its fixed financing expenses and is defined as the earnings before interest and tax (EBIT) divided by interest before tax on financial leverage. Special items, revaluations on derivatives that are non-eligible for hedge accounting, market and other impacts and amortisation of acquisition intangibles are excluded from EBIT.

Liquidity management

NN Group monitors and manages its liquidity risk based on certain severe stress scenarios, assessed by operating entities and aggregated at the group level. Liquidity positions are periodically reported and monitored both on an individual entity and on a consolidated basis.

Liquidity risk is measured through the Required Sales Ratio, calculated as: (i) the difference between liquidity needs and liquidity sources in certain stress scenarios, divided by (ii) the available liquid assets for sale, subject to a reduction applied to the value of assets. This ratio is calculated for different time horizons and different levels of liquidity sources. The ratios of the entities should meet the predefined tolerance levels on a standalone entity basis. At 31 December 2021, the liquidity position of all entities was adequate and within the risk tolerance (reference is made to Note 52 'Risk management' for more information on liquidity risk management).

53 Capital and liquidity management continued

For the Banking business, Dutch Central Bank (DNB) requires an annual internal evaluation of capital adequacy, liquidity position and the risk management framework, including stress testing. This internal evaluation is performed using an Internal Capital and Liquidity Adequacy Assessment Process (ICLAAP) and reviewed by DNB in its Supervisory Review & Evaluation Process (SREP). The ICLAAP and SREP show that NN Bank has a robust capital and liquidity position.

NN Group has a syndicated revolving credit facility in place with maximum size of EUR 1.75 billion which will mature in 2025. There was no amount drawn from the facility in 2021 and 2020.

Significant events of 2021 are listed below in chronological order

On 11 February 2021, NN Group announced that it has reached an agreement with KBC Group N.V. (KBC) to sell its Bulgarian operations for a total consideration of EUR 78 million to KBC's Bulgarian insurance business DZI. The transaction was closed in July 2021.

On 18 February 2021, NN Group announced an open market share buyback programme for an amount of EUR 250 million within 12 months, that commenced on 1 March 2021. This share buyback was executed by financial intermediaries under an open market share buyback programme which was completed on 28 February 2022.

On 16 June 2021, NN Group paid a 2020 final dividend of EUR 1.47 per ordinary share, equivalent to EUR 454 million in total. To neutralise the dilutive effect of the stock dividend on earnings per share, NN Group repurchased ordinary shares for a total amount of EUR 202 million. This share buyback was executed by financial intermediaries under an open market share buyback programme which was completed on 22 September 2021.

On 5 July 2021, NN Group announced to acquire MetLife's businesses in Poland and Greece for a consideration of EUR 584 million. This is in line with the strategy to consolidate NN Group's leading positions in attractive growth markets in which NN is already active. On 31 January 2022 the acquisition of MetLife Greece was completed. The acquisition of MetLife Poland is expected to be completed in 2022.

On 8 July 2021, NN Group announced that it has reached an agreement to acquire a 70% stake in insurance broker and service provider Heinenoord, for a total consideration of EUR 179 million. In addition, NN Group refinanced the outstanding debt granted to Heinenoord for an amount of EUR 129 million. Furthermore, the agreement includes an option structure to acquire the remaining 30% of shares within four years following the closing of the transaction. The transaction closed on 14 October 2021.

On 19 August 2021, NN Group announced that it has reached an agreement to sell its asset management activities executed by NN Investment Partners (NNIP) to Goldman Sachs for total cash proceeds of EUR 1.7 billion. Closing of the transaction is subject to customary conditions, including obtaining the necessary regulatory and competition clearances and consultation of the NN IP works council in the Netherlands, and is expected to take place in the first half of 2022.

On 8 September 2021, NN Group paid a 2021 interim dividend of EUR 0.93 per ordinary share, or approximately EUR 287 million in total. To neutralise the dilutive effect of the stock dividend on earnings per share, NN Group repurchased ordinary shares for a total amount of EUR 127 million. This share buyback was executed by financial intermediaries under an open market share buyback programme which was completed on 26 November 2021.

In November 2021, NN Group's subsidiary NN Insurance Belgium sold a closed book life portfolio to Athora Belgium. The closed book portfolio, comprising life insurance policies that are no longer being sold, reflect approximately EUR 3.3 billion of assets and liabilities. Closing of the transaction is expected by mid-2022.

On 16 November 2021, NN Group announced that it had priced EUR 600 million senior unsecured notes with a fixed coupon at 0.875% per annum and a maturity of 10 years. The notes are rated by Standard & Poor's (BBB+) and Fitch (A), and listed on Euronext Amsterdam. The notes are issued under the Debt Issuance Programme of NN Group N.V., for which the Base Prospectus is dated 10 June 2021, as supplemented on 12 November 2021. NN Group intends to use the proceeds of the notes to repay the existing EUR 600 million senior unsecured notes that matures on 18 March 2022.

At the end of December 2021, NN Group entered into a longevity reinsurance transaction to transfer the full longevity risk associated with approximately EUR 4 billion of pension liabilities. This will reduce NN Group's exposure to longevity risk, and consequently reduce the required capital and further strengthen NN Group's capital position. The transaction is expected to have limited financial impact on NN Group.

53 Capital and liquidity management continued

On 15 February 2022, NN Group, ABN AMRO Bank and their joint venture ABN AMRO Verzekeringen (AAV) announced that they have reached an agreement to sell the life insurance subsidiary of AAV to NN Life for a total amount of EUR 253 million. This transaction will be financed from existing cash resources of NN Life. AAV is a joint venture between NN Group (51%) and ABN AMRO Bank (49%). Following the transaction, AAV intends to distribute the proceeds from the transaction, after deduction of costs related to the transaction, to its shareholders NN Group and ABN AMRO Bank. The transaction is expected to have a limited negative impact on NN Group's Solvency II ratio on closing, which is expected to change into a limited positive impact following the envisaged legal merger of AAV's life insurance business and NN Life and the application of NN Group's Partial Internal Model. The transaction is subject to regulatory approvals and is expected to close in the second half of 2022.

Solvency II

Solvency II is the regulatory framework for (re-)insurance undertakings and groups domiciled in the EU.

Under the Solvency II regime, required capital (Solvency Capital Requirement) is risk-based and calculated as the post-tax value-at-risk at the confidence interval of 99.5% on a one-year horizon. Available capital (Own Funds) is determined as the excess of assets over liabilities, both based on economic valuations, plus qualifying subordinated debt. The EU Solvency II directive requires that (re-)insurance undertakings and groups hold sufficient Eligible Own Funds to cover the SCR.

NN Group is the holding company of licensed insurers, asset management and banking businesses. Regulated entities which from local regulatory perspective are not subject to the Solvency II regime (e.g. pension funds in Central Europe, NN Investment Partners, NN Bank, BeFrank and BeFrank PPI) are included in Own Funds based on their local available capital and in SCR based on required capital defined by sectoral supervisory rules. NN Life Japan is included in Own Funds and SCR based on its available and required capital determined according to the local solvency regime recognised by the European Commission as provisionally equivalent.

NN Group uses the Partial Internal Model (PIM) to calculate capital requirements under Solvency II. The group capital model is named as such due to the fact that an Internal Model is used to calculate the capital requirements for the Dutch insurance entities (namely NN Life, NN Non-life and NN Re in the Netherlands), while the Standard Formula is used to calculate capital requirements for operational risk (across the group), for the international insurance entities that fall under Solvency II, for ABN AMRO Life and ABN AMRO Non-life. NN Non-life is in the process of expanding the PIM to include the former VIVAT Non-life business.

Further details on the NN Group capital requirements at 31 December 2021 are provided in Note 52 'Risk Management'.

The Solvency II ratios of NN Group and its Dutch insurance entities do not include any contingent liability potentially arising from unit-linked products sold, issued or advised on by NN Group's insurance entities (including ABN AMRO Life) in the past, as this potential liability cannot be reliably estimated or quantified at this point. Reference is made to Note 45 'Legal proceedings' for more information.

On 17 December 2020, EIOPA published its opinion to the European Commission (the 'Opinion'). The Opinion, which consists of a proposed package of measures, was used as input for the European Commission to draft a legislative proposal. On 22 September 2021, the European Commission published its draft proposals on the Solvency II 2020 review. These proposals, which are partly based on the Opinion, but differ in important elements, will be discussed with the European Council and European Parliament in the coming years. The resulting legislation is currently expected to be implemented at the earliest in 2024. Based on the draft proposals by the European Commission and current market conditions, NN Group remains comfortable with its Solvency position and do not expect changes to its capital return policy caused by the issuance of the opinion.

In 2021, the Dutch Central Bank (DNB) issued further guidance related to the treatment of contract boundaries for individual disability contracts. NN Group intends to reflect the consequence of this guidance in the solvency calculations of Nationale-Nederlanden Schadeverzekering Maatschappij N.V. (NN Schade) in the first half of 2022, which is expected to have an impact of approximately -2%-points on the Solvency II Ratio of NN Group.

NN Group was adequately capitalised at 31 December 2021 with a Solvency II ratio of 213% based on the Partial Internal Model.

53 Capital and liquidity management continued

Eligible Own Funds and Solvency Capital Requirement

	2021	2020
Shareholders' equity	32,888	36,731
Minority interest	266	277
Elimination of deferred acquisition costs and other intangible assets	-2,149	-1,669
Valuation differences on assets	2,268	2,611
Valuation differences on liabilities, including insurance and investment contracts	-18,687	-25,582
Deferred tax effect on valuation differences	4,649	6,039
Difference in treatment of non-Solvency II regulated entities	-951	-1,082
Excess assets/liabilities	**18,284**	**17,325**
Qualifying subordinated debt	4,383	4,498
Foreseeable dividends and distributions	-646	-595
Basic Own Funds	**22,021**	**21,228**
Non-available Own Funds	1,094	1,200
Eligible Own Funds to cover Solvency Capital Requirements (a)	**20,927**	**20,028**
– of which Tier 1 unrestricted	13,377	12,484
– of which Tier 1 restricted	1,875	1,927
– of which Tier 2	2,422	2,484
– of which Tier 3	848	733
– of which non-Solvency II regulated entities	2,404	2,400
Solvency Capital Requirements (b)	**9,840**	**9,534**
– of which from Solvency II entities	8,506	8,166
– of which from non-Solvency II entities	1,334	1,368
NN Group Solvency II ratio (a/b)[1]	213%	210%

1 The Solvency ratios are not final until filed with the regulators.

The final amount of the Solvency Capital Requirement is still subject to supervisory assessment.

The Solvency II ratio of NN Group increased to 213% at the end of 2021 from 210% at the end of 2020. The increase mainly reflects operating capital generation and favourable market impacts. This was partly offset by other movements including the impact of model and assumption changes (reference is made to Note 52 'Risk management' for more information about model changes) and asset portfolio changes, capital flows to shareholders as well as the impact of UFR reduction from 3.75% to 3.60%. Market impacts mainly reflect the positive impact of credit spreads tightening and real estate revaluations.

Eligible Own Funds increased to EUR 20,927 million from EUR 20,028 million at 31 December 2020 mainly driven by the above mentioned favourable market impacts and operating capital generation, partly offset by capital flows to shareholders.

The SCR of NN Group increased to EUR 9,840 million from EUR 9,534 million at 31 December 2020 mainly as a result of model and assumption changes, as well as the impact of changes in the asset portfolio.

53 Capital and liquidity management continued

Structure, amount and quality of Own Funds

Subordinated liabilities included in NN Group Own Funds

Interest rate	Issue	Year of issue	Notional	Due date	First call date	Own Funds tier	Solvency II value 2021	Solvency II value 2020
4.500%	NN Group N.V.	2014	1,000	Perpetual	15 January 2026	Tier 1	1,078	1,111
4.375%	NN Group N.V.[1]	2014	750	Perpetual	13 June 2024	Tier 1	797	816
4.625%	NN Group N.V.	2014	1,000	8 April 2044	8 April 2024	Tier 2	1,075	1,100
4.625%	NN Group N.V.	2017	850	13 January 2048	13 January 2028	Tier 2	912	940
9.000%	Nationale-Nederlanden Levensverzekering N.V.[2]	2012	500	29 August 2042	29 August 2022	Tier 2	521	530

1 These securities were originally issued by Delta Lloyd N.V. which was merged into NN Group N.V. at the end of 2017.
2 These securities were originally issued by Delta Lloyd Levensverzekering N.V. which was merged into Nationale-Nederlanden Levensverzekering Maatschappij N.V. (NN Life) on 1 January 2019.

The perpetual subordinated notes issued in 2014 with a notional amount of EUR 1 billion have a coupon of 4.50% and are fully paid in. NN Group N.V. has the right to redeem these notes on the first call date on 15 January 2026 or on any interest payment date thereafter. The subordinated notes are classified as Restricted Tier 1 capital based on the transitional provisions (grandfathering). These subordinated notes are grandfathered for a maximum period of 10 years until 1 January 2026.

The perpetual subordinated notes (originally issued by Delta Lloyd N.V. in 2014) with a notional amount of EUR 750 million have a coupon of 4.375% are fully paid in. NN Group N.V. has the right to redeem these notes on the first call date on 13 June 2024 or on any interest payment date thereafter. The subordinated notes are classified as Restricted Tier 1 capital based on the transitional provisions (grandfathering). These notes are grandfathered for a maximum period of 10 years until 1 January 2026.

The dated subordinated notes issued in 2014 with a notional amount of EUR 1 billion have a coupon of 4.625% and maturity date on 8 April 2044 and are fully paid in. NN Group N.V. has the right to redeem these notes on the first call date on 8 April 2024 or on any interest payment date thereafter. These subordinated notes are classified as Tier 2 capital based on the transitional provisions (grandfathering). The subordinated notes are grandfathered for a maximum period of 10 years until 1 January 2026.

The dated subordinated notes issued in 2017 with a notional amount of EUR 850 million have a coupon of 4.625% with maturity date on 13 January 2048 and are fully paid in. NN Group N.V. has the right to redeem these notes on the first call date on 13 January 2028 or on any interest payment date thereafter. These subordinated notes are classified as Tier 2 capital.

The dated subordinated notes, originally issued by Delta Lloyd Levensverzekering N.V. in 2012 and assumed by Nationale-Nederlanden Levensverzekering N.V. following the legal merger effective as of 1 January 2019, with a notional amount of EUR 500 million have a coupon of 9% and maturity date on 29 August 2042 and are fully paid in. Nationale-Nederlanden Levensverzekering N.V. has the right to redeem these notes on the first call date on 29 August 2022 or on any interest payment date thereafter. The subordinated notes are classified as Tier 2 capital based on the transitional provisions (grandfathering). These notes are grandfathered for a maximum period of 10 years until 1 January 2026.

Eligible Own Funds

NN Group Own Funds are classified into three tiers as follows:

- The excess of assets over liabilities on the basis of consolidated accounts excluding net Deferred Tax Asset is classified as (unrestricted) Tier 1
- The proportional share in the Own Funds of NN Investment Partners, BeFrank, BeFrank PPI and pension funds in Central Europe is classified as (unrestricted) Tier 1
- The proportional share in the Eligible Own Funds of NN Life Japan is classified as (unrestricted) Tier 1 (European Commission recognised the solvency regime applied to the insurance undertakings in Japan as provisionally equivalent to Solvency II according to Commission Delegated Decision (EU) 2016/310 of 26 November 2015)
- The proportional share in the Own Funds of NN Bank is classified as (unrestricted) Tier 1 with the exception of the subordinated loans which are classified as Tier 2
- Perpetual subordinated notes are classified as (restricted) Tier 1 based on the transitional provisions (grandfathering)
- Dated subordinated debt is classified as Tier 2 including that based on the transitional provisions (grandfathering)
- The Net Deferred Tax Asset (Deferred tax assets and liabilities are offset only where such assets and liabilities relate to taxes levied by the same tax authority on the same taxable undertaking) is classified as Tier 3

As at 31 December 2021 and 2020, NN Group had no ancillary Own Funds.

53 Capital and liquidity management continued

There are a number of regulatory restrictions on the amounts classified as Restricted Tier 1, Tier 2 and Tier 3 capital. The following restrictions have to be taken into account:

- Restricted Tier 1 capital cannot exceed 20% of the total Tier 1 amount
- The proportion of Tier 1 items in the Eligible Own Funds should be higher than one third of the total amount of Eligible Own Funds
- Tier 2 and Tier 3 capital together cannot exceed 50% of the SCR
- Tier 3 capital cannot exceed 15% of the Solvency Capital Requirements
- Tier 3 capital cannot exceed one third of the total amount of Eligible Own Funds

The application of the regulatory restrictions as at 31 December 2021 is reflected in the table below.

Eligible Own Funds to cover the Solvency Capital Requirement

	Available Own Funds 2021	Eligibility Own Funds 2021	Available Own Funds 2020	Eligibility Own Funds 2020	Eligibility restriction
Tier 1	15,252	15,252	14,411	14,411	More than one third of total EOF
Of which:					
– Unrestricted Tier 1	13,377	13,377	12,484	12,484	Not applicable
– Restricted Tier 1	1,875	1,875	1,927	1,927	Less than 20% of Tier 1
Tier 2 + Tier 3	3,270	3,270	3,217	3,217	Less than 50% of SCR
Tier 2	2,422	2,422	2,484	2,484	
Tier 3	848	848	733	733	Less than 15% of SCR; Less than one third of total EOF
Non-Solvency II regulated entities	2,404	2,404	2,400	2,400	
Total Own Funds	**20,927**	**20,927**	**20,028**	**20,028**	

Transferability and fungibility of Own Funds

NN Group adjusts the group Own Funds taking into account the value of own fund items that cannot effectively be made available to cover the group SCR. These are the own fund items of related undertakings subject to legal and regulatory constraints that restrict the ability of those items to absorb all types of loss within the group and/or transferability of assets. Based on NN Group's assessment these own fund items mainly include:

- Differences between valuations of assets and liabilities based on Solvency II principles and according to principles that related undertakings use to prepare respective local annual accounts
- For NN Life Japan, own fund items according to local rules but which are not part of shareholders' equity
- For NN Bank, own funds covering pillar II guidance issued by regulator
- The transitional measures on risk-free interest rates and technical provisions
- Legal reserves set up according to local company law
- Any minority interest in a related undertaking

These own fund items are included in NN Group Own Funds to the extent they are eligible for covering contribution of the respective related undertaking to NN Group's SCR. On 31 December 2021 excess non-available own funds amounted to EUR 1,094 million. On 31 December 2020, this amount was EUR 1,200 million.

Cash capital position at the holding company

NN Group holds a cash capital position in the holding company to cover stress events and to fund holding company expenses and interest expenses. Cash capital is defined as net current assets available at the holding company. It is NN Group's aim for the cash capital position at the holding company to be in a target range between EUR 0.5 billion and EUR 1.5 billion. Another related metric is the free cash flow at the holding which is defined as the change in the cash capital position at the holding company over the period, excluding acquisitions, divestments and capital transactions with shareholders and debtholders.

53 Capital and liquidity management continued

Cash capital position at the holding company

	2021	2020
Cash capital position – opening balance	1,170	1,989
Remittances from subsidiaries[1]	1,835	1,310
Capital injections into subsidiaries[2]	-19	-56
Other[3]	-344	-183
Free cash flow to the holding[4]	**1,472**	**1,070**
Cash divestment proceeds	76	
Acquisitions	-358	-572
Capital flow from/to shareholders	-960	-1,017
Increase/decrease in debt and loans	597	-300
Cash capital position – closing balance	**1,998**	**1,170**

1 Includes interest on intragroup subordinated loans provided to subsidiaries by the holding company.
2 Includes the change of subordinated loans provided to subsidiaries by the holding company.
3 Includes interest on subordinated loans and debt with external debtholders, holding company expenses and other cash flows.
4 Free cash flow to the holding company is defined as the change in cash capital position of the holding company over the period, excluding acquisitions, divestments and capital transactions with shareholders and debtholders.

The cash capital position at the holding company increased to EUR 1,998 million at 31 December 2021 from EUR 1,170 million at 31 December 2020. The increase is mainly due to EUR 1,835 million remittances from subsidiaries and a temporary increase from the proceeds of the issuance of senior debt which is intended to be used for the repayment of an existing EUR 600 million senior note that matures on 18 March 2022. This is partly offset by EUR 960 million of capital flows to shareholders, EUR 358 million paid for acquisitions mainly reflecting the acquisition of Dutch insurance broker and service provider Heinenoord and other movements of EUR 344 million that include holding company expenses, interest on loans and debt and other holding company cash flows. Capital flows to shareholders represents the cash part of the 2020 final dividend and the 2021 interim dividend for a total amount of EUR 412 million and the repurchase of EUR 548 million of own shares. Cash divestment proceeds of EUR 76 million reflect the sale of the Bulgarian business.

Financial leverage

The financial leverage and fixed-cost coverage ratio are managed in accordance with a single A financial strength rating target.

Financial leverage

	2021	2020
Shareholders' equity	32,888	36,731
Adjustment for revaluation reserves[1]	-11,730	-17,790
Minority interests	266	277
Capital base for financial leverage (a)	**21,424**	**19,219**
– Undated subordinated notes[2]	1,764	1,764
– Subordinated debt	2,356	2,383
Total subordinated debt	**4,120**	**4,146**
Debt securities issued	2,292	1,694
Financial leverage (b)	**6,412**	**5,840**
Total debt	**6,412**	**5,840**
Financial leverage ratio (b/(a+b))	23.0%	23.3%
Fixed-cost coverage ratio[3]	19.9x	11.9x

1 Includes revaluations on debt securities, on the cash flow hedge reserve and on the reserves crediting to life policyholders
2 The undated subordinated notes classified as equity are considered financial leverage in the calculation of the financial leverage ratio. The related interest is included on an accrual basis in the calculation of the fixed-cost coverage ratio.
3 Measures the ability of earnings before interest and tax (EBIT) to cover funding costs on financial leverage. Special items, revaluations on derivatives that are non-eligible for hedge accounting, market and other impacts and amortisation of acquisition intangibles are excluded from EBIT

53 Capital and liquidity management continued

The financial leverage ratio of NN Group decreased to 23.0% at 31 December 2021 from 23.3% at 31 December 2020, reflecting the increase of the capital base partly offset by a temporary increase of the financial leverage as a result of the issuance of EUR 600 million of senior debt. The capital base for financial leverage increased by EUR 2,205 million mainly driven by the 2021 net results of EUR 3,278 million partly offset by capital flows to shareholders of EUR 960 million.

The fixed-cost coverage ratio increased to 19.9x at the end of 2021 from 11.9x at the end of 2020, mainly driven by higher capital gains on the sale of public equities and government bonds and higher positive real estate revaluations that increased EBIT.

Proposed 2021 final dividend

At the annual general meeting on 19 May 2022, a final dividend will be proposed of EUR 1.56 per ordinary share, or approximately EUR 476 million in total based on the current number of outstanding shares (net of treasury shares). The final dividend will be paid either fully in cash, after deduction of withholding tax if applicable, or fully in ordinary shares, at the election of the shareholders. Dividends paid in the form of ordinary shares will be delivered from NN Group treasury shares or issued from the share premium reserve. To neutralise the dilutive effect of the stock dividend, NN Group will repurchase ordinary shares for an amount equivalent to the stock dividend. If the proposed dividend is approved by the General Meeting, NN Group ordinary shares will be quoted ex-dividend on 23 May 2022. The record date for the dividend will be 24 May 2022. The election period will run from 25 May up to and including 8 June 2022. The stock fraction for the stock dividend will be based on the volume weighted average price of NN Group ordinary shares on Euronext Amsterdam for the five trading days from 2 June through 8 June 2022. The dividend will be payable on 15 June 2022. (For more information: https://www.nn-group.com/investors/shareinformation/dividend-policy-and-dividend-history.htm)

On 16 June 2021, NN Group paid a 2020 final dividend of EUR 1.47 per ordinary share.

On 8 September 2021, NN Group paid an interim dividend of EUR 0.93 per ordinary share. The proposed 2021 final dividend of EUR 1.56 per ordinary share plus the 2021 interim dividend of EUR 0.93 per ordinary share gives a total dividend for 2021 of EUR 2.49 per ordinary share.

Share buyback

On 17 February 2022, NN Group announced that it will execute an open market share buyback programme for an amount of EUR 250 million. The programme will be executed within 12 months and commenced on 1 March 2022. NN Group also announced that it will execute an additional open market share buyback programme for an amount of EUR 750 million after completion of the sale of NN IP. This intended additional share buyback programme is expected to be completed before 1 March 2023. Both share buybacks will be deducted in full from Solvency II Own Funds in the first half of 2022 and are estimated to reduce NN Group's Solvency II ratio by approximately 10%-points. In addition, NN Group intends to repurchase shares to neutralise the dilutive effect of any stock dividends. NN Group intends to cancel any repurchased NN Group shares under the programmes unless used to cover obligations under share-based remuneration arrangements or to deliver stock dividend.

The share buyback programmes will be executed within the limitations of the existing authority granted by the General Meeting on 20 May 2021 and such authority to be granted by the General Meeting on 19 May 2022. The shares will be repurchased at a price that does not exceed the last independent trade or the highest current independent bid on the relevant trading platform. The programmes will be executed by financial intermediaries and will be performed in compliance with the safe harbour provisions for share buybacks.

On 18 February 2021, NN Group announced an open market share buyback programme for an amount of EUR 250 million over a period of 12 months, commencing on 1 March 2021. This share buyback programme was completed on 28 February 2022.

Following payment of the 2020 final dividend, NN Group announced that it would repurchase ordinary shares for a total amount of EUR 202 million, equivalent to the value of the stock dividends, to neutralise the dilutive effect. This share buyback programme was completed on 22 September 2021.

Following the payment of the 2021 interim dividend, NN Group announced that it would repurchase ordinary shares for a total amount of EUR 127 million, equivalent to the value of the stock dividends, to neutralise the dilutive effect. This share buyback programme was completed on 26 November 2021.

NN Group reports on the progress of the share buyback programmes on its corporate website (https://www.nn-group.com/investors/share-information/share-buyback-programme.htm) on a weekly basis.

53 Capital and liquidity management continued

Share capital

In 2021, a total number of 12,828,981 ordinary shares for a total amount of EUR 548 million were repurchased.

The Executive Board of NN Group has decided to cancel 7,878,210 treasury shares representing shares that NN Group repurchased as part of the share buyback programmes. This cancellation is subject to a two-month creditor opposition period which will ended on 3 May 2022. If no opposition is made the cancellation of shares will take effect on 4 May 2022.

On 4 March 2022, the total number of NN Group shares outstanding (net 13,286,783 of treasury shares) was 304,591,427.

Credit ratings

On 9 December 2021, Standard & Poor's published a report affirming NN Group's 'A' financial strength rating and 'BBB+' credit rating with a stable outlook.

On 5 November 2021, Fitch Ratings published a report affirming NN Group's 'AA-' financial strength rating and 'A+' credit rating with a stable outlook.

Credit ratings on NN Group N.V. on 9 March 2022

	Financial Strength Rating	NN Group N.V. Counterparty Credit Rating
Standard & Poor's	A	BBB+
	Stable	Stable
Fitch	AA-	A+
	Stable	Stable

Authorisation of the Consolidated annual accounts

The Consolidated annual accounts of NN Group N.V. for the year ended 31 December 2021 were authorised for issue in accordance with a resolution of the Executive Board on 9 March 2022. The Executive Board may decide to amend the Consolidated annual accounts as long as these are not adopted by the General Meeting.

The General Meeting may decide not to adopt the Consolidated annual accounts, but may not amend these during the meeting. The General Meeting can decide not to adopt the Consolidated annual accounts, propose amendments and then adopt the Consolidated annual accounts after a normal due process.

The Hague, 9 March 2022

The Supervisory Board

D.A. (David) Cole, chair
H.M. (Hélène) Vletter-van Dort, vice-chair
I.K. (Inga) Beale
H.J.G. (Heijo) Hauser
R.W. (Robert) Jenkins
R.J.W. (Rob) Lelieveld
C. (Cecilia) Reyes
J.W. (Hans) Schoen
C.C.F.T. (Clara) Streit

The Executive Board

D.E. (David) Knibbe, CEO, chair
D. (Delfin) Rueda, CFO, vice-chair

Parent company balance sheet

Parent company balance sheet

As at 31 December before appropriation of result	notes	2021	2020
Assets			
Investments in group companies	2	34,507	38,535
Available-for-sale investments	3	3,918	4,509
Intangible assets	4	264	455
Other assets	5	5,822	6,036
Total assets		**44,511**	**49,535**
Equity			
Share capital		38	39
Share premium		12,575	12,574
Share of associates reserve		16,651	21,853
Retained earnings		346	361
Unappropriated result		3,278	1,904
Shareholders' equity		**32,888**	**36,731**
Undated subordinated notes		1,764	1,764
Total equity	6	**34,652**	**38,495**
Liabilities			
Subordinated debt	7	1,836	1,834
Other liabilities	8	8,023	9,206
Total liabilities		**9,859**	**11,040**
Total equity and liabilities		**44,511**	**49,535**

References relate to the notes starting with Note 1 'Accounting policies for the Parent company annual accounts'. These form an integral part of the Parent company annual accounts.

Parent company profit and loss account

Parent company profit and loss account

For the year ended 31 December	2021	2020
Result group companies	3,494	2,022
Other income	63	65
Total income	**3,557**	**2,087**
Amortisation of intangible assets and other impairments	21	24
Interest expenses	122	121
Operating expenses	166	146
Total expenses	**309**	**291**
Result before tax	**3,248**	**1,796**
Taxation	-30	-108
Net result	**3,278**	**1,904**

Parent company statement of changes in equity

Parent company statement of changes in equity (2021)

	Share capital	Share premium	Share of associates reserve	Other reserves1	Shareholders' equity	Undated subordinated notes	Total equity
Balance at 1 January 2021	**39**	**12,574**	**21,853**	**2,265**	**36,731**	**1,764**	**38,495**
Unrealised revaluations available-for-sale investments and other			-2,899	-202	-3,101		-3,101
Realised gains/losses transferred to the profit and loss account			-1,431		-1,431		-1,431
Changes in cash flow hedge reserve			-3,383		-3,383		-3,383
Deferred interest credited to policyholders			1,861		1,861		1,861
Share of other comprehensive income of associates and joint ventures			-2		-2		-2
Exchange rate differences			-66		-66		-66
Remeasurement of the net defined benefit asset/liability			19		19		19
Total amount recognised directly in equity (Other comprehensive income)	**-**	**-**	**-5,901**	**-202**	**-6,103**	**-**	**-6,103**
Net result for the period				3,278	3,278		3,278
Total comprehensive income	**-**	**-**	**-5,901**	**3,076**	**-2,825**	**-**	**-2,825**
Changes in share capital	-1	1			-		-
Transfers to/from associates			699	-699	-		-
Dividend				-412	-412		-412
Purchase/sale of treasury shares				-545	-545		-545
Employee stock option and share plans				-2	-2		-2
Coupon on undated subordinated notes				-59	-59		-59
Balance at 31 December 2021	**38**	**12,575**	**16,651**	**3,624**	**32,888**	**1,764**	**34,652**

1 Other reserves include Retained earnings and Unappropriated result.

Parent company statement of changes in equity (2020)

	Share capital	Share premium	Share of associates reserve	Other reserves1	Shareholders' equity	Undated subordinated notes	Total equity
Balance at 1 January 2020	**41**	**12,572**	**16,597**	**1,558**	**30,768**	**1,764**	**32,532**
Unrealised revaluations available-for-sale investments and other			3,119	-10	3,109		3,109
Realised gains/losses transferred to the profit and loss account			-574		-574		-574
Changes in cash flow hedge reserve			3,422		3,422		3,422
Deferred interest credited to policyholders			-750		-750		-750
Share of other comprehensive income of associates and joint ventures			5		5		5
Exchange rate differences			-110		-110		-110
Remeasurement of the net defined benefit asset/liability			6		6		6
Unrealised revaluations property in own use			-3		-3		-3
Total amount recognised directly in equity (Other comprehensive income)	**-**	**-**	**5,115**	**-10**	**5,105**	**-**	**5,105**
Net result for the period				1,904	1,904		1,904
Total comprehensive income	**-**	**-**	**5,115**	**1,894**	**7,009**	**-**	**7,009**
Changes in share capital	-2	2			-		-
Transfers to/from associates			141	-141	-		-
Dividend				-394	-394		-394
Purchase/sale of treasury shares				-622	-622		-622
Employee stock option and share plans				1	1		1
Coupon on undated subordinated notes				-59	-59		-59
Changes in the composition of the group and other changes				28	28		28
Balance at 31 December 2020	**39**	**12,574**	**21,853**	**2,265**	**36,731**	**1,764**	**38,495**

1 Other reserves include Retained earnings and Unappropriated result.

Notes to the Parent company annual accounts

1 Accounting policies for the Parent company annual accounts

The parent company annual accounts of NN Group N.V. are prepared in accordance with the financial reporting requirements included in Part 9 of Book 2 of the Dutch Civil Code. The accounting policies applicable to presentation and disclosures are in accordance with the financial reporting requirements included in Part 9 of Book 2 of the Dutch Civil Code. The principles of valuation and determination of results stated in connection with the Consolidated balance sheet and profit and loss account are also applicable to the parent company balance sheet and profit and loss account with the exception of investments in group companies and Associates and joint ventures which are recognised at net asset value with goodwill, if any, recorded under intangible assets.

A list containing the information referred to in Article 379 (1), Book 2 of the Dutch Civil Code has been filed with the Commercial Register of the Chamber of Commerce in Amsterdam in accordance with Article 379 (5), Book 2 of the Dutch Civil Code.

Changes in balance sheet values due to changes in the revaluation reserves of associates are reflected in the 'Share of associates reserve', which forms part of shareholders' equity. Changes in balance sheet values due to the results of these associates, accounted for in accordance with NN Group accounting policies, are included in the profit and loss account. Other changes in the balance sheet value of these associates, other than those due to changes in share capital, are included in the 'Share of associates reserve'.

A legal reserve is carried at an amount equal to the share in the results of associates since their first inclusion at net asset value less the amount of profit distributions to which rights have accrued in the interim. Profit distributions which can be repatriated to the Netherlands without restriction are likewise deducted from the 'Share of associates reserve'.

2 Investments in group companies

Investments in group companies

Name	Statutory seat	Interest held 2021	Balance sheet value 2021	Interest held 2020	Balance sheet value 2020
NN Insurance Eurasia N.V.	Amsterdam, the Netherlands	100%	33,387	100%	37,332
Delta Lloyd Houdstermaatschappij Verzekeringen N.V.	Amsterdam, the Netherlands	100%	1	100%	1
Nationale-Nederlanden Bank N.V.	The Hague, the Netherlands	100%	847	100%	910
Nationale-Nederlanden ABN AMRO Verzekeringen Holding B.V.	Zwolle, the Netherlands	51%	255	51%	270
NN Insurance International B.V.	The Hague, the Netherlands	100%	17	100%	22
Investments in group companies			**34,507**		**38,535**

Changes in Investments in group companies

	2021	2020
Investments in group companies – opening balance	38,535	32,234
Revaluations	-6,100	5,136
Result of group companies	3,494	2,022
Capital contributions	338	422
Dividend and repayments	-1,760	-1,265
Changes in the composition of the group and other changes		-14
Investments in group companies – closing balance	**34,507**	**38,535**

3 Debt securities Available-for-sale

Changes in Debt securities Available-for-sale

	2021	2020
Debt securities Available-for-sale – opening balance	4,509	6,238
Additions	14,301	10,942
Disposals and redemptions	-14,892	-12,671
Debt securities Available-for-sale – closing balance	**3,918**	**4,509**

4 Intangible assets

Intangible assets

	2021	2020
Goodwill	148	294
Other intangible assets	116	161
Intangible assets	**264**	**455**

For the decrease of Goodwill and the accompanying change in the line 'Amortisation of intangible assets and other impairments' in the Parent company profit and loss account, reference is made to Note 10 'Intangible assets' of the Consolidated annual accounts.

5 Other assets

Other assets

	2021	2020
Receivables from group companies	2,450	2,838
Cash	2,640	2,302
Other receivables	562	896
Assets held for sale	170	
Other assets	**5,822**	**6,036**

As at 31 December 2021, an amount of EUR 1,394 million (2020: EUR 1,462 million) is expected to be settled after more than one year from the balance sheet date.

6 Equity

Total equity

	2021	2020
Share capital	38	39
Share premium	12,575	12,574
Share of associates reserve	16,651	21,853
Retained earnings and unappropriated result	3,624	2,265
Shareholders' equity	**32,888**	**36,731**
Undated subordinated notes	1,764	1,764
Total equity	**34,652**	**38,495**

As at 31 December 2021, share premium includes an amount of EUR 6,390 million (2020: EUR 6,390 million) exempt from Dutch withholding tax.

Share capital

	Ordinary shares (in number)		Ordinary shares (amounts in millions of euros)	
	2021	2020	2021	2020
Authorised share capital	700,000,000	700,000,000	84	84
Unissued share capital	382,121,790	369,721,790	46	45
Issued share capital	**317,878,210**	**330,278,210**	**38**	**39**

For details on share capital and share premium, reference is made to Note 14 'Equity' in the Consolidated annual accounts.

6 Equity continued

Changes in Retained earnings and unappropriated result (2021)

2021	Retained earnings	Unappropriated result	Total
Retained earnings and unappropriated result – opening balance	361	1,904	2,265
Net result for the period		3,278	3,278
Unrealised revaluations	-202		-202
Transfer to/from share of associates reserve	-699		-699
Transfer to/from retained earnings	1,904	-1,904	-
Dividend	-412		-412
Purchase/sale of treasury shares	-545		-545
Employee stock option and share plans	-2		-2
Coupon on undated subordinated notes	-59		-59
Retained earnings and unappropriated result – closing balance	**346**	**3,278**	**3,624**

Changes in Retained earnings and unappropriated result (2020)

2020	Retained earnings	Unappropriated result	Total
Retained earnings and unappropriated result – opening balance	-404	1,962	1,558
Net result for the period		1,904	1,904
Unrealised revaluations	-10		-10
Transfer to/from share of associates reserve	-141		-141
Transfer to/from retained earnings	1,962	-1,962	-
Dividend	-394		-394
Purchase/sale of treasury shares	-622		-622
Employee stock option and share plans	1		1
Coupon on undated subordinated notes	-59		-59
Changes in the composition of the group and other changes	28		28
Retained earnings and unappropriated result – closing balance	**361**	**1,904**	**2,265**

The total amount of Equity in the Parent company annual accounts equals Shareholders' equity (parent) in the Consolidated annual accounts. Certain components within equity are different, as a result of the following presentation differences between the Parent company accounts and Consolidated accounts:

- Unrealised revaluations within consolidated group companies, presented in the 'Revaluation reserve' in the Consolidated annual accounts, are presented in the 'Share of associates reserve' in the Parent company annual accounts
- Foreign currency translation on consolidated group companies, presented in the 'Currency translation reserve' in the Consolidated annual accounts, is presented in the 'Share of associates reserve' in the Parent company annual accounts
- Remeasurement of the net defined benefit asset/liability within consolidated group companies presented in the 'Net defined benefit asset/liability remeasurement reserve' in the Consolidated annual accounts, are presented in the 'Share of associates reserve' in the Parent company annual accounts
- Non-distributable retained earnings of associates presented in 'Other reserves' in the Consolidated annual accounts, are presented in the 'Share of associates reserve' in the Parent company annual accounts
- Revaluations on real estate investments, capitalised software and certain participations recognised in income and consequently presented in 'Retained earnings' in the Consolidated annual accounts, are presented in the 'Share of associates reserve' in the Parent company annual accounts

6 Equity continued

Share of associates reserve

	2021	2020
Unrealised revaluations within consolidated group companies	14,422	20,468
Currency translation reserve	-181	-97
Net defined benefit asset/liability remeasurement reserve	-119	-138
Reserve for non-distributable retained earnings of associates	2,111	1,412
Revaluations on investment property and certain participations recognised in income	418	208
Share of associates reserve	**16,651**	**21,853**

Positive components of the Share of associate reserve of EUR 16,951 million (2020: EUR 22,088 million) cannot be freely distributed. The reserve for cash flow hedges is included in the Share of associates reserve on a net basis. Retained earnings can be freely distributed, except for an amount equal to the negative balance in each of the components in the Share of associates reserve.

Distributable reserves

NN Group N.V. is subject to legal restrictions regarding the amount of dividends it can pay to its shareholders. The Dutch Civil Code contains the restriction that dividends can only be paid up to an amount equal to total shareholders' equity less the issued and outstanding capital and less the reserves required by law. In case of negative balances for individual reserves legally to be retained, no distributions can be made out of retained earnings to the level of these negative amounts.

In addition, NN Group's ability to pay dividends is dependent on the dividend payment ability of its subsidiaries, associates and joint ventures. NN Group is legally required to create a non-distributable reserve insofar profits of its subsidiaries, associates and joint ventures are subject to dividend payment restrictions. Such restrictions may, among others, be of a similar nature as the restrictions which apply to NN Group.

Legally distributable reserves, determined in accordance with the financial reporting requirements included in Part 9 of Book 2 of the Dutch Civil Code, from NN Group's subsidiaries, associates and joint ventures are as follows:

Distributable reserves based on the Dutch Civil Code

	2021	2021	2020	2020
Total shareholders' equity		32,888		36,731
Share capital	38		39	
Positive components of Share of associates reserve	16,951		22,088	
Total non-distributable part of shareholders' equity:		16,989		22,127
Distributable reserves based on the Dutch Civil Code		**15,899**		**14,604**

The Dutch supervisory rules and regulations stemming from the Dutch Financial Supervision Act (Wet op het financieel toezicht) provide a second restriction on the possibility to distribute dividends. Total freely distributable reserves is the minimum of freely distributable capital on the basis of solvency requirements and freely distributable capital on the basis of capital protection.

Freely distributable reserves

	2021	2021	2020	2020
Solvency requirement under the Financial Supervision Act	9,840		9,534	
Reserves available for financial supervision purposes	20,927		20,028	
Total freely distributable reserves on the basis of solvency requirements		11,087		10,494
Total freely distributable reserves on the basis of the Dutch Civil Code		15,899		14,604
Total freely distributable reserves (lower of the values above)		**11,087**		**10,494**

Reference is made to Note 53 'Capital and liquidity management' for more information on solvency requirements.

6 Equity continued

Other restrictions

There are other restrictions to the ability of subsidiaries, associates and joint ventures to distribute reserves to NN Group as a result of minimum capital requirements that are imposed by industry regulators in the countries in which the group companies operate. Reference is made to Note 53 'Capital and liquidity management' in the Consolidated annual accounts for the minimum capital requirements.

In addition to the legal and regulatory restrictions on distributing dividends from subsidiaries, associates and joint ventures to NN Group there are various other considerations and limitations that are taken into account in determining the appropriate levels of equity in the Group's subsidiaries, associates and joint ventures. These considerations and limitations include, but are not restricted to, rating agency and regulatory views, which can change over time; it is not possible to disclose a reliable quantification of these limitations.

Without prejudice to the authority of the Executive Board to allocate profits to reserves and to the fact that the ordinary shares are the most junior securities issued by NN Group, no specific dividend payment restrictions with respect to ordinary shares exist.

Furthermore, NN Group is subject to legal restrictions with respect to repayment of capital to holders of ordinary shares. Capital may be repaid to the holders of ordinary shares pursuant to an amendment of NN Group's Articles of Association whereby the ordinary shares are written down. Pursuant to the Dutch Civil Code, capital may only be repaid if none of NN Group's creditors opposes such a repayment within two months following the announcement of a resolution to that effect.

Undated subordinated notes

In July 2014, NN Group N.V. issued fixed to floating rate undated subordinated notes with a par value of EUR 1,000 million. The notes are undated, but are callable after 11.5 years and every quarter thereafter (subject to regulatory approval). The coupon is fixed at 4.50% per annum for the first 11.5 years and will be floating thereafter. As these notes are undated and include optional deferral of interest at the discretion of NN Group, these are classified under IFRS-EU as equity. Coupon payments are deducted from equity if and when paid or contractually due. The discount to the par value and certain issue costs were deducted from equity at issue, resulting in a balance sheet value equal to the net proceeds of EUR 986 million.

In June 2014, fixed to floating rate undated subordinated notes with a par value of EUR 750 million were originally issued by Delta Lloyd which are classified as equity under IFRS. The notes are undated, but are callable as from 13 June 2024 and every quarter thereafter (subject to regulatory approval). The coupon is fixed at 4.375% per annum until 13 June 2024 and will be floating thereafter. Coupon payments are distributed out of equity if and when paid or contractually due. These notes were recognised upon acquisition of Delta Lloyd for an amount of EUR 778 million.

7 Subordinated debt

Subordinated debt

Interest rate	Year of issue	Due date	First call date	Notional amount		Balance Sheet Value	
				2021	2020	2021	2020
4.625%	2014	8 April 2044	8 April 2024	1,000	1,000	995	994
4.625%	2017	13 January 2048	13 January 2028	850	850	841	840
Subordinated debt						**1,836**	**1,834**

The above subordinated debt instruments have been issued to raise hybrid capital. Under IFRS-EU these debt instruments are classified as liabilities and are considered capital for regulatory purposes. All subordinated debt is euro denominated.

8 Other liabilities

Other liabilities

	2021	2020
Debt securities issued	2,293	1,694
Amounts owed to group companies	5,575	7,290
Other amounts owed and accrued liabilities	155	222
Other liabilities	**8,023**	**9,206**

Amounts owed to group companies by remaining term

	2021	2020
Within 1 year	5,575	7,290
Amounts owed to group companies	**5,575**	**7,290**

9 Other

NN Group N.V. has issued statements of liability in connection with Article 403, Book 2 of the Dutch Civil Code and other guarantees (mainly funding and redemption guarantees) for group companies.

Reference is made to the Consolidated annual accounts for the number of employees, audit fees and remuneration of the Executive Board, the Management Board and the Supervisory Board.

Authorisation of the Parent company annual accounts

The Parent company annual accounts of NN Group N.V. for the year ended 31 December 2021 were authorised for issue in accordance with a resolution of the Executive Board on 9 March 2022. The Executive Board may decide to amend the Parent company annual accounts as long as these are not adopted by the General Meeting.

The General Meeting may decide not to adopt the Parent company annual accounts, but may not amend these during the meeting. The General Meeting can decide not to adopt the Parent company annual accounts, propose amendments and then adopt the Parent company annual accounts after a normal due process.

The Hague, 9 March 2022

The Supervisory Board

D.A. (David) Cole, chair
H.M. (Hélène) Vletter-van Dort, vice-chair
I.K. (Inga) Beale
H.J.G. (Heijo) Hauser
R.W. (Robert) Jenkins
R.J.W. (Rob) Lelieveld
C. (Cecilia) Reyes
J.W. (Hans) Schoen
C.C.F.T. (Clara) Streit

The Executive Board

D.E. (David) Knibbe, CEO, chair
D. (Delfin) Rueda, CFO, vice-chair

Independent auditor's report

To: The General Meeting of Shareholders and the Supervisory Board of NN Group N.V.

Report on the audit of the annual accounts 2021 included in the annual report

Our opinion

In our opinion:

— the accompanying consolidated annual accounts give a true and fair view of the financial position of NN Group N.V. ('the Group') as at 31 December 2021 and of its result and its cash flows for the year then ended, in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and in accordance with Part 9 of Book 2 of the Dutch Civil Code; and

— the accompanying parent company annual accounts give a true and fair view of the financial position of NN Group N.V. as at 31 December 2021 and of its results for the year then ended in accordance with Part 9 of Book 2 of the Dutch Civil Code.

What we have audited

We have audited the 2021 annual accounts of NN Group N.V. based in Amsterdam and headquartered in The Hague, as set out on pages 142 to 298 of the annual report. The annual accounts include the consolidated annual accounts and the parent company annual accounts.

The consolidated annual accounts comprise:

1 the consolidated balance sheet as at 31 December 2021;

2 the following consolidated statements for 2021: the profit and loss account, the statements of comprehensive income, cash flows and changes in equity; and

3 the notes comprising a summary of the significant accounting policies and other explanatory information.

The parent company accounts comprise:

1 the parent company balance sheet as at 31 December 2021;

2 the parent company profit and loss account for 2021; and

3 the notes comprising a summary of the accounting policies and other explanatory information.

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the annual accounts' section of our report.

We are independent of NN Group N.V. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

Our audit procedures were determined in the context of our audit of the annual accounts as a whole. Our observations in respect of going concern, fraud and non-compliance with laws and regulations, climate and the key audit matters should be viewed in that context and not as separate opinions or conclusions.

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Audit approach

Summary

Materiality

- Materiality of EUR 140 million, this is in line with 2020
- Based on core equity; shareholders' equity minus revaluation reserves (1%)

Group audit

- 89% of core equity
- 97% of total assets
- 92% of profit before tax

Going concern

- Going concern: no significant going concern risks identified

Fraud/Noclar

- Fraud & non-compliance with laws and regulations (Noclar): we identified management override of controls as presumed fraud risk

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Climate-related risks
— The Group's strategy related to climate risk has been disclosed in the annual report
— We have considered the impact of climate-related risks on our identification and assessment of risks of material misstatement in the annual accounts

Key audit matters
— Valuation and reserve adequacy of insurance liabilities
— Valuation of illiquid investments
— Unit-linked exposure
— Solvency II disclosure
— Reliability of IT general controls and cybersecurity controls

Opinion
Unqualified

Materiality

Based on our professional judgement we determined the materiality for the annual accounts as a whole at EUR 140 million (2020: EUR 140 million). The materiality is determined with reference to core equity (shareholders' equity minus revaluation reserves) and amounts to 1% (2020: 1%). We continue to consider core equity as the most appropriate benchmark based on our assessment of the general information needs of the users of the annual accounts of the financial institutions predominantly active in the life insurance business. We believe that core equity is a relevant metric for assessment of the financial performance of the Group.

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the annual accounts for qualitative reasons.

We agreed with the Audit Committee of the Supervisory Board that misstatements identified during our audit in excess of EUR 7 million (2020: EUR 7 million) would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Scope of the group audit

NN Group N.V. is at the head of a group of components. The financial information of this group is included in the consolidated annual accounts of the Group. The Group is structured along seven segments: Netherlands Life, Netherlands Non-life, Insurance Europe, Japan Life, Asset Management, Banking and Other, each comprising of multiple legal entities and/or covering different countries. Following the announced sale of NN Investment Partners, Asset Management activities are presented separately from the results of the remaining segments.

Because we are ultimately responsible for the audit opinion, we are responsible for directing, supervising and performing the group audit. In this respect, we have determined the nature and extent of the audit procedures to be carried out for group entities.

In our risk assessment and related scoping, we took into account potential effects of COVID-19 and re-evaluated these during the process.

Our group audit mainly focused on significant components. These significant components are either individually financially significant due to their relative size within the Group or because we assigned a significant risk of material misstatement to one or more account balances of the component. In addition, we included certain components in the scope of our group audit in order to arrive at a sufficient coverage for all relevant significant account balances.

This resulted in a full or specific scope audit for 27 (2020: 25) components, in total covering ten countries, and in a coverage of 89% of core equity, 97% of total assets and 92% of profit before tax. For the remaining 11% of core equity, 3% of total assets and 8% of profit before tax, procedures were performed at the group level including analytical procedures in order to corroborate that our scoping remained appropriate throughout the audit. This coverage is in line with our 2020 audit.

We sent audit instructions to all component auditors, covering significant areas including the relevant risks of material misstatement and set out the information required to be reported to the group audit team. All components in scope for group reporting purposes are audited by KPMG member firms.

A specific point of attention as a result of COVID-19 was the virtual way of working, and in particular the impact thereof on the audit procedures and the reliability of the audit evidence obtained. For the largest part of 2021, the Group's employees were working from home. We performed the audit of the Group also largely working from home.

In view of the COVID-19 related restrictions on the movement of people across borders, we considered changes to the planned audit approach to evaluate the component auditors' communications and the adequacy of their work. According to our original audit plan, we intended to visit the components in Japan, Greece, Poland, Spain and Romania. Due to the aforementioned restrictions this was not possible. As a result, we held those visits remotely. For all components in the scope of the group audit we held video and conference calls. During these calls, the planning, risk assessment, procedures performed, findings and observations reported to the group auditor were discussed in more detail and any additional work deemed necessary by the group audit team was then performed. In addition, we requested component auditors selected for file review to provide us with remote access to their audit workpapers and subsequently performed the file reviews.

The group audit team has set component materiality levels, which ranged from EUR 7 million to EUR 100 million, based on the mix of size and risk profile of the components within the Group.

The consolidation of the Group, the disclosures in the annual accounts and certain accounting topics are audited by the group audit team. The accounting matters on which audit procedures are performed by the group audit team include, but are not limited to, assessment of the use of the going concern assumption, companies and businesses acquired and divested, intangible assets including goodwill, equity, staff expenses in the Netherlands, other operating expenses in the Netherlands, certain elements of the risk and capital management disclosures, corporate income tax for the Dutch fiscal unity and legal proceedings.

By performing the procedures mentioned above at group components, together with additional procedures at group level, we have been able to obtain sufficient and appropriate audit evidence about the Group's financial information to provide an opinion about the annual accounts.

Our procedures as described above, including our audit coverage can be summarised as follows:

Core equity

76%	13%	11%
Audit of the complete reporting package	Audit of specific items	Covered by additional procedures performed at group level

Total assets

91%	6%	3%
Audit of the complete reporting package	Audit of specific items	Covered by additional procedures performed at group level

Profit before tax

70%	22%	8%
Audit of the complete reporting package	Audit of specific items	Covered by additional procedures performed at group level

Audit response to going concern – no significant going concern risks identified

The Executive Board has performed its going concern assessment and has not identified any significant going concern risks. Our main procedures to assess the Executive Board's assessment were:

- we considered whether the Executive Board's assessment of the going concern risks included all relevant information of which we are aware as a result of our audit;
- we assessed whether the scenarios included in the Own Risk Solvency Assessment (ORSA) and Preparatory Crisis Plan that were submitted to De Nederlandsche Bank N.V. (the Dutch Central Bank, DNB) and other regulatory correspondence indicate a significant going concern risk; and
- we considered whether the outcome of our audit procedures on the Solvency II capital position and disclosures (see: Key Audit Matters) indicate a significant going concern risk.

The outcome of our risk assessment procedures, including our consideration of findings from our audit procedures on other areas, did not give reason to perform additional audit procedures.

Audit response to the risk of fraud and non-compliance with laws and regulations

In note 52 chapter VIII of the annual report, the Executive Board describes its response and procedures in respect of the risk of fraud and non-compliance with laws and regulations, as does the Supervisory Board in the paragraph 'Risk Control Framework'.

As part of our audit, we have gained insights into the Group and its business environment, and assessed the design and implementation and, where considered appropriate, tested the operating effectiveness of the Group's risk management in relation to fraud and non-compliance. Our procedures included, among other things, assessing the Group's code of conduct, whistleblowing procedures, incidents register and its procedures to investigate indications of possible fraud and non-compliance. Furthermore, we performed relevant inquiries with management, Supervisory Board and other relevant functions, such as Internal Audit, Legal Counsel, Compliance and the Actuarial Function Holder. As part of our audit procedures, we:

- assessed the fraud risk assessments performed by operational risk management in the business units and coordinated by Group Operational Risk Management. We shared these fraud risk assessments with all component auditors and evaluated their local follow up;
- assessed other positions held by the Management Board members and paid special attention to procedures and governance and compliance in view of possible conflicts of interest;
- evaluated internal compliance reports on indications of possible fraud and non-compliance;
- inspected correspondence with De Nederlandsche Bank (DNB), Autoriteit Financiële Markten (AFM) and other regulators and supervisory authorities; and
- evaluated legal confirmation letters.

In addition, we performed procedures to obtain an understanding of the legal and regulatory frameworks that are applicable to the Group.

The Group is subject to many other laws and regulations where the consequences of non-compliance could have an indirect material effect on amounts recognised or disclosures in the annual accounts, or both, for instance through the imposition of fines or litigation. We identified the following areas as those most likely to have such an indirect effect:

- Wet op het financieel toezicht (Wft) (including the European Solvency II directives);
- Financial and economic crime (FEC) related regulation; and
- data privacy regulation (GDPR).

We evaluated with support of our forensics specialists, the fraud and non-compliance risk factors to consider whether those factors indicate a risk of material misstatement in the annual accounts.

Based on the above and on the auditing standards, we identified the following fraud risk that is relevant to our audit, including the relevant presumed risks laid down in the auditing standards, and responded as follows:

- **Management override of controls (a presumed risk)**

Risk:

- Management is in a unique position to manipulate accounting records and prepare fraudulent annual accounts by overriding controls that otherwise appear to be operating effectively such as: estimates related to valuation and reserve adequacy of insurance liabilities and Solvency II disclosures.

Responses:

- We evaluated the design and the implementation of internal controls that mitigate fraud and non-compliance risks, such as processes related to journal entries and estimates.
- We performed data analysis of high-risk journal entries and evaluated key estimates and judgements for bias by the Group, including retrospective reviews of prior year's estimates.
- Where we identified instances of unexpected journal entries or other risks through our data analytics, we performed additional audit procedures to address each identified risk. These procedures also included testing of transactions back to source information.
- We incorporated elements of unpredictability in our audit, e.g. in the scoping of components and data-analysis on outgoing payments and performed risk-based specific item testing.
- We performed detailed testing on other emoluments in relation to the Management Board remuneration.
- Considered the outcome of our other audit procedures and evaluated whether any findings or misstatements were indicative of fraud or non-compliance. If so, we re-evaluated our assessment of relevant risks and its resulting impact on our audit procedures.

We refer to the key audit matters 1, 2 and 4 that provide information of our approach related to areas of higher risk due to accounting estimates where management makes significant judgements.

We assessed the presumed fraud risk on revenue recognition as irrelevant, as we consider the likelihood remote that a material error results from fraud other than originating from management override of controls, which is covered by the risk described above.

We communicated our risk assessment, audit responses and results to the Executive Board and the Audit Committee of the Supervisory Board. Our audit procedures did not reveal indications and/or reasonable suspicion of fraud and non-compliance that are considered material for our audit.

Audit response to climate-related risks

The Executive Board is responsible for preparing the annual accounts in accordance with the applicable financial reporting framework, including considering whether the implications from climate-related risks and commitments have been appropriately accounted for and disclosed.

The Executive Board has performed an analysis of the impact of climate-related risks on the Group's business and operations going forward and on its accounting in the 2021 annual accounts. We refer to the Group's response in relation to climate change as disclosed in the annual report and note 52 of the annual accounts.

The evaluation of the effectiveness of management's strategy against internal or external goals set is not in scope of our audit of the annual accounts. As part of our audit we consider the potential effects of climate-related risks on the accounts and disclosures, including significant judgements and estimates in the current year's annual accounts to determine whether the annual accounts are free from material misstatements. This includes discussion of the Group's strategy in relation to climate change with the Executive Board and the Supervisory Board and inspecting minutes and external communications for significant climate related commitments, strategies and plans made by management.

Our key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the annual accounts. We have communicated the key audit matters to the Executive Board and the Audit Committee of the Supervisory Board. The key audit matters are not a comprehensive reflection of all matters discussed.

These matters were addressed in the context of our audit of the annual accounts as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

The COVID-19 pandemic has had both operational and financial impact on the Group. We refer to note 2 of the annual accounts. As described under scoping of the group audit it also impacted our way of working with the component auditors. COVID-19 is also reflected in our key audit matters. For the valuation of non-listed investments, the reserve adequacy of insurance liabilities and Solvency II we assessed the impact of COVID-19 on management's accounting estimates.

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1. Valuation and reserve adequacy of insurance liabilities

Description

Insurance and investment contract liabilities (in short; insurance liabilities) amount to EUR 169 billion as at 31 December 2021, or 78% of total liabilities. The valuation of insurance liabilities involves management judgement, especially for determining the ultimate settlement value of long-term liabilities. In addition NN performs the so-called Reserve Adequacy Test (RAT) to assess the adequacy of the insurance liabilities, before reinsurance and net of deferred acquisition cost, based on current best estimate actuarial assumptions.

The RAT for NN Life is most significant to the group given its relative size and complexity and requires significant management judgement in setting the assumptions related to longevity, expenses and future reinvestment rates.

Given the financial significance and the level of judgement required we considered the valuation and reserve adequacy of insurance contract liabilities a key audit matter.

Our response

Our audit approach is a mixture of controls testing and substantive audit procedures.

Our procedures over internal controls focused on testing of controls around the adequacy of policyholder data, assumption setting and internal review procedures performed on the RAT by the Group Chief Actuary. We also assessed the process for the internal validation and implementation of the models used for the valuation of the insurance liabilities and the RAT.

With the assistance of our own actuarial specialists we performed the following substantive audit procedures:

— we assessed the appropriateness of assumptions used in the valuation of the insurance liabilities for significant business units (including NN Life) by reference to company and industry data and expectations of future investment returns, future longevity, also in relation to the mortality tables published by The Royal Dutch Actuarial Association on 9 September 2020, and expense developments;

— we tested of the appropriateness of the data used and assumptions and methodologies applied in the RAT, taking into account COVID-19 related uncertainties.

— we performed substantive analysis of developments in actuarial results and movements in reserve adequacy during the year for each of the business units in scope and made corroborative inquiries with management and the Group Chief Actuary; and

— we assessed the robustness of management's substantiation that the insurance contract liabilities are adequate as at 31 December 2021.

Our observation

The valuation and reserve adequacy test shows a positive margin and we consider the valuation of the insurance contract liabilities to be appropriate. We refer to notes 11 and 18 of the annual accounts.

We note that the unrealised revaluations on available for sale investments backing the insurance contract liabilities are recorded in shareholders' equity and represent a significant part of the revaluation reserve. As and when these available for sale investments are sold, the excess in reserve adequacy would decrease accordingly and the realised capital gains would only be partly available to shareholders, since a significant portion of the gains would be required to strengthen the insurance contract liabilities in order to remain adequate. We refer to note 1 of the annual accounts.

2. Valuation of illiquid investments

Description

For non-listed investments quoted prices are not available and fair values are based on valuation techniques which often involve the exercise of judgement by management and the use of assumptions, estimates and valuation models. Where significant pricing inputs are unobservable, management has no reliable, relevant market data available in determining the fair value. For these illiquid investments estimation uncertainty can be high, especially since the outbreak of COVID-19 with increased market volatilities. This is mainly applicable to:

- mortgages;
- real estate investments; and
- private equity and private debt investments.

Given the financial significance and estimation uncertainties we considered the valuation of non-listed investments a key audit matter.

Our response

We assessed management's approach to the valuation for non-listed investments and performed the following procedures:

- we evaluated the Group's processes and controls governing the valuation of non-listed investments;
- we inspected the supporting valuation documents prepared by management's internal and external valuation experts;
- KPMG valuation specialists assisted us in challenging the appropriateness of the models and methodologies used by management in calculating fair values of mortgages. We tested the source data used and assessed the appropriateness of critical valuation parameters. Our valuation specialists independently calculated whether the fair value for the mortgage portfolio as a whole as determined by management is within the acceptable fair value range;

- we involved our real estate valuation specialists in the substantive audit procedures of selected high-risk real estate investments. We evaluated the objectivity, independence and professional competence of external valuators engaged by management. We inspected the valuation reports obtained, tested the source data used and the calculations made and challenged significant assumptions such as the gross initial yield/discount rate and estimated rental values. We assessed the assumptions used against available market data and object specific underlying characteristics such as occupancy rates and contract renewals;
- we tested and challenged management's valuation of private equity and private debt investments by critically reviewing the minutes of the meetings of management with the external fund managers, we tested the timeliness of such meetings and performed back testing procedures to determine the reliability of the fair value estimates provided by the external fund managers. We compared the movements in the valuations for the period with available external market data and performed back testing on the prior year estimates, e.g. by reconciliation of valuations to annual accounts of investments or comparison to sales results; and
- we assessed the disclosures in the annual accounts.

Our observation

The results of our testing were satisfactory and we considered the fair value of illiquid investments to be appropriate. We observed that in the course of 2021 valuation uncertainties in real estate decreased for all sectors excluding retail, where, although valuations stabilised, a limited number of transactions took place to support the estimated yield levels. As at year-end the valuation reports of external valuators do not contain material valuation uncertainty clauses anymore. We also refer to note 2 and 37 of the annual accounts in which the real estate valuation uncertainties that exist at 31 December 2021 are disclosed.

3. Unit-linked exposure

Description

Holders of unit-linked products sold in the Netherlands, or consumer protection organisations on their behalf, have filed claims or initiated legal proceedings against the Group and may continue to do so. A negative outcome of such claims and proceedings, settlements or any other actions to the benefit of the customers by other insurers or sector-wide measures, may affect the (legal) position of the Group and could result in substantial financial losses for the Group as and when compensation would be required. The Executive Board assessed the financial consequences of these legal proceedings under both the EU-IFRS and the Solvency II reporting framework and concluded that these cannot be reliably measured, estimated and/or quantified at this point.

Due to the potential significance and judgement that is required to assess the developments relevant to these claims and proceedings we considered this a key audit matter.

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Our response

- We assessed the group's processes and controls with respect to the unit-linked exposures within the relevant business units in the Netherlands and especially NN Life.
- We inspected and assessed supporting legal documentation and discussed on a quarterly basis the evolving legal risks and proceedings with the legal counsel and its internal legal advisors. Our assessment took into account NN specific developments such as the Supreme Court's answers relating to collective proceedings initiated by the Vereniging Woekerpolis.nl against Nationale-Nederlanden as well as broader market developments, including the impact, if any, of verdicts issued up to the date of this audit opinion.
- We obtained lawyers letters of the external lawyers engaged by the group in relation to the collective cases Woekerpolis.nl, Consumentenbond and Wakkerpolis to support our assessment of management judgment on the accounting treatment and disclosures for related risks exposures. We assessed the professional competency and capability of these external lawyers.
- We assessed the unit-linked disclosure on contingent liabilities in note 45 Legal proceedings of the annual accounts.

Our observation

We concur with the Executive Board's conclusion that the financial consequences of the unit-linked exposure cannot be reliably measured and that no provision can be recognised as at 31 December 2021. We consider the disclosure in note 45 to be appropriate.

4. Solvency II disclosure

Description

Solvency II information as included in note 52 and 53 of the annual accounts is an important disclosure about the regulatory capital position of the Group. The calculation of the Solvency II ratio is complex and requires significant management judgement. The Group applies the Partial Internal Model (PIM) as approved by DNB to calculate the Solvency Capital Requirement (SCR).

Given the importance of the Solvency II capital position, the reporting complexities, the significance of management judgements and assumptions on the outcome of the ratio, the significant measurement uncertainties and related sensitivities we identified the adequacy of the Solvency II disclosure as a key audit matter.

Our response

We obtained an understanding of the Group's application and implementation of the Solvency II directive. In designing our audit approach, we have set a separate materiality for the audit of the Solvency II capital position. The materiality level applied is EUR 180 million (2020: EUR 180 million). With the assistance of our own actuarial specialists, we performed the following audit procedures:

— we assessed the effectiveness of internal controls over the SCR calculations and Group's modelling and assumption (change) approval processes;

— we assessed the follow up to the terms and conditions set by DNB in relation to the approval of the PIM-Major Model Changes;

— we tested controls over the calculations of the market value balance sheet, Own Funds and SCR for them to be prepared in accordance with the Solvency II directive and in accordance with the PIM as approved by DNB;

— we assessed and challenged the rationale, implementation and impact of material changes to models and assumptions used to determine the value of best estimate insurance liabilities and SCR;

— we assessed the impact of the 2021 Q&A published by DNB on contract boundaries for individual disability contracts and the related disclosure in the annual accounts under note 52 chapter VII;

— we assessed the appropriateness of economic and non-economic assumptions used for the calculations of the market value balance sheet, Own Funds and SCR, based on market observable data, company and industry data, comparison of management judgements made to current and emerging market practices;

— we assessed the adequacy of the quantitative and qualitative disclosures of the Solvency II Capital Requirements including disclosures about the interpretation of legislation and related uncertainties. In this context we also assessed internal controls over the preparation of the Solvency II sensitivity disclosures;

— we assessed the quality of the risk management function and actuarial function for their involvement with the Solvency II reporting. We made inquiries with the Group Chief Actuary on the Group Actuarial Function Holder report 2021, which sets out conclusions on the reliability and adequacy of the technical provisions as at 31 December 2021 under Solvency II;

— we verified the accuracy of the calculations of the market value balance sheet used to determine Own Funds for selected balance sheet items, using our own actuarial specialists and alternative actuarial methods, if applicable;

— we assessed the supporting evidence for critical judgements applied in assumption setting by the Group for both the best estimate liability and the SCR. This included the substantiation by management of the loss absorbing capacity of deferred taxes in accordance with the applicable legislation and regulations;

- we verified the correctness of the consolidation of the Solvency II reporting by the Group's components, taking into account the Solvency II requirements for consolidation that deviate from EU-IFRS;
- we assessed and challenged the internally prepared analysis of the movements in the Solvency II capital position during the year and sensitivities reported as at 31 December 2021 and discussed the outcome with the Group's actuaries and Group Chief Actuary; and
- we tested the accuracy of the sensitivity disclosures.

Our observation

We considered the Solvency II disclosure in note 52 to be adequate.

5. Reliability of IT general controls and cybersecurity controls

Description

The Group is highly dependent on its IT systems for the continuity of its operations. To meet evolving client needs and business requirements the Group is continuously improving the efficiency and effectiveness of its IT systems and infrastructure. IT general controls and cybersecurity controls are fundamental to the group's internal control framework to ensure the continuity and reliability of IT.

Taking into account group's dependency on the reliability and continuity of IT and the increasing frequency and severity of cyber incidents in the environment where the group operates, we considered the reliability of IT general controls and cybersecurity controls a key audit matter.

Our response

With the support of our specialised IT auditors, we tested IT general controls related to logical access, change management and computer operations and key application controls embedded in the IT systems that are relevant to the Group's financial reporting. As part of our risk assessment and design of our IT audit approach, we have taken into account regulatory correspondence related to IT security risk management. We performed test procedures to respond to specific risks such as data migrations (in particular at NN Life, NN Non-life and Group), the implications of the decommissioning of systems following the conversion to new environments and vendor management related to outsourced IT processes.

We evaluated cybersecurity risks as part of our audit of the annual accounts. We updated our understanding and assessed the design and effectiveness of preventive and detective cybersecurity controls and responses, cybersecurity self-assessments performed by the business units and we performed procedures to test the resilience of the cybersecurity controls in place. We held corroborative inquiries with the personnel at the Security Operations Center and with the Group's Chief Information Security Officer (CISO). This work was performed together with our IT auditors that are specialised in cyber risk management.

Our observation

Based on our testing of IT general controls we obtained sufficient comfort to support our IT driven audit approach.

The results of the procedures performed regarding cybersecurity controls were satisfactory in relation to our audit. We shared our observations with the Executive Board and the Audit Committee of the Supervisory Board.

We refer to the disclosure on Risk Management in note 52.

Report on the other information included in the annual report

In addition to the annual accounts and our auditor's report thereon, the annual report contains other information. Additionally, other information includes the annual review.

Based on the following procedures performed, we conclude that the other information:

— is consistent with the annual accounts and does not contain material misstatements; and

— contains the information as required by Part 9 of Book 2 of the Dutch Civil Code report and other information.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the annual accounts or otherwise, we have considered whether the other information contains material misstatements.

By performing these procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is less than the scope of those performed in our audit of the annual accounts.

The Executive Board is responsible for the preparation of the other information, including the information as required by Part 9 of Book 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements and ESEF

Engagement

We were engaged by the General Meeting of Shareholders as auditor of NN Group N.V. on 28 May 2015, as of the audit for the year 2016 and have operated as statutory auditor ever since that financial year. We were reappointed by the General Meeting of Shareholders on 29 May 2019 to continue to serve the Group as its external auditor for the financial years 2020–2022.

No prohibited non-audit services

We have not provided prohibited non-audit services as referred to in Article 5(1) of the EU Regulation on specific requirements regarding statutory audits of public-interest entities.

KPMG

European Single Electronic Format (ESEF)

The Group has prepared its annual report in ESEF. The requirements for this format are set out in the Commission Delegated Regulation (EU) 2019/815 with regard to regulatory technical standards on the specification of a single electronic reporting format (these requirements are hereinafter referred to as: the RTS on ESEF).

In our opinion, the annual report prepared in the XHTML format, including the partially tagged consolidated annual accounts of the Group has been prepared in all material respects in accordance with the RTS on ESEF.

The Executive Board is responsible for preparing the annual report including the annual accounts, in accordance with the RTS on ESEF, whereby management combines the various components into a single reporting package. Our responsibility is to obtain reasonable assurance for our opinion whether the annual report is in accordance with the RTS on ESEF.

Our procedures taking into consideration Alert 43 of NBA (the Netherlands Institute of Chartered Accountants), included amongst others:

- obtaining an understanding of the entity's financial reporting process, including the preparation of the reporting package;
- obtaining the reporting package and performing validations to determine whether the reporting package containing the Inline XBRL instance document and the XBRL extension taxonomy files have been prepared in accordance with the technical specifications as included in the RTS on ESEF; and
- examining the information related to the consolidated annual accounts in the reporting package to determine whether all required taggings have been applied and whether these are in accordance with the RTS on ESEF.

Description of responsibilities regarding the annual accounts

Responsibilities of the Executive Board and the Supervisory Board for the annual accounts

The Executive Board is responsible for the preparation and fair presentation of the annual accounts in accordance with Part 9 of Book 2 of the Dutch Civil Code. Furthermore, the Executive Board is responsible for such internal control as management determines is necessary to enable the preparation of the annual accounts that are free from material misstatement, whether due to fraud or error. In that respect the Executive Board under supervision of the Supervisory Board is responsible for the prevention and detection of fraud and non-compliance with laws and regulations, including determining measures to resolve the consequences of it and to prevent recurrence.

As part of the preparation of the annual accounts, the Executive Board is responsible for assessing the Group's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, the Executive Board should prepare the annual accounts using the going concern basis of accounting unless the Executive Board either intends to liquidate NN Group N.V. or to cease operations, or has no realistic alternative but to do so. The Executive Board should disclose events and circumstances that may cast significant doubt on the Group's ability to continue as a going concern in the annual accounts.

The Supervisory Board is responsible for overseeing the Group's financial reporting process.

Our responsibilities for the audit of the annual accounts

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken based on these annual accounts. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

A further description of our responsibilities for the audit of the annual accounts is located at the website of de 'Koninklijke Nederlandse Beroepsorganisatie van Accountants' (NBA, Royal Netherlands Institute of Chartered Accountants) at http://www.nba.nl/ENG_oob_01. This description forms part of our auditor's report.

Amstelveen, 9 March 2022

KPMG Accountants N.V.

D. Korf RA

Other - Appropriation of result

Appropriation of result

The result is appropriated pursuant to Article 34 of the Articles of Association of NN Group N.V., the relevant stipulations of which state that the appropriation of result shall be determined by the General Meeting, having heard the advice of the Executive Board. Reference is made to Note 14 'Equity' for the proposed appropriation of result.