Allianz

Allianz Group

Own Funds Report and Life Supplement 2021

CONTENT

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The Allianz Group (Allianz SE and its subsidiaries) has prepared this Own Funds Report and Life Supplement to provide further insights into the Own Funds, the Solvency Capital Requirements (SCR) of the Allianz Group and into our Life/Health business for the financial year 2021.

The Allianz Group offers a wide range of Property/Casualty ("P/C") and Life/Health ("L/H") insurance products, as well as Asset Management ("AM") products and services in over 70 countries, with the largest of our operations located in Europe.

The information in this report is provided in a sufficient level of detail, so as to allow the reader to obtain a comprehensive view of the Own Funds of the Allianz Group with details of the Market Consistent Embedded Value ("MCEV") and New Business ("NB") of our Life/Health segment.

The Solvency II Directive is applicable to life insurance and non-life insurance undertakings as well as reinsurance undertakings which are established in the European Economic Area ("EEA") or which wish to become established here.

Allianz Group has to compile a consolidated Group Market Value Balance Sheet ("MVBS") and Group Own Funds in order to fulfill the regulatory reporting requirements of the Group. In order to achieve full coverage for the Group, it is required to collect MVBS and Own Funds information from entities which are not subject to regulations under Solvency II ("SII"). Undertakings which are not regulated EEA (re)insurers are considered either with a full MVBS or other methods. Other methods comprise for example the inclusion with equivalent Own Funds of entities included via the deduction and aggregation ("D&A") method, the inclusion with sectoral Own Funds of credit institutions, investment firms and financial institutions, alternative investment fund managers and UCITS (Undertakings for Collective Investment in Transferable Securities) management companies as well as institutions for occupational retirement provision, or the application of the book value deduction for immaterial non-EEA (re)insurers.

A: GROUP CHAPTERS – OWN FUNDS & SCR

This chapter provides an overview of the Own Funds and SCR of the Allianz Group, as well as their respective movements during 2021.

B: LIFE SUPPLEMENT – LIFE/HEALTH MCEV & NB

MCEV represents the shareholders' economic value of the inforce life and pension business of an insurance company based on a SII MVBS. Future new business is not included. The MCEV of Allianz Life/Health entities as of 31st December 2021 is presented in this section.

Please note that AZ Life US is considered with its equivalent Own Funds in section B.2 when aggregating the results to the total Life/Health segment, for consistency to the Own Funds. Section B.6.8 then includes the MCEV of AZ Life US and the corresponding movements during 2021.

That section also contains details on the new business written during the year 2021 by our Life/Health insurance operating entities.

A description of the methodology and assumptions used to calculate MCEV and NB is included in section B.7.

C: APPENDIX – DEFINITIONS AND ABBREVIATIONS

An accompanying glossary of definitions and abbreviations is given in the appendix.

NOTE TO READERS

All amounts in this report are presented in billions of Euros (EUR bn) or millions of Euros (EUR mn) and it is explicitly stated accordingly. Due to rounding, numbers presented may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures shown.

The input data used to prepare this report is partially identical to the data used for other purposes, e.g. for the MVBS and Technical Provisions ("TP"). The appropriateness of this data is verified regularly both internally and by external auditors. In addition, PwC performed an audit of our MVBS as of 31st December 2021. Technical Provisions were audited as part of the general MVBS audit process. No deficiency or material weakness were identified.

GROUP CHAPTERS

A

A.1 OVERVIEW

Allianz maintained a strong capital position with an SII ratio at 209% (239% with transitional measures on technical provisions).

Solvency II ratio increases to 209%

Allianz Group had a very good performance in 2021 and achieved a strengthening of the capital position.

Our healthy and well-diversified business makes us confident that we will continue to deliver a strong financial performance in 2022.

Transitional measures for technical provisions

Own Funds as of 31st December 2021 include the impact from the application of transitional measures for technical provisions of Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG.

As at 31st December 2021, the application of transitional measures decreased the value of technical provisions by EUR 18.0 bn, with an offsetting effect of EUR 5.6 bn in terms of deferred taxes. Taking the transitional measures into account, the eligible Own Funds at the Group level were EUR 98.4 bn at year-end 2021 - EUR 12.4 bn higher than they would have been without transitional measures. The transitional measures adjustment in 2021 represents 69% of the original transitional adjustment, and will decrease every year until it is zero in the year 2032.

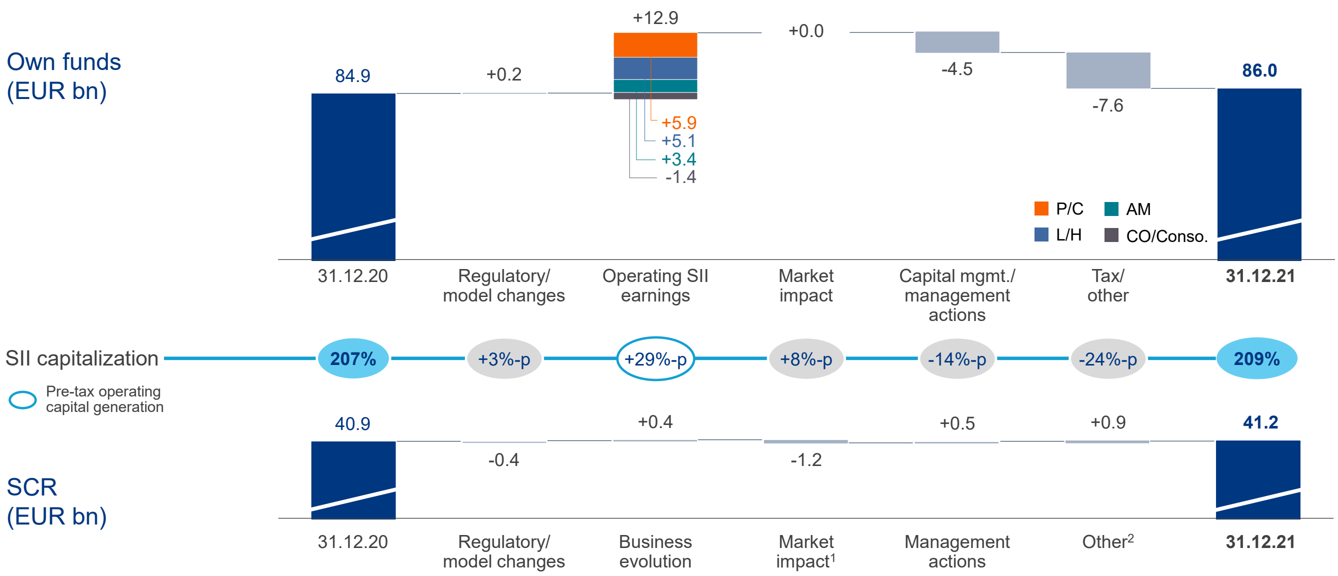
The SII capitalization ratio including transitional measures is at 239%, up 30%-p compared to the SII capitalization ratio of 209% excluding transitional measures. Our general capital steering will continue to focus on the Solvency II capitalization ratio excluding the application of transitional measures for technical provisions.

Please note that figures, graphs and statements further in this report focus on the Own Funds excluding transitional measures for technical provisions, consistent to our capital markets communication.

Solvency II ratio at a strong level

In 12M 2021, our SII ratio increased by 1%- p versus year end 2020 driven by +29%-p organic capital generation before tax and dividend, positive market impacts due to SCR relief, partially offset by capital management, management actions and taxes.

Figure 1: Movement of Own Funds and SII capitalization (excluding transitional measures for technical provisions)



1) Including cross effects and policyholder participation
2) Other effects on SCR include diversification effects

Own Funds – operating SII earnings drove Own Funds

In the 12 months ending 31st December 2021, the Group Own Funds increased by EUR 1.0 bn from EUR 84.9 bn to EUR 86.0 bn.

Key drivers were the operating SII earnings (EUR +12.9 bn), management actions (EUR +1.9 bn), market impacts and regulatory and model changes with a combined effect of EUR +0.3 bn, offset by capital management (EUR -6.4 bn), taxes (EUR -3.5 bn) and other effects (EUR -4.2 bn).

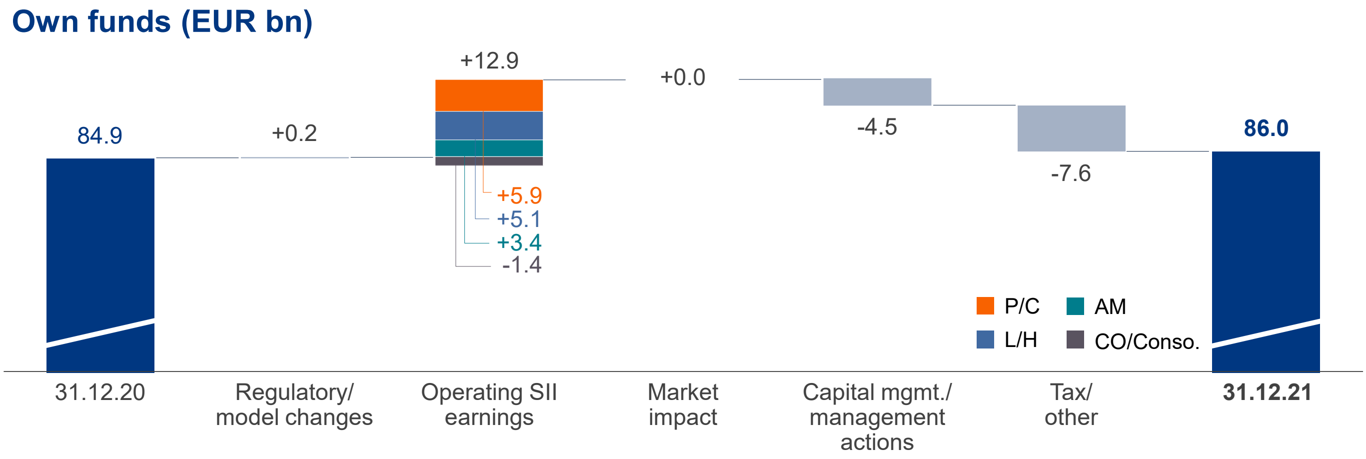
The Group's SCR increased by EUR +0.3 bn over the year 2021 from EUR 40.9 bn to EUR 41.2 bn.

Key drivers were the impacts from management actions (EUR +0.5 bn), business evolution (EUR +0.4 bn), and other effects (EUR +0.9 bn) such as model and assumption updates at various entities as well as lower tax relief. These are partially offset by market movements (EUR -1.2 bn) and regulatory/model changes (EUR -0.4 bn).

A.2 OWN FUNDS AND RELATED MOVEMENTS

In the 12 months ending 31st December 2021, the Group Own Funds increased by EUR 1.0 bn from EUR 84.9 bn to EUR 86.0 bn.

Figure 2: Movement of Own Funds (excluding transitional measures for technical provisions)



A.2.1 Own Funds overview

The Allianz Group's eligible Own Funds as of 31st December 2021 amount to EUR 86.0 bn. EUR 70.7 bn Own Funds relate to the group of internal model and standard model entities. The remaining EUR 15.3 bn relate to the sectoral Own Funds of credit institutions, investment firms and financial institutions, alternative investment fund managers and UCITS management companies as well as institutions for occupational retirement provisions, and the equivalent Own Funds of entities included via the deduction and aggregation ("D&A") method.

Table 1: Own Funds by tier as of 31.12.2021 (excluding transitionals)

EUR bn

	Own Funds	% of total
Core Tier 1 (Tier 1 unrestricted)	69.3	80.6%
Tier 1 Hybrid (Tier 1 restricted)	6.1	7.1%
Tier 2	9.5	11.0%
Tier 3	1.1	1.3%
Total Group Own Funds (incl. Sectoral and Equivalent Own Funds)	86.0	100.0%

Tier 1 restricted and Tier 2 correspond to subordinated liabilities from the insurance group. Tier 3 relates mainly to the available part of the net deferred tax assets (EUR 0.7 bn) and Tier 3 sectoral Own Funds of Allianz Retraite S.A. (EUR 0.4 bn). As of 31st December 2021, the application of tier limits did not lead to a change in the structure or total amount of our Own Funds.

The Tier distribution including the EUR 12.4 bn impact from transitional measures includes EUR 12.4 bn more Tier 1 unrestricted, while the other Tiers remain unchanged. The Core Tier 1 ratio including transitionals increases to 83.0%, Tier 1 Hybrid decreases to 6.2%, Tier 2 decreases to 9.6% and Tier 3 decreases to 1.1%.

A.2.2 Own Funds movements

Regulatory / model changes

As a result of regulatory and model changes, we registered a EUR 0.2 bn increase of Own Funds after tax in 2021. Key drivers were the adjustment of the ultimate forward rate (UFR) by -15 basis points, changes to the economic scenario generator and several major model changes at our German Life/Health companies Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG. Transferability deduction of surplus funds at Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG in the amount of EUR -0.4 bn from model-related SCR changes were offsetting the model changes.

Operating SII earnings

Operating Solvency II earnings for the fiscal year 2021 amounted to EUR 12.9 bn before tax and dividend accrual.

For the Life/Health business segment, operating Solvency II earnings were EUR 5.1 bn, close to the operating profit under IFRS. The amount included EUR 2.4 bn from newly generated business. The contribution from in-force business would have been EUR 2.7 bn, as expected, but was reduced by a total of EUR -1.0 bn due to experience variances and changes in underlying assumptions.

The changes of equivalent Own Funds at Allianz Life US that were attributable to operating earnings amounted to EUR 1.0 bn.

The Property-Casualty business segment recorded Solvency II earnings of EUR 5.9 bn, in line with the respective IFRS result. At the Asset Management business segment, operating SII earnings were EUR 3.4 bn and similar to corresponding IFRS figures.

Operating Solvency II earnings of the business segment Corporate and Other of EUR -1.4 bn included external debt interest expenses to the amount of EUR -0.7 bn. Non-operating IFRS restructuring charges are not included in operating Solvency II earnings.

Operating capital generation came in at 29%-p pre-tax and pre-dividend, as shown in section A.1, figure 1. Net of tax and dividend, it amounted to 11%-p for 2021.

Market impact

In the course of the year, the market impact on Own Funds evened out. Apart from a EUR 0.9 bn increase due to foreign exchange ("FX") movements, other economic changes increased by EUR 0.3 bn. Furthermore, a market-induced decrease by EUR -1.2 bn was attributable to higher interest rates and lower credit spread risk decreasing the SCR, which increased the transferability deductions of surplus funds mainly at Allianz Lebensversicherungs-AG.

Capital Management

Capital management measures consumed EUR 6.4 bn of our Own Funds in 2021. A significant part of this was due to the dividend accrual for 2021, EUR 4.4 bn in total. Furthermore, the net impact from the issuance, repurchase and redemption of subordinated debt in 2021 had a total net impact of EUR -1.1 bn, of which EUR -1.6 bn are classified as Tier 2 and EUR 0.7 bn are classified as restricted Tier 1.

In the three-month period from August through October, a total of 3,835,255 shares were repurchased for a sum total of EUR 0.75 bn, and canceled in the fourth quarter.

Management actions

Management actions increased our Own Funds by EUR 1.9 bn in 2021. Most notably were the reinsurance transactions by Allianz Life US, which resulted in a EUR 3.5 bn increase, the acquisition of Aviva Poland with a total impact of EUR -1.4 bn, and the acquisition of Allianz Australia General Insurance Limited (former Westpac) of EUR -0.3 bn. Changes in our SCR related to management actions at both Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG resulted in lower transferability deductions of surplus funds by EUR 0.2 bn.

Tax

Taxes reduced our Own Funds by a total of EUR -3.5 bn in 2021. Taxes relating to operating Solvency II earnings amounted to EUR -3.0 bn.

Other changes

Other changes to our Own Funds in 2021 amounted to EUR -4.2 bn. Most of this was attributable to a provision of EUR -3.7 bn for the AllianzGI U.S. Structured Alpha matter, without offsetting tax impact in Group Own Funds due to transferability restrictions. The remaining changes were movements of Surplus Funds and Going Concern Reserves, changes in transferability restrictions, and restructuring charges.

Table 2: Movement of Own Funds

EUR bn

	L/H	P/C	AM	CO/Conso.	Group
Own Funds 31.12.2020 (excluding transitional measures)	**49.6**	**30.8**	**1.7**	**2.8**	**84.9**
Regulatory / model Changes (after-tax impact)					**0.2**
Operating SII earnings	**5.1**	**5.9**	**3.4**	**-1.4**	**12.9**
Market Impact including FX	**0.1**	**0.1**	**0.1**	**-0.3**	**0.0**
Capital Management					**-6.4**
Management Actions					**1.9**
Tax	-1.9	-1.0	-0.6	-0.1	**-3.5**
Other Changes					**-4.2**
Own Funds 31.12.2021 (excluding transitional measures)	**54.9**	**33.1**	**2.6**	**-4.6**	**86.0**

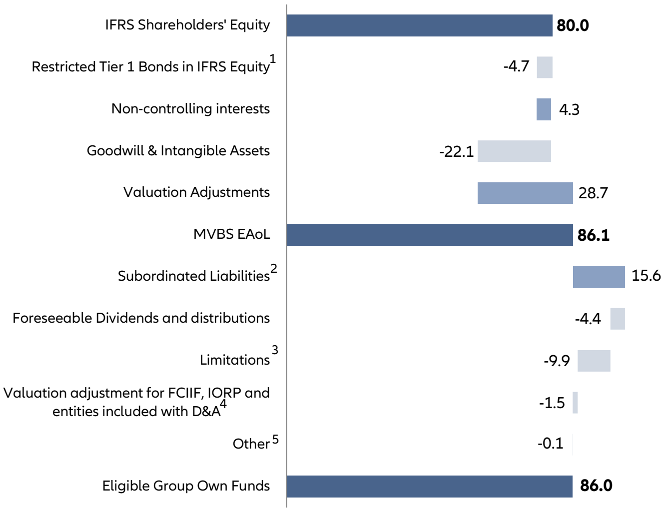
Please note that segment totals do not add up because some movement items are only disclosed for the group in total.

A.2.3 SII Own Funds reconciled to IFRS shareholders' equity

Key differences in the reconciliation from IFRS shareholders' equity to Solvency II Group MVBS excess assets over liabilities (EAoL) are:

- Non-controlling interests are partly eligible as Group Own Funds, offset by related transferability restrictions shown in the reconciliation from EAoL to Group Own Funds.
- Goodwill and intangible assets are valued at zero in Solvency II.
- Valuation adjustments, mainly coming from market valuation of bonds, loans & mortgages, real estate and technical provisions, while DAC is set to zero.
- Valuation adjustments also reflect scope differences for selected non-material non- EEA insurers which are included in IFRS but excluded in Solvency II (book-value-deduction).
- The restricted Tier 1 bonds issued 4Q 2020 and in 3Q 2021 are disclosed in IFRS shareholders' equity, but remain liability in the MVBS presentation.

Figure 3: Reconciliation from MVBS EAoL to SII Group Own Funds



1) Restricted Tier 1 bonds issued in 2020 and 2021 are disclosed as IFRS Shareholders' Equity, whereas under Solvency II they are disclosed under subordinated liabilities.
2) Dividend accrual for annual 2021 (4.4 bn).
3) Comprise transferability and fungibility deductions relating to non-controlling interests (-2.4 bn), surplus funds (-6.0 bn) and net DTA (-1.5 bn).
4) Resulting from the revaluation to sectoral / equivalent Own Funds, including regulatory required transferability restriction for equivalent Own Funds of AZ Life US (-1 bn).
5) Comprise Own Shares and adjustment related to Ring-fenced Funds.

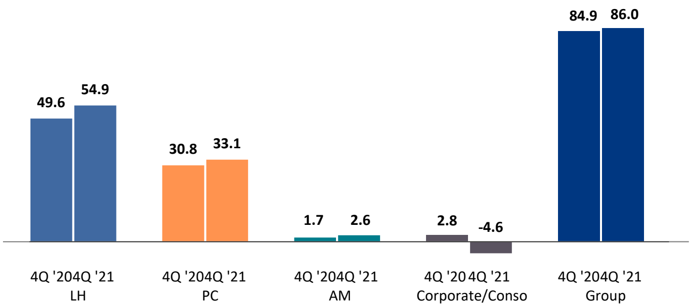
Key reconciliation items from MVBS EAoL to Solvency II Group Own Funds are:

- Subordinated liabilities qualifying as Own Funds.
- Foreseeable dividends and distributions (e.g. share buyback) are deducted from Own Funds.
- Transferability restrictions apply for non-controlling interests, surplus funds, net DTA and the regulatory required transferability restriction for equivalent Own Funds of AZ Life US.
- Banks, Asset Managers and IORPs (institutions for occupational retirement provision) are included with their respective sectoral own funds, which creates a valuation adjustment relative to the IFRS-based participation book-value reflected in the MVBS EAoL.
- Selected non-EEA insurers (particularly AZ Life US) are included with their respective national (equivalent) regime Own Funds – so called D&A method, which creates a valuation adjustment relative to the IFRS-based participation book-value reflected in the MVBS EAoL

A.2.4 Own Funds contribution by segment

Figure 4 discloses the beginning and ending balances of Own Funds contributions by segment (see also table 2). Thereby Own Funds contributions of a segment are compiled using the Own Funds of the entities assigned to the respective segment, adjusted for intra-group participations, intra-group subordinated debt and transferability restrictions.

Figure 4: Own Funds contribution by segment[1]



1) Please note that the Own Funds contributions of the segments have no regulatory meaning.

Key contributors with an individual Own Funds contribution of ~ 3% or more to Group Own Funds are disclosed in table 3.

Table 3: Key contributors to Group Own Funds (excluding transitional measures)

Entities contributing more than 3% to Group Own Funds	OF contribution (bn EUR)	OF contribution (% of Group OF)
Allianz Lebensversicherungs-AG	22.3	26%
Allianz Life US	9.9	12%
Allianz Versicherungs-AG	5.3	6%
Allianz Vie S.A.	5.0	6%
Allianz Private Krankenversicherungs-AG	5.0	6%
AGCS incl. ART & AGR US	3.6	4%
Allianz IARD S.A.	3.4	4%
Euler Hermes	2.8	3%
Allianz S.p.A.	2.3	3%

A.3 SCR MOVEMENTS

For the year 2021, the SCR showed an increase of EUR +0.3 bn.

Figure 5: Movement of SCR

A.3.1 SCR movement

The EUR 0.3 bn increase in the Solvency II Capital Requirement was partially due to the net effect of management actions. In this context, the acquisition of new business in Poland (Aviva Poland), Australia (the general insurance business of Westpac), Italy (Aviva Italy), and new equity investments led to higher capital requirements. These where partially compensated by risk mitigating measures such as life back book reinsurance transactions of Allianz Group companies in the U.S., Switzerland and France. Business evolution also contributed to a higher risk capital, driven by the net earned premiums in the Property-Casualty business segment and new business in the Life/Health segment. Other effects such as model and assumptions updates and a lower tax relief further contributed to the increment. This was partially compensated by a risk capital relief from market developments mainly due to higher interest rates and from regulatory/model changes. The key drivers of the movement are explained in detail below.

Regulatory / model changes

Regulatory Changes / Model Changes (EUR -0.4 bn) were mainly driven by the refinement of dynamic modelling of the volatility adjustment at Allianz Lebensversicherungs-AG and Cash-Flow model changes at Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG. This was partly offset by a regulatory credit risk factors change at Allianz Life U.S. and the annual EIOPA UFR update.

Business evolution

Business evolution (EUR +0.4 bn) increased driven by net earned premium growth in the Property & Casualty business segment.

Market impact

Market impact (EUR -1.2 bn) mainly driven by higher interest rates which also led to exposure-driven reduction in credit spread risk.

Management actions

Management actions (EUR +0.5 bn) were mainly driven by the acquisition of new business in Poland (Aviva Poland), Australia (the general insurance business of Westpac), Italy (a Property & Casualty business of Aviva Italy). These where partially compensated by risk mitigating measures such as life backbook reinsurance transactions in the US, Switzerland and France.

Other

Other effects (EUR +0.9 bn) increased mainly resulting from model and assumption updates as well as a lower tax relief.

A.3.2 SII capitalization

SII ratio – on very good level

Compared to year-end 2020, our Solvency II capitalization ratio increased by 1 %-p to 209 % (2020: 207 %) since the slight increase in the Solvency II Capital Requirement was overcompensated by the increase of the Own Funds. The increase in the Solvency II ratio was mainly driven by the operating Solvency II capital generation and business evolution (29 %-p), positive market developments (8 %-p) such as the rise in interest rates and positive equity markets, as well as regulatory and model changes (3 %-p).

Capital Management/management actions reduced the Solvency ratio by -14%-p, predominantly driven by dividend accrual, share buy back and the reduction of subordinated loans (combined impact ~-16%-p). Acquisitions (e.g. Aviva Poland, Aviva Italy and Westpac) and life backbook management actions (e.g. US and Switzerland) largely offset each other. In addition own funds reductions driven by taxes (EUR -3.5bn) and a provision for the AllianzGI U.S. Structured Alpha matter (EUR -3.7bn) were the main drivers for a reduction of the Solvency ratio by -24%-p in the bucket tax/other.

Figure 6: SII capitalization

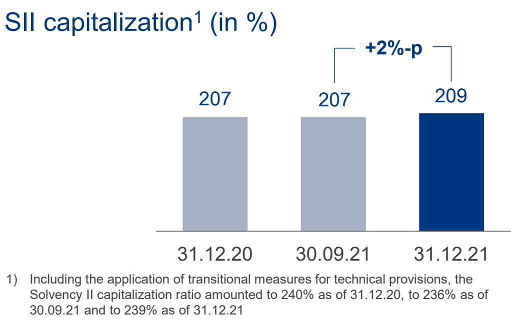
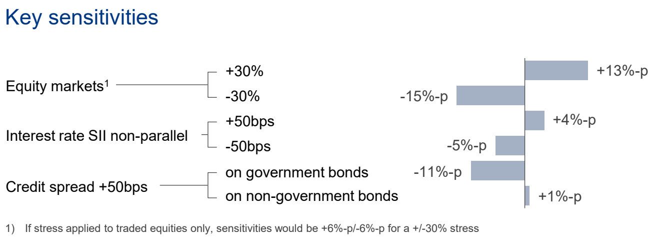


Figure 7: Key Sensitivities (EUR bn)



LIFE SUPPLEMENT

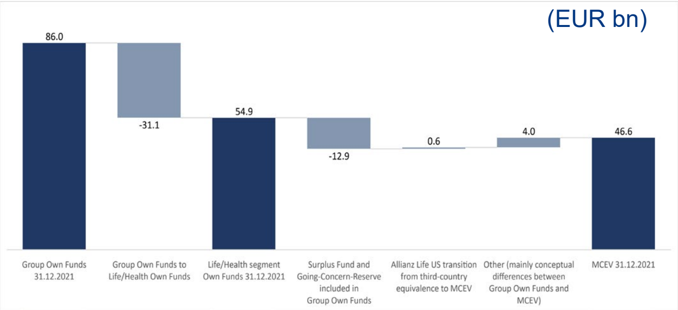
B

B.1 INTRODUCTION TO LIFE SUPPLEMENT

B.1.1 From Group Own Funds to MCEV

Figure 8 shows a reconciliation between Group Own Funds and Life/Health MCEV at the end of the year 2021.

Figure 8: Reconciliation Group Own Funds and MCEV 31.12.2021



To build the bridge between Group Own Funds and MCEV, the following blocks are needed:

Group Own Funds to MCEV

Starting point is the Total Own Funds value on Group level.

- Deduction of Own Funds value related to other segments than Life/Health business within the Allianz Group, i.e. Property & Casualty, Asset Management and Corporate.
- Own Funds value of the Life/Health segment within Allianz Group.
- Deduction of Surplus Funds (after transferability restrictions) and Going Concern Reserves which comprise part of Own Funds, but are not considered shareholders' economic value under the MCEV principles.
- Deduction of AZ Life US own funds according to third-country equivalence basis and addition of AZ Life US according to MCEV basis.
- Other scope alignments which consist of further, mainly conceptual differences between Group Own Funds and MCEV, namely differences in scope (L/H entities not in scope of MCEV), impact of consolidation (e.g. consideration of intragroup transactions), recognition of non-controlling interest and transferability restriction in Group Own Funds.

Final result is the MCEV as used in internal reporting.

Allianz Group implemented Solvency II in 2015. This decision had two direct implications on the calculation and disclosure of MCEV:

- MCEV calculation is based on the Solvency II Market Value Balance Sheet. The methodology is fully aligned with the MCEV Principles as revised in May 2016. Further explanation of the methodology can be found in section B.7.1. Details on the MCEV transition can be found in the Allianz MCEV Report 2015.
- MCEV values are integrated in the Allianz Solvency II disclosure and used as a key input to explain the movement of the Own Funds for Life/Health entities as part of the Own Funds / SCR movement in the Analyst Presentation every quarter. A detailed explanation of the year to date movement can be found in section B.2. This value is referred to as the **MCEV on SII L/H basis** (43.6 bn) which differs from the MCEV (46.6 bn) to better reconcile with the Own Funds movements.

B.1.2 Overview of results

In 2021, the MCEV of the Allianz Group Life/Health business increased substantially driven by reinsurance transactions, acquisitions and new business, supported by a favourable economic environment with good performance in equity markets, higher interest rates and narrowing credit spreads. The MCEV increased to EUR 46,558 mn at the end of 2021 including dividend payments and capital movements (EUR -2,783 mn). Reinsurance transactions and acquisitions show the ability of Allianz Group to adjust its business to the still challenging low interest rate environment and to strengthen resilience, as Allianz Group has worked over the years to reduce its exposure to interest rates by effective business steering towards preferred lines of business.

Impacted by improved business mix and expanded sales, new business developed positively with a 45% increase in Value of New Business ("VNB") after tax compared to 2020, partly offset by economics and model changes. New business developed in line with Allianz Group targets:

- The New Business Margin closed the year at 3.2% in 2021 (2.8% in 2020).
- 88% of sales are in preferred lines of business, well above Allianz Group ambition of 80%.

Table 4: Evolution of Embedded Value and Value of New Business

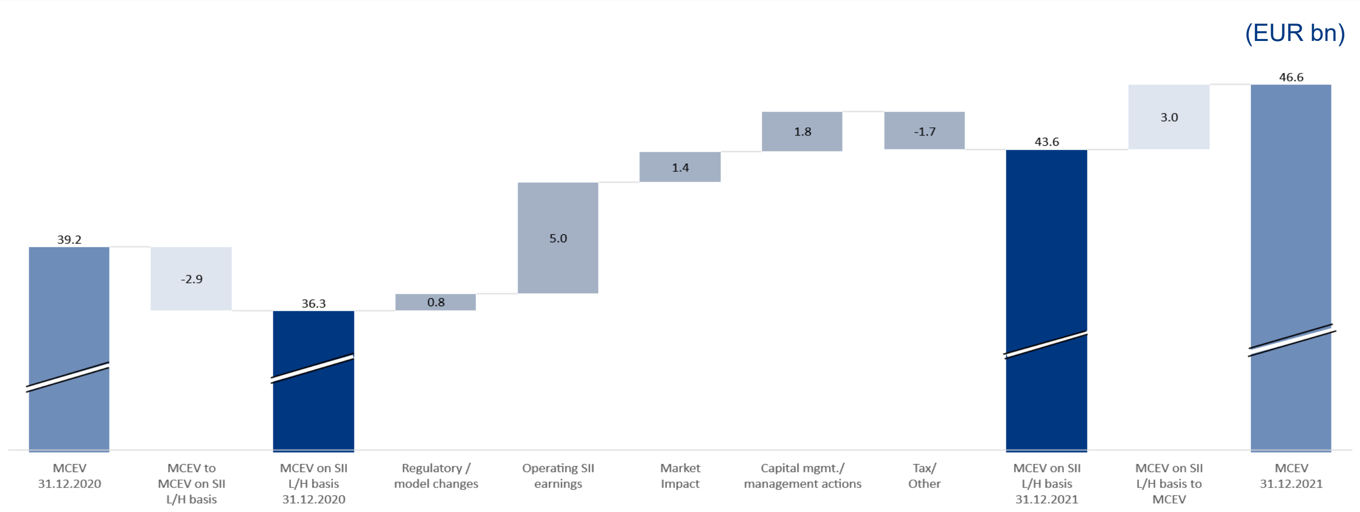
EUR mn

	31.12.2020	31.12.2021	Change in %
MCEV	39,192	46,558	+19%
Value of New Business	1,743	2,527	+45%

The drivers of the changes in MCEV and VNB will be described in detail in the following sections and chapters.

B.2 DEVELOPMENT OF EMBEDDED VALUE

Figure 9: Development of Embedded Value during the year 2021



Allianz has leveraged on the adoption of Solvency II to further streamline the reporting chain striving for simplification, performance and technical excellence. To avoid any redundancies, by embracing the Own Funds as a key metric, Allianz has now introduced MCEV on SII L/H basis. This is a valuable instrument to explain the Own Funds movements for the L/H segment. MCEV on SII L/H basis deducts from MCEV those entities not in scope of the SII MVBS (Mexico, Middle-East & North Africa, smaller Asian entities, AZ Retraite) and also replaces the MCEV of AZ Life US with Own Funds from third-country equivalence to be better in line with SII own funds. As a consequence, the movement of the MCEV on SII L/H basis reconciles to the Own Funds movements for the L/H segment. Deviations between both movements are explained by movements on items out of scope of MCEV, e.g. movements on Surplus Funds, Going Concern reserves, non-controlling interests and transferability restrictions and differences in scope.

Table 5: Analysis of Earnings of Embedded Value – L/H segment

EUR mn

	MCEV
MCEV 31.12.2020	39,192
MCEV to MCEV on SII L/H basis	-2,868
MCEV on SII L/H basis 31.12.2020	36,323
Regulatory / model Changes (after-tax impact)	764
Operating SII earnings	5,026
New business contribution	2,371
Expected inforce contribution	2,689
Assumption changes & Experience variances	-1,013
Debt costs	0
Other	980
Market Impact including FX	1,408
Capital Management	-2,853
Management Actions	4,659
Tax	-1,892
Other Changes	166
MCEV on SII L/H basis 31.12.2021	43,601
MCEV on SII L/H basis to MCEV	2,957
MCEV 31.12.2021	46,558

MCEV increased by 18.8% from EUR 39,192 mn to EUR 46,558 mn. MCEV on SII L/H basis increased by 20% from EUR 36,323 mn to EUR 43,601 mn largely impacted by management actions, favorable economic environment and new business.

On an SII L/H basis, the key components of the change in 2021 were as follows (all movement steps are before tax except for regulatory / model changes which are after tax):

Regulatory / model changes (EUR 764 mn after tax) include global changes reflecting regulatory requirements, and local model changes that are pre-aligned and reported to the regulator.

In 2021, it comprises changes such as the central economic scenario generator model change, model changes at Allianz Lebensversicherungs-AG and Allianz Private Krankenversicherungs-AG as well as the introduction of a regional stochastic cashflow model in Asia-Pacific.

Operating SII earnings (EUR 5,026 mn) represents the sum of the operating drivers described below:

New business contribution (EUR 2,371 mn) takes into account all expenses with respect to new business written during the year, including acquisition expense over- and underruns.

In 2021, new business was above previous year from increased profitability, higher volumes as well as reworking actions on back-book. The business mix was well on track with Group ambition with a good quality of underwritten business and further productivity gains. Main contributors were the US, France and Italy.

Expected inforce contribution (EUR 2,689 mn) comprises:

- Expected returns on reference rate (EUR 806 mn) which shows the unwinding of the discount on MCEV with respect to the reference rates used in the market consistent projection.
  For the inforce, the value reflects the effect of one year less discounting of future profits. For the new business, the value reflects

the progression from point of sale to end of year. This step also includes the release of the margin for the year built into the valuation for uncertainty (options and guarantees) with regard to asymmetric financial risk and non-financial risk.

- Over-returns in excess of reference rates (EUR 1,851 mn) shows additional earnings consistent with management expectations. In this step, based on normalized real-world assumptions provided in section B.7.2.6, risk premiums on bonds, equity and real estate are expected to materialize.
- Cash-flow movements (EUR 32 mn) correspond to the realization of projected net profits. This step is not material for the MCEV development as assets and liabilities are moving in parallel.

Assumption changes & experience variances (EUR -1,013 mn) comprise:

- Non-economic assumption changes (EUR -392 mn) reflect changes in assumptions such as lapses, mortality and expenses. For the 2021 annual assumption changes, the main drivers were the updates in the US from assumptions on benefit utilization and long-term care policyholder rates, in Italy from expenses and in Germany Life from longevity and again expenses.
- Experience variances (EUR -346 mn) reflect the deviations of actual experience from expectations during the year with respect to non-economic factors. The largest impact came from Germany Life due to a strengthening of local GAAP balance sheet buffers (Rückstellung für Beitragsrückerstattung RfB) to reflect actual policyholder crediting and experience variance with respect to the shareholder target.
- Other operating variances (EUR -275 mn) are driven by true-ups in Germany (Model point updates) and France (update of guaranteed rates in inflation linked products) and changes in the crediting strategy of AZ Life US.

Other (EUR 980 mn) relates to changes of equivalent Own Funds of AZ Life US attributable to Operating SII earnings.

Market impact including FX (1,408 mn) includes both foreign exchange and economic variances with elements such as the impacts of changes in interest rates, actual development of equity markets, actual performance of the assets in the portfolio and currency exchange effects.

In 2021, the contribution from economic movements was largely positive. The main drivers were:

- Equity markets performed very well over the year, e.g. the EuroStoxx 50 rose by 21% and the S&P 500 by 26,9%. In addition, the year saw good performance by the extensive alternative assets portfolio held by Life entities.
- Risk-free rates increased substantially, e.g. 10Y EUR-SWAP rate was 57 bps higher (0,2% vs. -0,37%) and 10Y USD-SWAP rate was 71 bps higher (1.48% vs. 0.77%).
- Credit spreads narrowed for the US and the Germany Life portfolios, partly offset by widening government credit spreads in Italy.
- The Euro has weakened on the global FX markets over the last year, in particular against the US Dollar (EUR/USD 1.14 vs. 1.22) as well as several Asian and Eastern European currencies.

Capital management (EUR -2,853 mn) reflect the net dividends and capital movements from resp. to our life companies.

In 2021, the movement originated mostly from dividend payments. The amount of dividends was higher compared to last year (EUR 2,266 mn were paid in 2020). The major drivers were dividends from AZ Life US, Germany Life and France.

Management actions (EUR 4,659 mn) are mainly driven by reinsurance back book transactions in AZ Life US, Switzerland and France as well as the acquisition of AVIVA.

Tax (EUR -1,892 mn) corresponds to the tax reported by Life/Health entities and reflects the bottom-up tax calculation on the MVBS. The effect was in line with the overall profit in the Life/Health portfolio, together with the tax impact from model changes.

Other changes (EUR 166 mn) are mainly impacted by internal capital transfers between entities in scope of the MCEV as well as restructuring charges.

The two reconciliation steps between MCEV and MCEV on SII L/H basis (EUR -2,868 mn and EUR 2,957 mn) are designed to help the reader understand the bridge between MCEV on SII L/H basis and MCEV shareholders' value. These movements are symmetric.

The difference in magnitude between the two values was driven by AZ Life US, where reinsurance transactions significantly altered the scope of the business, as well as the movements of Asian entities that are in scope of MCEV only, in particular the acquisition of the minority stake of AZ China Life and model changes.

B.3 DEVELOPMENT OF VALUE OF NEW BUSINESS

Table 6 shows the reconciliation between the new business contribution shown in previous chapters and the value of new business generated by our Life/Health entities. The main differences are tax and scope (AZ Life US and entities out of the Solvency II scope).

Table 6: Reconciliation New Business – L/H segment

EUR mn

	2021
New business contribution to Own Funds movement (before tax)	2,371
Change in scope	1,020
Total New business contribution (before tax)	3,391
Tax	874
Value of New Business (after tax)	2,527

Table 7 presents the VNB at point of sale after tax, calculated as the sum of quarterly disclosed values. These quarterly values are calculated using assumptions as of the start of the quarter in which the business was sold. The VNB methodology is described further in section B.7.

The VNB in 2021 was EUR 2,527 mn, 45% higher than in 2020. The New Business Margin ("NBM") increased from 2.8% to 3.2%.

Table 7: Value of New Business – L/H segment

EUR mn

	2021	2020	Change in %
Present Value of New Business Premiums	78,650	61,497	28%
New Business Margin[1] (in %)	3.2%	2.8%	0.4%-p
Value of New Business	**2,527**	**1,743**	**45%**
(not included: look-through profits)	185	170	9%
APE Margin[2] (in %)	26.3%	20.2%	6.1%-p
Single premium[3]	45,455	37,281	22%
Recurrent Premium	5,069	4,888	4%
Recurrent premium multiplier[4]	7	5	32%

1_NBM= VNB / Present Value of New Business Premiums
2_APE margin = VNB / (recurrent premium + single premium / 10)
3_In Germany, single premium excludes Parkdepot
4_Recurent Premium Multiplier = (PVNBP - single premium) / recurrent premium

Allianz entities have further adapted their products on sale to the economic environment, in which short and even mid-term interest rates were very low in the first half of 2021, e.g. for CHF and EUR.

Successful management actions included:

- new business steering towards capital efficient products;
- lowering average guarantees to -0.19%, in new traditional business which contributed to the reduction of the average guarantees of the inforce from 1.85% in 2020 to 1.76% in 2021;
- interest rate sensitivity on a low level, by introducing products with less dependency on market rates;
- increasing pricing agility;
- improving ALM.

The increase by 28% of the present value of new business premiums ("PVNBP") reflects a wide-spread business growth during 2021 as well as the effect of back-book actions in Italy and France.

Higher sales of single premiums were mainly driven by increased fixed index and variable annuities in the US as well by transfer actions in France and renegotiations on group business contracts in Italy.

Recurring premiums increased driven by AZ RE treaty and CEE region mainly from regulatory change on contract boundary treatment in Poland.

Table 8: Development of Value of New Business – L/H segment

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	**61,497**	**2.8%**	**1,743**
Foreign Exchange Variance	- 42	0.0%	0
Acquired / Divested business	439	0.0%	43
Adjusted opening value	61,894	2.9%	1,786
Volume	15,185	0.0%	388
Business mix	-	0.5%	388
Assumptions	1,571	-0.1%	- 35
VNB 31.12.2021	**78,650**	**3.2%**	**2,527**

Foreign exchange rate movements had minor impact on VNB, mainly from offsetting effect in Turkey and Asia.

Allianz acquired Aviva Poland in the fourth quarter of 2021, consolidating its position in CEE region.

Volume impact was driven by US (EUR +115 mn) from expanded sales, Italy (EUR +83 mn) from successful back-book renegotiations and UL sales growth and from France by ongoing product transfer actions (EUR 23 mn). Positive contributions also from a big reinsurance treaty.

Business mix improved from wide-spread efforts across our subsidiaries towards more capital-efficient products: US (EUR 99 mn) from product changes on FIA, France (EUR 135 mn) from transfers to new hybrid products, Germany Life (EUR 113 mn) from a favorable shift toward capital-efficient hybrid/UL products, and higher shares of Protection business.

The share of preferred business increased from 86% to 88% as unit linked without guarantees products and protection and health business weight increased with only a slight offset in CEAG LoB driven by lower sales in Germany. Traditional guaranteed savings and annuity products share in new business decreased by -1%-p mainly from shifted production in CEAG and UL Line of Business in France, partially offset by favorable renegotiations in Italy.

The economic environment negatively impacted European regions with lower interest rates in the first half of 2021, mitigated by US improved economics, resulting in an overall EUR -32 mn strain.

Changes in assumptions of EUR -3 mn mainly reflecting the non-economic assumption updates and model changes carried over during 2021.

Further details on the drivers for the change in each region can be found in the regional analysis in section B.6.

B.4 PROFIT EMERGENCE

The MCEV represents shareholders' economic value of the Life/Health inforce business, but does not provide any insights into the timing of profit emergence.

Timing of the projected cash-flows depends very much on the underlying portfolio and varies across the Group. Allianz Group's Life/Health segment includes short-term portfolios, such as short-term savings or protection, as well as long-term portfolios, for example annuities. The overall duration of the liabilities is to a high degree driven by the block of long-term traditional business in Germany.

The following graph presents the pattern of risk-neutral and real-world profits grouped by 5 years' time buckets. These profits are only related to the current inforce portfolio; it includes the new business of the current year but future new business is not considered. This projection of future profits shows a stable earnings release and return on capital over the entire projection period, with risk premia under the real world projection increasing the expected profits significantly.

Table 9 shows the corresponding expected maturity profile of the present value of future profits ("PVFP") in a risk-neutral environment.

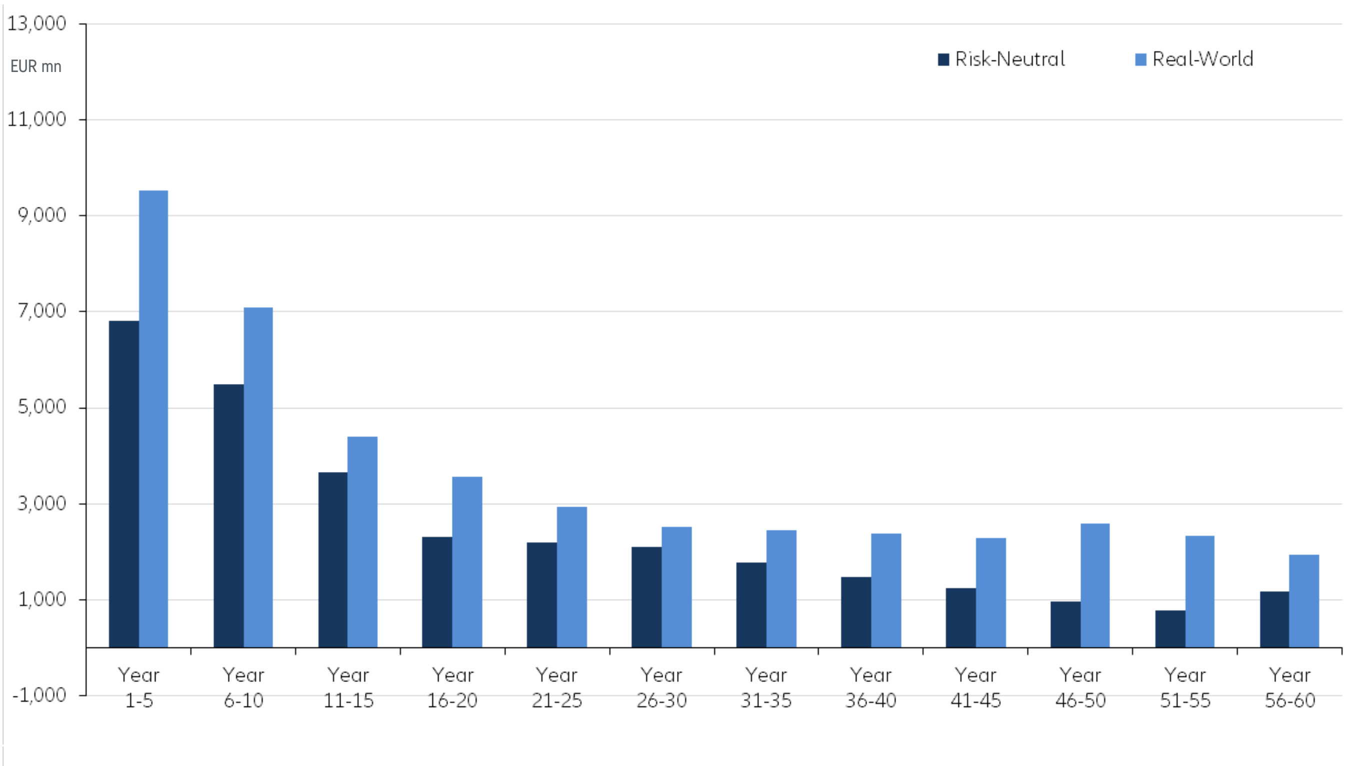
Table 9: Remaining present value of future risk-neutral profits

EUR mn

End of year	PVFP	% of initial PVFP
year 5	23,145	70%
year 10	15,070	46%
year 15	11,112	34%
year 20	7,734	23%
year 25	6,195	19%
year 30	4,853	15%
year 35	3,764	11%
year 40	2,884	9%
year 45	2,098	6%
year 50	1,516	5%

Table includes all OEs in scope of MCEV

Figure 10: Pattern of risk-neutral and real-world profit for the inforce



Graph includes all entities in scope of Solvency II, excluding terminal profit sharing

B.5 SENSITIVITIES

Sensitivity testing with respect to the underlying best estimate assumptions is an important part of the MCEV calculations. Both economic and non-economic factors are tested. For the sensitivities, we apply the same management rules and policyholder behavior as for the base case. It should be noted that the sensitivities are usually correlated so that the impact of two events occurring simultaneously is unlikely to be the sum of the outcomes of the corresponding tests. Where it has been determined that the impact of assumption changes is symmetric, one-sided sensitivities are shown.

The sensitivities presented in table 10 below correspond to the primary economic and non-economic factors specified in the MCEV Principles. Actual realizations in the future can differ from the assumptions presented here.

Table 10: Sensitivities

EUR mn

	Inforce MCEV		New Business VNB[1]	
	EUR mn	%	EUR mn	%
Central Assumptions	**46,558**	**100%**	**2,527**	**100%**
Change by economic factors				
Risk Free Rate –50bp	7	0.0%	-95	-4%
Risk Free Rate +50bp	-281	-0.6%	10	0%
Equity values –20 %	-3,328	-7.1%	-170	-7%
Swaption volatilities +25 %	-1,347	-2.9%	-42	-2%
Equity option volatilities +25 %	-1,158	-2.5%	-44	-2%
Change by non-economic factors				
Lapse Rates –10 %	496	1.1%	151	6%
Maintenance Expenses –10 %	1,154	2.5%	122	5%
Mortality +15 % for products with death risk	-875	-1.9%	-309	-12%
Mortality –20 % for products with longevity risk	-3,072	-6.6%	-26	-1%

1_VNB sensitivities are the sum of quarter slice sensitivities.

DECREASE/INCREASE OF THE UNDERLYING MARKET RISK-FREE RATES

This sensitivity shows by how much the MCEV would change if market interest rates in the different economies were to fall or rise. The sensitivity is designed to indicate the impact of a sudden shift in the risk-free yield-curve, accompanied by a shift in all economic assumptions including discount rates, market values of fixed income assets as well as equity and real estate return assumptions. Yield-curve extrapolation is applied in sensitivities to interest rate shifts. This means that only the deep and liquid part of yield-curves are subject to parallel shifts while the ultimate forward rate is kept stable, in line with its design under Solvency II. Due to the asymmetric and non-linear impact of embedded financial options and guarantees ("O&G"), falling market rates usually have a higher impact on MCEV than rising rates and the impact increases for each further step down. A change of -50bps in interest rates results in an increase of the MCEV of EUR 7 mn or rounded +0.0%. This is a further strengthening of resilience against interest rate changes in comparison to the corresponding impact shown for 2020 of -3%, driven by the significantly increased interest rates which reduced the time value of options & guarantees. An increase in interest rates of +50bps leads to an MCEV sensitivity of EUR -281 mn or -0.6%. VNB decreases by EUR -95 mn in case of interest rates decreasing by 50 bps, while VNB increases by EUR 10 mn or rounded 0% in case of an increase of interest rates by 50 bps.

Additional sensitivities were performed to test the impact of changes to the UFR. In contrast to the sensitivities in which the deep and liquid part of the yield-curves are shocked, in these additional sensitivities the UFR is shocked by -200bps and the deep and liquid part of the yield-curves remains unchanged. Lowering the UFR by 200bps reduces MCEV by -4,692 mn and hence less than 2020, reflecting again the higher interest rate level. VNB would decrease by EUR -178 mn.

DECREASE IN EQUITY VALUES AT THE VALUATION DATE

This sensitivity is designed to indicate the impact of a sudden change in the market values of equity assets. Since the modeled investment strategies take into account a certain target allocation based on market value, this shock may lead to a rebalancing of the modeled assets at the end of the first year, when defined boundaries for each asset class are exceeded. A drop of equity values by 20% reduces MCEV by EUR -3,328 mn or -7.1%. This is higher than last year's change, reflecting a higher basis value of equity investments due to good equity performance in 2021.

VNB decreases by EUR -170 mn or -7% in case of a -20% equity value decrease.

INCREASES IN VOLATILITIES FOR FIXED INCOME AND EQUITY

These sensitivities show the effect of increasing all volatilities, i.e. swaption implied volatilities, equity option implied volatilities and real estate volatility by 25% of the assumed rate. An increase in volatilities leads to higher O&G for traditional participating business.

MCEV decreases by EUR -1,347 mn or -2.9% for an increase in swaption implied volatility, this is lower than last year's impact, reflecting the significantly increased interest rate environment which decreased time value of options & guarantees. VNB decreases by EUR -42 mn or -2%.

MCEV decreases by EUR -1,158 mn or -2.5% for an increase in equity option implied volatility and VNB decreases by EUR -44 mn or -2%.

DECREASE IN LAPSE RATES

A 10% proportionate decrease in projected lapse rates results in an increase in MCEV of EUR 496 mn or 1.1%, reflecting the fact that lower lapse rates retain the business for longer, which is beneficial for profitable unit-linked business, but also for traditional life business which is more profitable due to higher interest rates in 2021 increasing expected capital market returns.

DECREASE IN MAINTENANCE EXPENSES

The impact of a 10% decrease in projected expenses in MCEV is EUR 1,154 mn or 2.5%. This sensitivity is on last year's level.

CHANGES IN MORTALITY AND MORBIDITY RATES

These sensitivities show the impact of an increase in mortality rates by 15% for products with death risk and a decrease in mortality rates of

20% for products exposed to longevity risk. Since the future experience for the different insured populations in the two product groups might vary significantly, the impacts are shown separately. For products with death risks, an increase in mortality rates by 15% leads to a decrease in MCEV of EUR -875 mn or -1.9% This has increased in comparison to last year's level, reflecting in particular changes in the reinsurance business. A decline in mortality rates by 20% on products exposed to longevity risk would lead to a decrease in MCEV of EUR -3,072 mn or -6.6%. This is on a significantly lower level than last year, as the increase in the interest rate level decreased the longevity risks, since under this sensitivity options & guarantees remain even longer in our portfolio, but are less material due to higher interest rates.

The impact of non-economic shocks on MCEV is mitigated by the ability to share technical profits and losses with policyholders, particularly in Germany, but also by significant offsetting effects between the different entities of Allianz, in particular with respect to interest rate risk.

B.6 REGIONAL ANALYSIS

B.6.1 Regional distribution

The regional distribution consists of:

GERMAN SPEAKING COUNTRIES

- Germany Life includes Allianz Lebensversicherungs-AG, Deutsche Lebensversicherungs-AG and German variable annuity business written in Ireland. Its subsidiaries are included at equity.
- Germany Health is Allianz's health business Allianz Private Krankenversicherungs AG.
- Life operations in Switzerland.

WESTERN & SOUTHERN EUROPE

- Life operations in France including partnerships and French variable annuity business written in Ireland.
- Italy includes Italian and Irish life subsidiaries and Italian variable annuity business written in Ireland.
- Life operations in Belgium, Netherlands, Luxemburg, Greece, Turkey.

IBERIA & LATIN AMERICA

- Life operations in Spain, Portugal and Mexico.

CENTRAL AND EASTERN EUROPE

- Life operations in Austria, Slovakia, Czech Republic, Poland, Lithuania, Hungary, Croatia, Bulgaria and Romania.

ASIA PACIFIC

- Life operations in Taiwan, Thailand, China, Indonesia, Malaysia, Japan and Philippines.
- The non-consolidated life operation in India is not included.

USA

- AZ Life US.

OTHER

- Holding: Internal life reinsurance.
- Middle-East: Egypt and Lebanon.
- Allianz Global Life, excluding continental European branches.

In the following chapters, the analysis is presented for each material region, with specific focus on our larger life operations: Germany Life, France, Italy, USA and Asia Pacific.

B.6.2 Embedded Value by region

Table 11: Embedded Value by region

EUR mn

	German Speaking Countries		Western & Southern Europe			Iberia and Latin America	CEE	Asia Pacific	USA	Other	Total
	Total	Germany Life	Total	France	Italy						
MCEV 31.12.2020	15,843	11,342	8,876	4,597	2,649	1,244	1,160	3,291	8,300	477	39,192
MCEV 31.12.2021	17,854	11,486	9,281	4,521	3,144	1,221	2,291	4,626	10,558	727	46,558

B.6.3 Value of New Business by region

Table 12: Value of New Business by region

EUR mn

	German Speaking Countries		Western & Southern Europe			Iberia and Latin America	CEE	Asia Pacific	USA	Other	Total
	Total	Germany Life	Total	France	Italy						
Value of New Business	799	631	541	192	264	108	56	338	530	155	2,527
in % total VNB	32%	25%	21%	8%	10%	4%	2%	13%	21%	6%	100%
New Business Margin in %	3.0%	2.9%	2.1%	1.9%	2.0%	5.1%	4.8%	5.7%	3.9%	3.9%	3.2%
Present Value of NB Premiums	26,324	21,841	25,626	9,865	13,447	2,109	1184	5,953	13,443	4,012	78,650
APE Margin[1] in %	36.4%	36.0%	13.1%	7.4%	22.4%	34.1%	14.4%	39.0%	35.5%	69.4%	26.3%
APE Absolute	2,196	1,752	4,125	2,594	1,180	317	391	868	1,494	223	9,615
Single Premium [2]	10,555	10,388	18,857	7,883	9,178	908	207	2,964	11,964	0	45,455
Recurrent Premium	1,141	714	2240	1806	263	226	370	571	298	223	5069
Recurrent premium multiplier [3]	14	16	3	1	16	5	3	5	5	18	7
Value of New Business by product type											
Capital Efficient	428	425	98	64	24	54	3	20	476	0	1080
Guaranteed Savings & Annuities	47	42	24	-35	53	-1	2	35	0	3	111
Protection & Health	316	164	128	59	36	51	34	177	54	135	895
Unit-linked without Guarantees	7	-	291	105	152	3	17	106	-	16	441
New Business Margin by product type											
Capital Efficient in %	2.6%	2.6%	2.3%	2.7%	1.6%	6.8%	2.0%	4.6%	4.0%	n/a	3.2%
Guaranteed Savings & Annuities in %	1.3%	1.4%	0.5%	-2.5%	1.5%	-3.0%	2.3%	4.3%	n/a	8.7%	1.1%
Protection & Health in %	5.4%	6.8%	4.0%	2.1%	15.9%	11.4%	8.5%	12.1%	3.7%	3.6%	5.4%
Unit-linked without Guarantees in %	4.8%	n/a	2.2%	3.2%	1.9%	0.4%	3.2%	3.3%	n/a	7.3%	2.5%

1_APE margin = Value of New Business / (recurrent premium + single premium / 10)

2_In Germany, single premium excludes Parkdepot

3_Recurrent Premium Multiplier = (PVNBP - single premium) / recurrent premium

B.6.4 Germany Life

Development of Embedded Value

The MCEV of Germany Life increased by +1.3% from EUR 11,342 mn to EUR 11,486 mn, impacted mainly by expected inforce as well as new business contribution offset by assumption changes and experience variance as well as model changes.

The table below presents the drivers of the change in MCEV.

Table 13: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2020	**11.342**
Regulatory / model Changes (after-tax impact)	-535
Operating SII earnings	1.475
New business contribution	915
Expected inforce contribution	1.448
Assumption changes & Experience variances	-888
Debt costs	
Other	
Market Impact including FX	280
Capital Management	-708
Management Actions	94
Tax	-461
Other Changes	
MCEV 31.12.2021	**11.486**

The most significant model changes in 2021 were model changes concerning the dynamic cost inflation modelling, a better reflection of equity hedges in the model and improvements regarding the modelling of the shareholder target and reinvestment profits, all of which except the last change caused a negative impact. A further globally triggered change includes the EIOPA update of the UFR.

The Operating SII earnings stem from new business remaining on high level as well as negative experience variances driven by year-end policyholder crediting. The regular update process of non-economic assumptions had a slightly negative impact, particularly from costs and inflation.

The comparatively small economic impact despite good performance of equity markets and rising interest rates was due to offsets from higher interest rate volatility. Further unfavorable developments include actual CS decrease lower than implied by management expectations, partially offset by FX movements, in particular USD appreciation.

Capital movements had an impact of EUR -708 mn due to dividends.

Management actions reflect the inclusion in Germany Life of DLV, which is a subsidiary of AZ Deutschland since 2021.

Development of Value of New Business

The VNB written by Germany Life in 2021 was EUR 631 mn, -6% lower than the value in 2020 with positive contribution from better business mix, mitigated by model changes and lower interest rates.
The table below presents an analysis of the changes.

Table 14: Development of Value of New Business

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	**22,281**	**3.0%**	**672**
Foreign Exchange Variance	-	0.0%	0
Acquired / Divested business	372	0.1%	35
VNB 31.12.2020 restated	22,652	3.1%	707
Volume	- 1,202	0.0%	- 30
Business mix	-	0.5%	113
Assumptions	390	-0.8%	- 158
VNB 31.12.2021	**21,841**	**2.9%**	**631**

Germany Life recorded slightly lower volumes in 2021 (-2%), from shrinking Participating CEAG business, partly offset by planned shift to UL/hybrid CEAG products and increase in protection and health business.

A more favorable business mix increased VNB by EUR 113 mn due to a shift to capital efficient hybrid and risk products, while the share of Perspektive and traditional saving products decreased.
VNB decreased by EUR -158 mn from assumption changes mainly due to model changes carried over 2021 and worse economic environment in 1H 2021.

B.6.5 France

Development of Embedded Value

MCEV decreased by -1.7% from EUR 4,597 mn to EUR 4,521 mn, mainly impacted by unfavorable economics offset by new business and expected business contribution.

The table below presents the drivers of the change in MCEV.

Table 15: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2020	**4.597**
Regulatory / model Changes (after-tax impact)	34
Operating SII earnings	603
New business contribution	242
Expected inforce contribution	358
Assumption changes & Experience variances	3
Debt costs	
Other	
Market Impact including FX	-483
Capital Management	-396
Management Actions	-43
Tax	209
Other Changes	
MCEV 31.12.2021	**4.521**

Model changes in 2021 are due to the EIOPA update of the UFR and the inflation modelling in the ESG.

Improved Operating SII earnings are impacted by higher new business contribution compared to 2020 strongly supported by a high volume of transfers from the old multi-support products to the new product AZ Vie Fidélité, and lower impact from assumption changes and experience variance.

The economic environment had a negative impact which was largely driven by higher inflation, an increase in interest rate volatilities and a decrease in VA that overcompensated the narrowing of credit spreads in the market.

Capital movements decreased MCEV by EUR -396 mn, which also incorporates an additional capital upstreaming from management actions, which in turn reflect the sale of parts of the business already in run-off at Allianz Vie and Allianz Generation View respectively.

Development of Value of New Business

The VNB written in France in 2021 increased to EUR 192 mn, EUR 137mn higher than the value in 2020. The NBM increased from 0.8% to 1.9% mainly driven by improved business mix.

The table below presents an analysis of the changes.

Table 16: Development of Value of New Business

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	**6,921**	**0.8%**	**55**
Foreign Exchange Variance	0	0.0%	0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2020 restated	6,921	0.8%	56
Volume	2,866	0.0%	23
Business mix	-	1.4%	135
Assumptions	77	-0.2%	- 21
VNB 31.12.2021	**9,865**	**1.9%**	**192**

The positive impact from volume was mainly driven by the transfer action from older contracts into the new hybrid product (EUR 2.8 bn), leading to a positive impact in VNB benefitting from higher profitability of the newly launched product.

Change in assumptions were mainly driven by a less favorable economic environment.

B.6.6 Italy

Development of Embedded Value

The MCEV stepped up by 18.7% from EUR 2,649 mn to EUR 3,144 mn largely supported by strong new business and a favorable economic environment.
The table below presents the drivers of the change in MCEV.

Table 17: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2020	**2.649**
Regulatory / model Changes (after-tax impact)	-4
Operating SII earnings	508
New business contribution	353
Expected inforce contribution	219
Assumption changes & Experience variances	-64
Debt costs	
Other	
Market Impact including FX	218
Capital Management	-50
Management Actions	0
Tax	-177
Other Changes	
MCEV 31.12.2021	**3.144**

Model changes reflect the adjustment of the UFR and the updates of the Economic Scenario Generator.

Operating SII earnings are impacted by significantly higher new business contribution compared to 2020 as well as non-economic assumption changes mainly due to an unfavorable cost parameter update. Experience variances were negligible.

Overall market impacts were positive, largely driven by equity outperformance and higher interest rates. These impacts were partly offset by increased interest rate volatilities.
Capital management of EUR -50 mn mainly reflects 2021's capital upstream to the Group.

Development of Value of New Business

The VNB written in Italy in 2021 increased to EUR 264 mn, +82% higher than in 2020 from expanded sales and portfolio rework actions. The NBM increased to 2.0% driven by a better business mix.

The table below presents an analysis of the changes.

Table 18: Development of Value of New Business

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	**8,650**	**1.7%**	**145**
Foreign Exchange Variance	-	0.0%	- 0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2020 restated	8,650	1.7%	145
Volume	4,774	0.0%	83
Business mix	-	0.3%	38
Assumptions	23	0.0%	- 2
VNB 31.12.2021	**13,447**	**2.0%**	**264**

The overall increase was driven by the successful back-book renegotiations on group contracts (affected volumes: EUR 2.8 bn) and increased sales in UL products.

The increase of VNB by EUR +121 mn from volumes and business mix reflects the expansion in UL sales and the impact of renegotiations of selected group contracts by adjusting the conditions to the current market environment.

VNB decreased by EUR -2 mn from assumptions mainly driven by deterioration of interest rates through the first half of 2021.

B.6.7 Asia Pacific

Development of Embedded Value

The MCEV of Asia Pacific significantly increased by 40.6% from EUR 3,291 mn to EUR 4,626 mn, supported by strong Operating SII earnings, management actions and model changes.

The table below presents the drivers of the change in MCEV.

Table 19: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2020	**3.291**
Regulatory / model Changes (after-tax impact)	36
Operating SII earnings	1.072
New business contribution	434
Expected inforce contribution	307
Assumption changes & Experience variances	331
Debt costs	
Other	
Market Impact including FX	256
Capital Management	-100
Management Actions	341
Tax	-271
Other Changes	
MCEV 31.12.2021	4,626

Model changes largely reflect the introduction of a regional stochastic cash flow model as well as various country-specific model changes and the regulatory EIOPA 2021 update of the UFR.

Assumption changes were largely offset between the different entities with the largest impacts from maintenance expense updates from Taiwan and China. Experience variances were dominated by the adverse mortality experience variance in Indonesia related to the COVID pandemic.

Market impact was driven by FX appreciation in Asian currencies in particular Chinese Yuan, Taiwan Dollar and Malaysian Ringgit, good performance of unit-linked funds and increased interest rates particularly in Thailand.

Management actions reflect the acquisition of the minority stake in Allianz China Life from CITIC in 4Q, which now comprises a 100% subsidiary of Allianz and one of the largest Allianz entities by MCEV in the Asia Pacific region.

Capital movements decreased MCEV by EUR -100 mn reflecting dividend payouts.

Development of Value of New Business

The VNB written in Asia Pacific in 2021 was EUR 338 mn, 14% higher than the value in 2020. The region had a good development during the year supported by increased volume and an improved business mix. The NBM still at healthy level, slightly decreased from 5.8% to 5.7%.

The table below presents an analysis of the changes.

Table 20: Development of Value of New Business

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	**5,150**	**5.8%**	**297**
Foreign Exchange Variance	114	0.0%	7
Acquired / Divested business	-	0.0%	-
VNB 31.12.2020 restated	5,264	5.8%	304
Volume	647	0.0%	38
Business mix	-	-0.2%	-11
Assumptions	42	0.1%	8
VNB 31.12.2021	**5,953**	**5.7%**	**338**

The increase of the VNB from volume effects was mainly driven by higher sales in Taiwan, Malaysia, Indonesia and the Philippines.

The shift towards UL products throughout Asian countries had a slightly negative impact in the overall business mix, due their lower margin than the regional average.

VNB slightly increased by EUR 8 mn due to updated assumptions, and favorable economic environment.

B.6.8 USA

Development of Embedded Value

This section refers to the MCEV of AZ Life US. It does not contain any comment or value of the MCEV on SII L/H basis (i.e. equivalent Own Funds) of AZ Life US.

The MCEV of AZ Life US increased by 27.2% from EUR 8,300 mn to EUR 10,558 mn driven by reinsurance transactions, new business and market impacts.

The table below presents the drivers of the change in MCEV.

Table 21: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2020	8.300
Regulatory / model Changes (after-tax impact)	170
Operating SII earnings	1.262
New business contribution	671
Expected inforce contribution	418
Assumption changes & Experience variances	173
Debt costs	
Other	
Market Impact including FX	1.553
Capital Management	-791
Management Actions	630
Tax	-565
Other Changes	
MCEV 31.12.2021	10.558

Model changes are driven by MA extension for IVA, improved VA&IVA GMxB reserve calculation and refined ABC product modelling.

New business is over twice of previous year due to increased margin and volume.

Positive impact from assumption changes was mainly driven by lower benefit utilization assumptions and assumptions on long-term care policyholder rates. Experience variances were negligible, dominated by lower lapses and deaths.

Economic impact is driven by the appreciation of the US Dollar, good equity performance, beneficial effects from changes in the volatility adjustment together with narrowing spreads and changes in the risk margin due to economics.

Capital movements reflect the dividend payment of EUR -791 mn

Management actions is driven by reinsurance transactions in FIA. One block of FIA business was transferred via coinsurance to a reinsurer and established on the reinsurers book (around USD 5.4 bn in statutory reserves); another block was reinsured via modified coinsurance, where AZ Life US as ceding company will maintain assets and liabilities on its balance sheet (USD 29.3 bn in statutory reserves).

Development of Value of New Business

The VNB written in the USA in 2021 increased to EUR 530 mn, +290mn higher than 2020. The NBM went up from 2.4% to 3.9%, due to better economics and business mix.

The table below presents an analysis of the changes.

Table 22: Development of Value of New Business

EUR mn

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2020	9,869	2.4%	240
Foreign Exchange Variance	- 56	0.0%	0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2020 restated	9,813	2.4%	240
Volume	3,630	0.0%	99
Business mix	-	0.7%	99
Assumptions	-	0.8%	92
VNB 31.12.2021	13,443	3.9%	530

Volumes increased by EUR 3.6bn with promotions in FIA and IVA, successfully improved IVA distribution and recovered insurance market.

The business mix improved with an impact of EUR 99 mn driven mainly by FIA product updates. Recovered interest rates, update of non economic assumptions and refined matching adjustment methodology on FIA and IVA increased VNB by EUR 92mn.

B.7 MCEV METHODOLOGY & ASSUMPTIONS

Allianz Group provides detailed guidelines to the operating entities in order to ensure consistency of MCEV and VNB calculations throughout the Group. Allianz Group centrally sets the economic assumptions that are used in the calculations by the operating entities. All results submitted to Allianz Group must be reviewed and approved by the local chief actuaries and CFOs.

This section presents the methodology and underlying assumptions used to calculate the 2021 MCEV for the Allianz Group in accordance with the disclosure requirements of the MCEV Principles. As in previous years, we do not include look-through profits in our main values but provide them as additional information in the development of our value of new business ("VNB"), as we would like to retain a clear split between the segments in line with our primary IFRS accounts.

B.7.1 MCEV Methodology

BASIS OF PREPARATION

Market consistent embedded value ("MCEV") represents shareholders' economic value of the inforce life and pension business of an insurance company. Future new business is not included.

Since 2008 Allianz Group has disclosed its MCEV in line with the European Insurance CFO Forum Market Consistent Embedded Value Principles © ("MCEV Principles"), which were launched in June 2008 and amended in October 2009 and most recently in May 2016 for alignment with Solvency II regulations. The projection of assets and liabilities applying market consistent economic assumptions ensures a consistent valuation among them. In addition, an explicit allowance is made for residual non-hedgeable risks, reflected in the calculation of the Solvency II risk margin.

Due to the similarities between the methodology and assumptions used to determine the Solvency II balance sheet and those employed under Embedded Value reporting, the latest amendment of the "MCEV Principles" permits (but does not require) the use of projection methods and assumptions applied for market consistent solvency regimes. From 2015 onwards, Allianz has been using a balance sheet approach to calculate and publish its MCEV results.

BUSINESS COVERED

The business covered in the MCEV results includes all material Life/Health operations consolidated into the Life/Health segment of the IFRS accounts of Allianz Group. The main product groups are:

- Life, health and disability products including riders,
- Deferred and immediate annuity products, both fixed and variable,
- Unit-linked and index-linked life products,
- Capitalization products,
- Long term health products.

The value of reinsurance accepted by Allianz Re is reflected in the Holding results. Where debt is allocated to covered business, it is marked to current market value.

All results reflect the interest of Allianz shareholders in the life entities of the Group. Where Allianz does not hold 100% of the shares of a particular life entity a deduction is made for the corresponding minority interest.

Entities that are not consolidated into Allianz IFRS accounts, i.e. entities where Allianz only holds a minority, are not included in the 2021 MCEV results. In particular the company in India is not included. The pension fund business written outside the Life/Health segment is also not included.

B.7.1.1 MCEV DEFINITION

Allianz Group has decided to base and publish its MCEV results following a balance sheet approach, which is explicitly allowed for in the MCEV Principles from the CFO Forum, using the Solvency II Market Value Balance Sheet ("MVBS").

The MCEV is defined as the difference between market value of assets and market value of liabilities as of valuation date, excluding any items that are not considered shareholder interest. It is calculated on an after-tax basis considering current and known future changes in legislation.

Allianz's disclosed MCEV is in alignment with Solvency II and the MCEV Principles. Clarifications on specific points are listed below:

- Frictional costs of holding required capital, arising from double taxation on investment earnings, additional investment management expenses and possibly profit-sharing obligations are not part of the Solvency II concept and are therefore - as Allianz MCEV is aligned with Solvency II MVBS - not calculated.
- Costs of non-hedgeable risks ("CNHR") have been replaced with the Risk Margin required by Solvency II that covers a similar purpose. A more detailed section on Risk Margin can be found below.
- The Solvency II contract boundary definition is applied.
- MCEV is disclosed on a net of tax basis using the full bottom-up tax calculations incorporated in the MVBS. The items of the balance sheet are on a before tax basis with a tax component separately. Movement steps are on a before tax basis and a tax item is disclosed separately.

B.7.1.2 ASSETS

Assets in the Solvency II Market Value Balance Sheet consist of financial, non-financial and deferred tax assets as well as reinsurance recoverables. As required by the MCEV Principles, the MCEV is reported net of reinsurance.

B.7.1.3 LIABILITIES

Liabilities in the Solvency II Market Value Balance Sheet consist of the Technical Provisions ("TP") net of reinsurance as well as of other liabilities not belonging to TP such as tax and contingent liabilities, pension benefit obligations and reinsurance payables.

The Technical Provisions comprise the best estimate liabilities ("BEL") including the time value of option and guarantees and the Risk Margin, all explained in the following subsections.

BEST ESTIMATE LIABILITIES

The BEL is the market value before tax of the obligations of the company to policyholders and beneficiaries and it includes policyholder tax. In case of a composite insurer only those policies and riders that are allocated to the company's life segment are considered in these guidelines.

According to the Solvency II Directive the BEL is calculated gross of reinsurance and gross of any amounts recoverable from special purpose vehicles. The Solvency II Market Value Balance Sheet is constructed on a gross/gross basis with the assets grossed up for the recoverables and gross liabilities, rather than netted down by the recoverables.

Best Estimate liabilities are calculated for all inforce policies at the valuation date. The BEL represents the discounted cash flows that emerge over the term of the policy. In line with Level 2 Article 28 of the Solvency II directive, all relevant cash flows are included in the calculation:

- future benefits such as maturity values, annuity payments, claims, surrender values;
- future expenses such as maintenance, servicing, overhead, commission, investment management;
- future premiums, i.e. contracted premiums.

All future amounts are discounted to the valuation date at the valuation discount rate.

TIME VALUE OF OPTIONS AND GUARANTEES

The Solvency II Directive requires the calculation of the TP to take account of the value of financial guarantees and any contractual options included in insurance and reinsurance policies. It requires the BEL calculation to identify and take into account all factors which may materially affect the likelihood that policyholders will exercise contractual options or the value of the option or guarantee.

Contractual options are defined as a right to change the benefit, to be taken at the choice of its holder (generally the policyholder), on terms that are established in advance. Thus, in order to trigger an option, a deliberate decision of its holder is necessary.

A financial guarantee is present when there is the possibility to pass losses to the insurer or to receive additional benefits as a result of the evaluation of financial variables. In the case of guarantees, the trigger is generally automatic and not dependent of a deliberate decision of the policyholder / beneficiary.

A market consistent approach has been adopted for the valuation of material financial options and guarantees, using a stochastic option pricing technique calibrated to be consistent with market data, in particular the market prices of relevant traded options. The most material options and guarantees granted by the Allianz Group companies are:

- Guaranteed interest rates and minimum maturity values,
- Guaranteed minimum surrender values,
- Annuity conversion options,
- Extension options,
- Options and guarantees for unit-linked contracts and variable life and annuities,
- Fund switching options with guarantee.

Due to the complex nature of options and guarantees for the majority of the business, there is no closed form solution to determine their value. Therefore, stochastic simulations are applied which project all cash-flows and reserves including expenses, taxes etc. under a significant number of economic scenarios to determine the O&G.

The models and assumptions employed in the stochastic simulation are consistent with the underlying embedded value and allow for the effect of management actions and policyholder behavior in different economic scenarios. The scenarios and the key parameters used in the calculations of O&G are described in section B.7.2.

RISK MARGIN

The Solvency II Directive defines the RM as the cost of providing an amount of available financial resources equal to the solvency capital requirement (SCR) necessary to support the insurance and reinsurance obligations over the lifetime of those obligations.

Solvency II requires an allowance for the cost of holding non-hedgeable risk capital but not for hedgeable financial risks as these may be mitigated through the capital markets. RM has replaced the calculation of costs of non-hedgeable risks (CNHR) and is required for non-hedgeable risks - the financial other than interest rate risk, insurance and operational risks that cannot be covered using capital market instruments.

The cost of capital reflects the required return investors require from an insurer to provide the required regulatory capital. In line with Solvency II, the risk margin is calculated with a 6% cost of capital rate (CoC), after tax and 100% capitalization of risk capital in line with Solvency II requirements.

B.7.1.4 NEW BUSINESS

The value of new business ("VNB") arises from the sale of new contracts during the reporting period and the value from renewals and contractual alterations to renewal business acquired in prior periods. MCEV only reports inforce business, which excludes future new business. The VNB reflects the additional value to shareholders created through the activity of writing new business in the current period.

New business consists of individual and group policies. Recurring single premiums written under the same contract are included in the value of the contract where future single premiums and their level are reasonably predictable. Additional or ad-hoc single premiums that are paid into existing policies are treated as new business in the year of payment. Short-term group risk contracts are projected with an allowance for renewal rates in line with observed experience.

VNB is calculated following a distributable earnings approach, and has been aligned to Solvency II requirements including EIOPA specifications for valuation as well as the application of contract boundary definition and risk margin. This in particular allows using the VNB as contribution of new business in the development of MCEV.

As such, the VNB is calculated as the present value of future profits after acquisition expense over- and underruns and tax ("PVFP") minus the time value of options and guarantees minus the risk margin ("RM"), all determined at issue date.

The values are point of sale values based on interest rates valid at the beginning of the quarter the business was sold, in line with our quarterly disclosure of value of new business. Section B.7.2 shows the corresponding economic assumptions. For business in the USA, where products are re-priced more frequently, we apply a bi-weekly update of economic assumptions for new business calculations to better reflect how the business is managed.

Timing and assumptions for the present value of new business premiums are in line with assumptions used for the VNB. Premiums are before reinsurance.

For a major part of the business the value added by new business is equal to the stand-alone value calculated for the business written in the year. Investment return assumptions are based on the market assumptions described in section B.7.2. For open fund products, where new policies and existing policies are managed together in one fund, the stand-alone value is adjusted for certain interaction effects between new business and inforce business. In Germany and France for example, regulatory profit-sharing rules permit that initial expenses can be shared with all policyholders of the inforce fund, so the shareholder strain from new business is reduced significantly. Furthermore, in order to capture the impact on the O&G from the interaction between new business and previously written business, open fund products are valued on a marginal basis as the difference between the O&G value calculated with and without new business.

B.7.1.5 PARTICIPATING BUSINESS

The profit-sharing assumptions take into account contractual and regulatory requirements, management strategy and the reasonable expectations of policyholders.

For companies with significant unrealized gains or profit-sharing reserves, the crediting strategies may include a distribution of these buffers to policyholders and shareholders as the business runs off, consistent with established company practice and local market practice and regulation. Alternatively, these buffers may not be required in many of the scenarios to pay competitive bonus rates and there will be excess assets at the end of the projection. In the latter case, the excess assets at the end of the projection are shared between policyholders and shareholders in a consistent manner and the discounted value of the shareholders' share is included in the inforce value.

B.7.1.6 HEALTH BUSINESS

The MCEV methodology for the German Health business is aligned to the methodology used for the Life entities. In addition, certain specifics to health have been taken into consideration:

- An annual inflation of health cost is assumed which triggers premium adjustments on a regular basis;
- Any adjustment to the technical interest rates is determined in line with regulatory requirements;
- The company's strategy to limit premium increases on inforce policies is applied.

B.7.2 MCEV Assumptions

B.7.2.1 ECONOMIC ASSUMPTIONS

The MCEV results for 2021 are based on economic market conditions as of 31st December 2021. Options and guarantees have been evaluated using market consistent scenarios. These have been generated to be arbitrage free, and the model underlying the scenarios has been calibrated to replicate actual market implied volatilities for selected financial instruments at the valuation date. Stochastic economic scenarios are generated centrally by an in-house model. Since the fourth quarter of 2017, the stochastic economic scenarios allow for negative interest rates.

As actual EIOPA curves are typically published too late for the in-house process of scenario generation, Allianz Group has used their own processes to generate the calibration yield curves. The methodology to derive these curves is fully aligned with EIOPA specification. Allianz Group has also set up a process to assess the differences between the curves generated in-house and the curves published by EIOPA. In case of material differences, the actual EIOPA curves would be used.

Key economic assumptions for risk-neutral evaluation are for each economy or currency region:

- the reference yield-curve;
- the implied volatilities for each asset class;
- the inflation expectation curve;
- correlations between different asset classes and economies.

Market data for interest rates have been taken from an internal data base fed by Refinitiv (Thomson Reuters). Market data used for calibration of interest rate and equity volatilities have been taken from Bloomberg and Tullett Prebon where available and markets are sufficiently liquid. Correlations and volatilities for real estate are based on historical data.

Reference rate yield-curves used in the certainty equivalent approach and the stochastic scenarios are based on swap rates as of 31st December 2021 with the following further adjustments.

- In line with EIOPA technical documentation of the methodology to derive risk-free interest rate term structures for Solvency II a currency specific reduction to the swap rates is made to account for credit risk inherent in swaps.
- Allianz also includes a volatility adjustment in its MCEV assumptions following the recommendations of Solvency II.

The dynamic credit risk adjustments and the volatility adjustments applied are in line with the EIOPA published technical information valid for year-end 2021. Credit risk adjustments are shown below.

Table 23: Credit Risk Adjustment per currency as of 31.12.2021

Currency	Credit Risk Adjustment
EUR	10 bps
USD	10 bps
GBP	10 bps
CHF	10 bps
CZK	10 bps
HUF	10 bps
PLN	10 bps
TWD	10 bps
THB	10 bps

The table below shows the development of the volatility adjustment for each currency.

Table 24: Long-term guarantee measurement (Volatility Adjustment)

Currency	31.12.2020	31.03.2021	30.06.2021	30.09.2021	31.12.2021
EUR	7 bps	5 bps	5 bps	3 bps	3 bps
CHF	9 bps	10 bps	8 bps	8 bps	4 bps
USD	27 bps	26 bps	23 bps	23 bps	23 bps
CZK	10 bps	12 bps	10 bps	14 bps	21 bps
HUF	2 bps	3 bps	3 bps	4 bps	8 bps
PLN	4 bps	3 bps	4 bps	5 bps	17 bps

For application to products we apply a simplified bucketing approach. We apply no volatility adjustment to variable annuities, to all participating, unit-linked and other businesses including US fixed annuities and fixed-indexed annuities volatility adjustment is applied, i.e. MCEV and TP are evaluated with the volatility adjustment added to the applicable interest rate term structure. For certain parts of the US portfolio, where account value is equal to 0, a portfolio specific illiquidity premium is applied.

Allianz is using the approach for extrapolation of the risk-free curve as prescribed by EIOPA. This means that yield-curve extrapolation is done with a Smith Wilson approach along the forward curve with an ultimate forward rate and an entry point of extrapolations as prescribed.

For consistency, yield-curve extrapolation is applied in sensitivities to interest rate shifts. This means that only the deep and liquid part of the yield-curve is shifted in a fully parallel way with the ultimate forward rate being kept stable. Extrapolation parameters determine the actual shift of the extrapolated part of yield-curve, which is then a non-parallel shift.

Due to the underlying reference rate methodology as described above, the projected cash-flows may not always be valued in line with the market prices of similar financial instruments that are traded on the capital markets, which is required by the MCEV Principles. We applied consistent reference rate assumptions to both the deterministic and stochastic runs, in order to improve the accuracy of the calculation of the intrinsic and time value of O&G. This would not be feasible if the stochastic scenarios used to value O&G were based on swap curves and calibrated to meet market prices while the deterministic runs used the reference rate that incorporated this methodology.

For currencies where EIOPA requires valuation based on government bonds, government rates are used.

The table below shows the swap rates used in the market consistent valuation. These already include the deduction for the credit risk adjustment.

Table 25: Risk-free rates

Currency as of dd.mm.yyyy	1 year	2 years	5 years	10 years	20 years
EUR					
31.12.2020	-0,63%	-0,63%	-0,56%	-0,37%	-0,09%
31.03.2021	-0,62%	-0,60%	-0,41%	-0,03%	0,37%
30.06.2021	-0,61%	-0,56%	-0,35%	0,00%	0,39%
30.09.2021	-0,60%	-0,53%	-0,29%	0,07%	0,41%
31.12.2021	-0,59%	-0,40%	-0,08%	0,20%	0,45%
CHF					
31.12.2020	-0,83%	-0,81%	-0,66%	-0,39%	-0,37%
31.03.2021	-0,80%	-0,76%	-0,51%	-0,05%	0,12%
30.06.2021	-0,80%	-0,74%	-0,48%	-0,06%	0,07%
30.09.2021	-0,78%	-0,70%	-0,39%	0,01%	0,13%
31.12.2021	-0,81%	-0,59%	-0,33%	-0,01%	-0,02%
USD					
31.12.2020	0,02%	0,03%	0,26%	0,77%	1,17%
31.03.2021	0,08%	0,16%	0,92%	1,67%	2,07%
30.06.2021	0,08%	0,23%	0,87%	1,36%	1,67%
30.09.2021	0,07%	0,28%	0,96%	1,42%	1,71%
31.12.2021	0,44%	0,83%	1,27%	1,48%	1,65%
CZK					
31.12.2020	0,38%	0,60%	1,01%	1,19%	1,67%
31.03.2021	0,45%	0,87%	1,52%	1,69%	2,13%
30.06.2021	1,01%	1,48%	1,83%	1,73%	2,07%
30.09.2021	2,30%	2,58%	2,54%	2,30%	2,50%
31.12.2021	4,53%	4,29%	3,65%	3,04%	2,93%
HUF					
31.12.2020	0,29%	0,53%	1,19%	1,91%	2,54%
31.03.2021	0,63%	0,92%	1,69%	2,47%	3,17%
30.06.2021	0,91%	1,27%	1,95%	2,59%	3,25%
30.09.2021	1,40%	1,79%	2,53%	3,08%	3,66%
31.12.2021	3,43%	3,87%	4,20%	4,34%	4,55%
PLN					
31.12.2020	-0,15%	-0,07%	0,42%	1,18%	2,05%
31.03.2021	-0,17%	-0,02%	0,70%	1,58%	2,34%
30.06.2021	-0,09%	0,25%	1,08%	1,64%	2,25%
30.09.2021	0,09%	0,58%	1,34%	2,08%	2,68%
31.12.2021	2,62%	3,32%	3,67%	3,51%	3,44%
TWD					
31.12.2020	0,01%	0,03%	0,09%	0,19%	1,06%
31.03.2021	0,00%	0,06%	0,19%	0,31%	1,10%
30.06.2021	0,00%	0,05%	0,18%	0,32%	1,12%
30.09.2021	0,13%	0,16%	0,24%	0,33%	1,11%
31.12.2021	0,32%	0,36%	0,45%	0,58%	1,31%
JPY					
31.12.2020	-0,15%	-0,15%	-0,14%	-0,05%	0,20%
31.03.2021	-0,15%	-0,13%	-0,09%	0,05%	0,33%
30.06.2021	-0,16%	-0,13%	-0,11%	-0,02%	0,24%
30.09.2021	-0,11%	-0,09%	-0,07%	0,01%	0,26%
31.12.2021	-0,08%	-0,08%	-0,06%	0,03%	0,29%
EUR					

The table below shows for the main currencies the ultimate forward rate and entry point parameters used when applying yield-curve extrapolations.

Table 26: Yield-curve extrapolation per currency for 31.12.2021

Currency	Entry point	Ultimate forward rate
EUR	20	3.60%
CHF	25	2.60%
USD	50	3.60%
CZK	15	3.60%
HUF	15	4.50%
PLN	10	3.60%
THB	15	3.60%
TWD	10	3.60%
JPY	30	3.50%

Starting from the fourth quarter of 2017 and the go-live of the negative interest rates model, the swaption volatility convention employed in Allianz Internal model uses normal (absolute) volatilities. The swaption implied volatility tables below show the development over the year and year-end values for various terms for three main currencies.

Table 27: Development of swaption implied volatilities

Currency & model	31.12.2020	31.03.2021	30.06.2021	30.09.2021	31.12.2021
EUR - normal	0,50%	0,53%	0,54%	0,53%	0,56%
CHF - normal	0,55%	0,58%	0,59%	0,58%	0,61%
USD - normal	0,57%	0,63%	0,61%	0,59%	0,61%

Market implied volatilities - 10 years options on 20 years swaps at the money (10 years swaps for CHF).

Table 28: Swaption implied volatilities

Option term	1 year	2 year	5 year	10 year	20 year
EUR					
31.12.2020 - normal	0,45%	0,47%	0,49%	0,50%	0,48%
31.12.2021 - normal	0,68%	0,65%	0,61%	0,56%	0,51%
CHF					
31.12.2020 - normal	0,40%	0,45%	0,53%	0,55%	0,50%
31.12.2021 - normal	0,65%	0,69%	0,74%	0,61%	0,45%
USD					
31.12.2020 - normal	0,67%	0,65%	0,62%	0,57%	0,63%
31.12.2021 - normal	0,77%	0,73%	0,67%	0,61%	0,66%

Market implied volatilities - on 20 years swaps at the money (10 years swaps for CHF).

According to MCEV Principles G15.3, volatility assumptions should be based on the most recently available information as at the valuation date. Swaption implied volatilities used for the 2021 MCEV calculations were therefore based on 31st December 2021.

Volatility anchoring is applied for durations where no deep and liquid swaption markets exist (for similar reasons that yield-curve extrapolations were applied). For each currency the last liquid option maturities are determined. Market volatility quotes are used until the last liquid tenor. Long-term target levels are determined based on historical data. The volatility surface is then extrapolated from the last liquid option maturity terms to the long-term target levels.

The table below shows the starting points of the volatility extrapolation and long-term target levels for each currency:

Table 29: Swaption volatility anchoring per currency as of 31.12.2021

Currency	Start of swaption volatility anchoring	Long term target level
EUR	10 years	44 bps
CHF	10 years	42 bps
USD	10 years	84 bps
CZK	10 years	41 bps
HUF	10 years	172 bps
PLN	10 years	77 bps
THB	10 years	81 bps

For modelling fixed income stochastic scenarios, the Shifted Constant Elasticity Volatility Model is used, which allows for negative interest rates.

For fixed income instruments, parameters are fitted to at-the-money swaption implied volatilities. When calibrating to swaption implied volatilities, different weight is given to different swap maturities and option tenors in order to optimize the fit to actual market data. Where a trade-off in the goodness of fit was necessary, the long-term nature of the life business modelled has been considered appropriately.

A range of equity indices is considered. For modelling equity and real estate returns, an excess return model is used to generate returns from fixed income dynamics of the economy. A constant volatility model is used where the modeled equity volatility is independent of the option term. Equity volatilities are taken from implied volatilities of long-term equity options at the money, targeted consistently for all indices to 10-year maturity options available from the market data provider to reflect long-term horizon of the business. The table below shows the equity option implied volatility for the main equity indices.

Table 30: Equity option implied volatilities

Index	31.12.2020	31.03.2021	30.06.2021	30.09.2021	31.12.2021
EUR - EURO STOXX 50	20,50%	18,97%	18,58%	19,45%	21,77%
CHF - SMI	15,04%	14,86%	15,04%	15,99%	15,32%
USD - S&P 500	22,33%	22,45%	21,86%	23,09%	22,09%

Market implied volatilities - 10 years equity option at the money.

Best estimate levels of volatility are used in the market consistent calibration to derive real estate volatility since meaningful option prices for the property market were not available. There are low, medium and high real estate indices in all currencies, with 8%, 11% and 15% volatilities, respectively.

To show the impact of asset mixes and inter-economy relations, correlation assumptions are estimated from historic market data. The table below shows the correlation assumptions for 2021; the return period is on a quarterly basis.

Table 31: Correlation assumptions as of 31.12.2021

Index	Fixed income 1-year bond rate			Equity Indices	
	EUR	CHF	USD	MSCIEMU	S&P 500
Fixed income 1-year bond rate					
EUR	1	0,87	0,79	0,28	0,28
CHF		1	0,82	0,33	0,37
USD			1	0,49	0,52
Equity Indices					
MSCIEMU				1	0.88
S&P 500					1

1,000 stochastic paths are used for stochastic calculations of options and guarantees. Given the significance of the O&G of Germany Life, 5,000 paths were used by this entity. The higher number of paths further reduced Monte-Carlo errors. All scenario sets use antithetic random numbers in order to reduce Monte-Carlo errors.

B.7.2.2 CAPITAL CHARGE FOR RISK MARGIN

The cost of capital (CoC) charge was set to 6% before tax in line with the Solvency II Market Value Balance Sheet for the calculation of the risk margin, using a 100% capitalization level for risk capital.

B.7.2.3 FOREIGN CURRENCY EXCHANGE RATES

Embedded Value results are calculated in local currencies and converted to Euro using the corresponding exchange rates at the valuation date. Exchange rates are consistent with the rates used in the balance sheet of our IFRS financial accounts. The exchange rates against the Euro are shown in the table below.

Table 32: Main exchange rates against EUR

FX against 1.00 EUR	31.12.2020	31.12.2021
CHF	1.08	1,04
USD	1.22	1,14
CZK	26.26	24,85
HUF	362.69	368,57
PLN	4.56	4,58
THB	36.66	37,99
TWD	34.38	31,46

B.7.2.4 NON-ECONOMIC ASSUMPTIONS

Non-economic assumptions such as mortality, morbidity, lapse rates and expenses are determined by the respective business units based on their best estimates as at the valuation date.

Best estimate assumptions are set by considering past, current and expected future experience. Future expected changes are considered in best estimate assumptions only when sufficient evidence exists and the changes are reasonably certain. Future improvements in productivity can be allowed only if they have been agreed in business plans which have been partly achieved at least by the end of the reporting period, and only to the extent that they are projected to be realized within the first projection year. All expected expense overruns affecting the covered business, such as holding company operating expenses, overhead costs and development costs in new markets are allowed for in the calculations.

B.7.2.5 TAX ASSUMPTIONS

For MCEV, tax effects are aligned with the Solvency II Market Value Balance Sheet bottom-up calculation. Tax assumptions used for the calculation of VNB are set in line with accounting principles and the local tax regime. Tax losses carried forward are considered in the projections. Tax is based on marginal tax impacts. For example, losses on different portfolios can be compensated within one company, and also between Life and P/C portfolios where held in one legal entity. A tax impact from future new business is not allowed for. The table below shows the nominal tax rates applied for the VNB calculation.

Table 33: Tax assumptions

	31.12.2020	31.12.2021
Germany	31%	31%
France	26%	26%
Italy	24%	30%
USA	21%	21%
Switzerland	17%	17%

B.7.2.6 REAL-WORLD ECONOMIC ASSUMPTIONS

The following real-world economic assumptions are centrally provided:

- Risk-free yields,
- Equity returns,
- Real estate returns.

Risk-free yield-curves are the same under real-world and risk-neutral assumptions.

Reinvestment rates for all asset classes are the forward rates implied in the initial yield-curve, which means yields do not stay constant over time, but dynamically follow the forward curve.

Risk premiums are assumed for all risky assets. Return assumptions for equity and real estate are derived from the risk-free rate, i.e. the 10-year swap rate, plus a risk premium; see table below.

Table 34: Economic assumptions for real-world projections

	31.12.2020	31.12.2021
Equity risk premium	4.4%	4.9%
Real estate risk premium	3.9%	4.4%

APPENDIX

C

C.1 DEFINITIONS AND ABBREVIATIONS

BEL
Best Estimate Liabilities. Market value of the obligations of a life company to policyholders and beneficiaries.

BUSINESS EVOLUTION
Business evolution represents the change in SCR that is attributable to business development comprising new business as well as the run-off effect on SCR from existing business.

CO/Conso.
(The Allianz business segment) corporate and other.

CONTRACT BOUNDARIES
Allianz calculates and publishes its MCEV results based on the Solvency II contract boundary definition. The boundary of a contract is the point at which the insurer has a unilateral contractual right to amend the premiums or the benefits payable under the contract in such a way that the premiums fully reflect the risks.

CEAG
Capital-efficient products: Products that use the general account and provide significantly reduced market risk either by full asset-liability matching of the guarantee or by significantly limiting the guarantee. This includes hybrids investing in a separate account (unit-linked) and the general account.

COVERED BUSINESS
The contracts to which the MCEV calculation has been applied, in line with the MCEV Principles.

D&A
Deduction and Aggregation.

DAC
Deferred Acquisition Costs. Expenses of an insurance company which are incurred in connection with the acquisition of new insurance policies or the renewal of existing policies. These typically include commissions paid and the costs of processing proposals.

DISTRIBUTABLE EARNINGS
The profits after tax plus changes in required capital plus interests on required capital, all based on real-world assumptions.

EIOPA
European Insurance and Occupational Pension Authority.

FIA
Fixed-Indexed Annuity. Annuity contract under which the policyholder can elect to be credited based on movements in equity or in bond market indices, with the principal remaining protected.

IVA
Indexed Variable Annuity. Annuity contract under which the policyholder can elect to be credited based on movements in equity or in bond market indices, with choice of various downside protection levels.

IFRS
International Financial Reporting Standards. Since 2002, the designation IFRS applies to the overall framework of all standards approved by the International Accounting Standards Board. Already approved standards will continue to be cited as International Accounting Standards (IAS).

LOOK-THROUGH BASIS
A basis via which the impact of an action on the whole Group, rather than on a particular part of the Group, is measured. Under this basis, the MCEV would allow for the value of profits or losses which arise from subsidiary companies providing administration, investment management, sales and other services in relation to the covered business.

MCEV
Market Consistent Embedded Value. A measure of the consolidated value of shareholders' interests in the covered business. It is defined as the excess of market value of assets over market value of liabilities as of valuation date. As such, MCEV excludes any item that is not considered shareholder interest like the Going Concern Reserve and Surplus Fund.

NBM
New Business Margin. Value of new business divided by present value of new business premiums.

NEW BUSINESS STRAIN
Impact of new business on free surplus in the year business is written: (negative) profit in the first year plus initial capital binding. Negative result in first year reflects the shareholder share in initial expenses.

NON-CONTROLLING INTERESTS
Those parts of the equity of affiliates which are not owned by companies of the Allianz Group.

O&G
Time value of financial Options and Guarantees. The allowance made in the MCEV for the potential impact on future shareholder cash flows of all financial options and guarantees within the inforce covered business.

OP
Operating Profit in IFRS. Earnings from ordinary activities before income taxes and non-controlling interests in earnings, excluding (if and as applicable for each business segment) all or some of the following items: income from financial assets and liabilities carried at fair value through income (net), realized gains/losses (net), impairments of investments (net), interest expenses from external debt, amortization of intangible assets, acquisition-related expenses, restructuring charges, and profit/loss of substantial subsidiaries held for sale, but not yet sold.

OPERATING SII EARNINGS
Operating SII earnings represent the change in own funds, before tax and dividend accrual, that is attributable to the Allianz Group's ongo-

ing core operations. As such, Operating SII earnings comprise: expected return from existing business, new business value, operating variances and changes in assumptions, and interest expense on external debt.
Operating SII earnings exclude the following effects: regulatory / model changes, economic variances driven by changes in capital market parameters, including F/X rates, taxes, non-operating restructuring charges, capital management (e.g. issuance or redemption of subordinated debt, dividend accruals and payments, share buy-back programs), one-off impacts from, e.g., the acquisition and disposal of subsidiaries, changes in transferability restrictions, and tier limits. These effects are disclosed separately in our analysis of own funds movements.

OWN FUNDS
Own Funds of Allianz Group, as disclosed in section A, refer to the total eligible Own Funds to meet the group SCR (including own funds from other financial sector and from the undertakings included via D&A).

PRE-TAX OPERATING CAPITAL GENERATION
It represents the change in SII capitalization following regulatory and model changes and which is attributable to changes in own funds as a consequence of Operating SII earnings and changes in SCR as a consequence of business evolution.
Factors such as market developments, dividends, capital management activities, taxes, etc. are not considered.

PVFP
Present Value of Future Profits. Future (statutory) shareholder profits after tax projected to emerge from operations and assets backing liabilities, including value of unrealized gains on assets backing policy reserves.

PVNBP
Present Value of New Business Premiums. The present value of future premiums on new business written during the year discounted at reference rate. It is the present value of projected new regular premiums, plus the total amount of single premiums received.

REFERENCE RATE
A proxy for a risk-free rate appropriate to the currency term and liquidity of the liability cash flows. Based on swap rates, includes a swap credit adjustment and illiquidity premium.

RM
Risk Margin. The cost of providing an amount of available financial resources equal to the solvency capital requirement (SCR) necessary to support the insurance and reinsurance obligations over the lifetime of those obligations. Risk margin is calculated with 6% cost of capital rate (CoC), after tax and 100% capitalization of risk capital in line with Solvency II requirements.

SII
Solvency II.

SII CAPITALIZATION
Ratio that expresses the capital adequacy of a company by comparing Own Funds to SCR.

SCR
Solvency Capital Requirement. It includes capital requirements from other financial sector and from the undertakings included via D&A.

TOTAL MCEV EARNINGS
Change in MCEV after initial adjustments and after tax, but before capital movements.

TP
Technical Provisions. These reflect the amount that an insurer needs to hold in order to meet its expected future obligations on insurance contracts. They include stochastic best estimate liabilities and risk margin.

UFR
Ultimate Forward Rate. The UFR is determined using the EIOPA methodology and guidelines, and is used for extrapolation of periods after the last liquid point defined by the SII regulation. The UFR is calculated for each currency based on expected real rates and inflation for the respective region. The UFR is subject to revision in order to reflect fundamental changes in long term expectations.

UL
Unit-linked business.

UCITS
Undertakings for Collective Investment in Transferable Securities.

VA
Volatility Adjustment according to Solvency II.

VNB
Value of New Business. The additional value to shareholder created through the activity of writing new business. It is defined as present value of future profits (PVFP) after acquisition expense overrun or underrun, minus the time value of financial option and guarantees (O&G), minus the risk margin (RM), all determined at issue date.