OWN FUNDS REPORT 2019

OWN FUNDS REPORT AND LIFE SUPPLEMENT 2019

ALLIANZ GROUP

Allianz

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 of the Allianz Group and into our Life/Health business for the financial year 2019.

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 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 2019.

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 2019 is presented in this section.

Please note that Allianz 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 Allianz Life US and the corresponding movements during 2019.

That section also contains details on the new business written during the year 2019 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.

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 2019. Technical Provisions were audited as part of the general MVBS audit process and no deficiency or material weakness was identified.

GROUP CHAPTERS

A

A.1 OVERVIEW

Allianz maintained a strong capital position with an SII ratio at 212%.
2019 was a successful year with operating profit in the upper half of the target range.

Allianz delivered

Allianz Group had a successful year in 2019 with an EPS growth of 8.4% and maintaining a strong capital position. Our healthy and well-diversified business makes us confident that we will continue to deliver a strong financial performance in 2020.

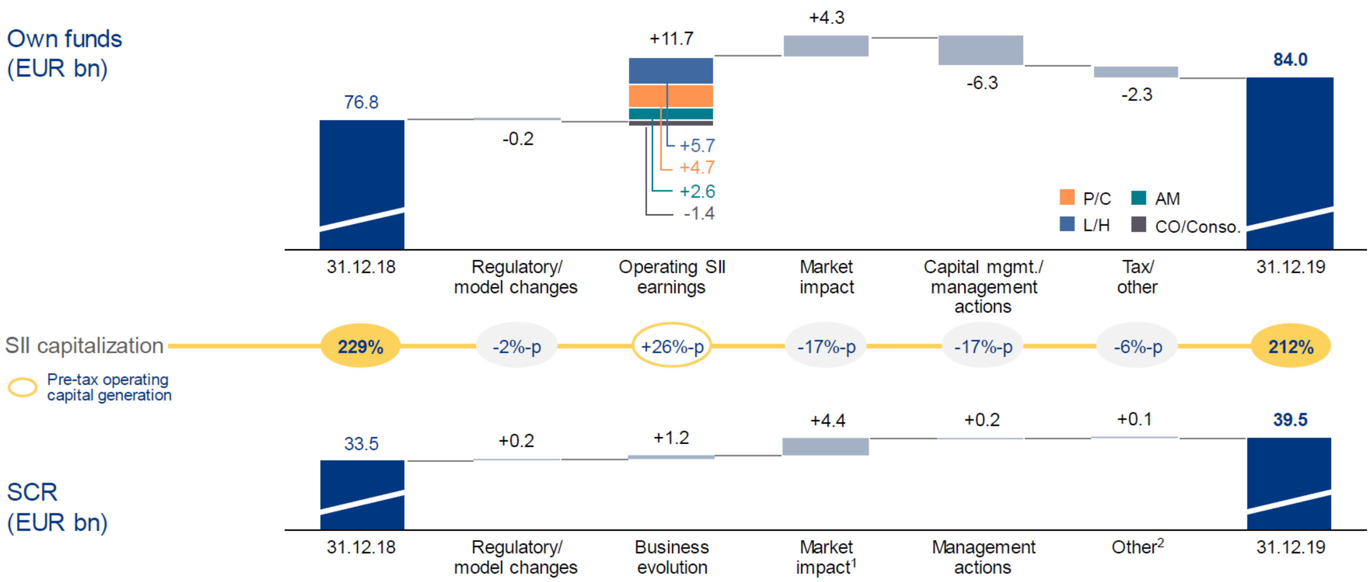
SII ratio on very good level

In 12M 2019, our SII ratio decreased by 17%-p versus year end 2018 driven by an increase in SCR. The positive 26%-p impact from operating capital generation before tax and dividend was offset by adverse market movements. Capital management (including the EUR 4.0 bn dividend accrual and the EUR 1.5 bn share buy-back) and management actions had a combined effect of -17%-p.

Operating profit – 8th consecutive increase

Our operating profit increased by 3.0 %, and was in the upper half of the EUR 11.0 - 12.0 bn target range for 2019. Much of this improvement was due to the Life/Health segment, which recorded a higher investment margin, an extension of the DAC amortization period in the US fixed-indexed annuity business, and volume growth. Our Asset Management segment also increased its operating profit, mainly due to higher average third-party AuM and positive foreign currency translation effects. By contrast, our Property-Casualty segment was affected by lower run-off (due to a strengthening of reserves at AGCS) as well as a lower operating investment income, slightly offset by a lower expense ratio. The Corporate and Other segment recorded an improved operating result, much of which was due to lower costs at our internal IT service provider.

Figure 1: Movement of Own Funds and SII capitalization



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

Own Funds – strong SII earnings drove Own Funds

In the 12 months ending 31st December 2019, the Group Own Funds increased by EUR 7.2 bn from EUR 76.8 bn to EUR 84.0 bn.

Key drivers were the operating SII earnings (EUR +11.7 bn) and positive market impacts (EUR +4.3 bn), offset by capital management & management actions with a combined effect of EUR -6.3 bn, taxes (EUR -2.8 bn) and other effects (EUR +0.5 bn).

SCR – increased from market impacts

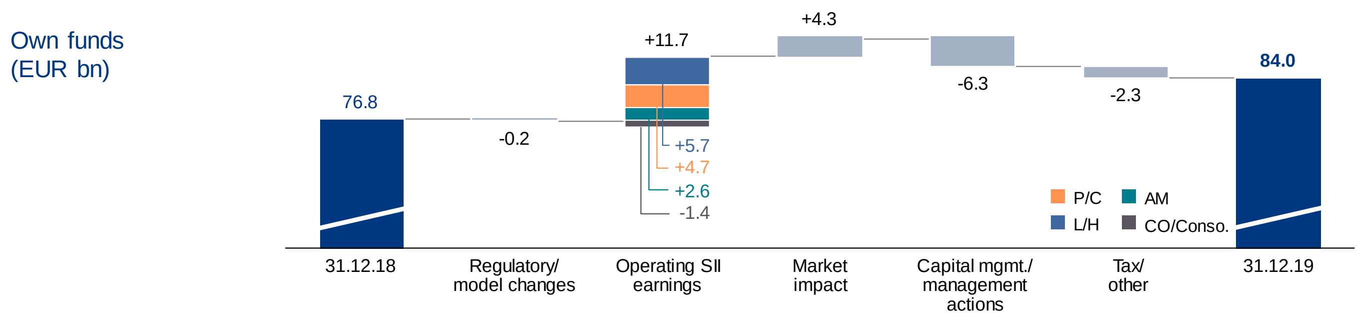
In 2019, the SCR increased by EUR 6.0 bn, mainly driven by adverse market movements including a significant drop in EUR and USD swap rates as well as higher equity prices which increased the corresponding exposure.

Business evolution was mainly driven by higher net earned premiums in P&C and new business in L/H, partially offset by inforce business run-off in the L/H segment.

A.2 OWN FUNDS AND RELATED MOVEMENTS

In the 12 months ending 31st December 2019, the Group Own Funds increased by EUR 7.2 bn from EUR 76.8 bn to EUR 84.0 bn.

Figure 2: Movement of Own Funds



A.2.1 Own Funds overview

The Own Funds of Allianz Group as of 31st December 2019 amount to EUR 84.0 bn. EUR 73.5 bn Own Funds relate to the group of internal model and standard model entities. The remaining EUR 10.5 bn relate to the sectoral Own Funds of credit institutions, investment firms and financial institutions, alternative investment fund managers and UCITS management companies and institutions for occupational retirement provision, as well as the equivalent Own Funds of entities included via the deduction and aggregation ("D&A") method.

Table 1: Own Funds by tier as of 31.12.2019

EUR bn

	Own Funds	% of total
Core Tier 1 (Tier 1 unrestricted)	69.6	82.8%
Tier 1 Hybrid (Tier 1 restricted)	3.3	3.9%
Tier 2	10.2	12.2%
Tier 3	0.9	1.0%
Total Group Own Funds (incl. Sectoral and Equivalent Own Funds)	84.0	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. As of 31st December 2019, the application of tier limits did not lead to a change in the structure or total amount of our Own Funds.

A.2.2 Own Funds movements

REGULATORY / MODEL CHANGES

The **regulatory / model changes** in 2019 resulted in a EUR -0.2 bn decrease of Own Funds after-tax, mainly driven by the modelling of dynamic cost inflation at Allianz Leben, the adjustment of the ultimate forward rate ("UFR") by -15 basis points and an update of contract boundaries at Allianz Vie, partially offset by the first-time recognition of the unallocated mathematical reserve (PPE - provision pour participation aux excédents) as surplus funds at Allianz Vie.

The next 15 basis points reduction of the UFR to 3.75% will reduce our Solvency II ratio in 1Q 2020 by ~2%-p.

OPERATING SII EARNINGS

Operating SII earnings for the year 2019 amount to EUR 11.7 bn before tax and dividend accrual.

Operating SII earnings of the L/H segment (EUR 5.7 bn) are overall on a normal level and in line with prior year. New business value generation is again strong at EUR 2.2 bn. The expected inforce contribution (EUR 2.4 bn) is slightly offset by experience variances and assumption changes (EUR -0.2 bn). Changes of equivalent Own Funds of Allianz Life US attributable to operating earnings amount to EUR 1.4 bn.

Operating SII earnings of the P/C segment (EUR 4.7 bn) are below the IFRS result due to scope differences, while operating SII earnings of the AM segment (EUR 2.6 bn) are close to the corresponding IFRS results. Operating SII earnings of the Corporate segment (EUR -1.4 bn) include external debt interest expenses amounting to EUR -0.8 bn. Non-operating IFRS restructuring charges are excluded from Operating SII earnings.

Pre-tax and pre-dividend operating capital generation in 2019 is at 26%-p as shown in Figure 1 in section A.1. Operating capital generation, net of tax and dividend, amounts to 7%-p for 2019. Excluding the AGCS reserve strengthening, the net capital generation would have been ~8%-p.

Allianz management expects a capital generation net of tax and dividend of 8%-p in 2020.

MARKET IMPACT

The market impact on Own Funds amounts to EUR +4.3 bn including foreign exchange movements (EUR +0.5 bn) as well as EUR +2.2 bn from lower transferability deductions (mainly Allianz Leben) resulting from market-driven higher SCR.

CAPITAL MANAGEMENT

Capital management consumed EUR 5.9 bn of Own Funds during 2019, mainly driven by the EUR 4.0 bn dividend accrual and the execution of the fourth share buy-back (EUR -1.5 bn).

In the first nine months of 2019 a total of 7,286,802 shares with total acquisition cost of EUR 1.5 bn were repurchased, and canceled in the fourth quarter.

The redemption of the CHF 0.5 bn Tier 2 subordinated debt in the second quarter decreased Own Funds by further EUR -0.5 bn.

MANAGEMENT ACTIONS

Management actions decreased Own Funds by EUR -0.5 bn during 2019, with the main impacts coming from the first-time consolidation of Liverpool Victoria (EUR -0.4 bn) and Legal & General (EUR -0.1 bn).

All joint venture operations with Banco Popular were sold as of January 31, 2020, and will increase our SII ratio in 1Q 2020 by ~2%-p.

TAX

Taxes reduced Own Funds by EUR -2.8 bn during 2019. Taxes relating to Operating SII earnings amount to EUR -2.5 bn.

OTHER CHANGES

The other changes amount to EUR +0.5 bn during 2019, comprising movements of Surplus Funds and Going Concern Reserves, changes in transferability restrictions as well as restructuring charges.

Table 2: Movement of Own Funds

EUR bn

	L/H	P/C	AM	CO/Conso.	Group
Own Funds 31.12.2018	43.4	31.0	1.6	0.9	76.8
Regulatory / model Changes (after-tax impact)					-0.2
Operating SII earnings	5.7	4.7	2.6	-1.4	11.7
Market Impact including FX	2.9	1.4	0.0	0.0	4.3
Capital Management					-5.9
Management Actions					-0.5
Tax	-1.8	-1.1	-0.3	0.4	-2.8
Other Changes					0.5
Own Funds 31.12.2019	51.0	32.3	1.6	-1.0	84.0

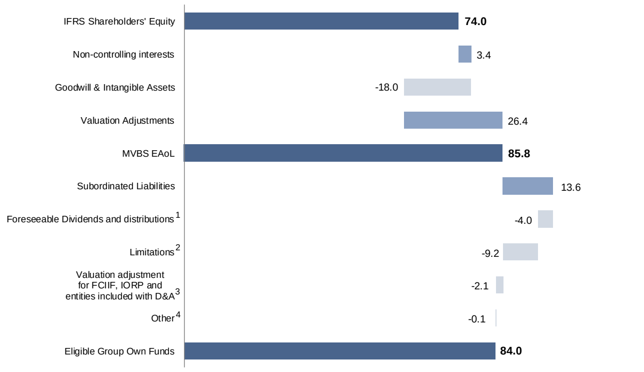
Please note that segment totals do not add up because some movement items are only disclosed for the group in total.

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).

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



1) Includes dividend accrual (EUR 3.9 bn)
2) Comprise transferability and fungibility deductions relating to non-controlling interests, surplus funds and net DTA, and limitation due to regulatory default deduction of equivalent Own Funds for Allianz Life US
3) Resulting from the revaluation to sectoral / equivalent Own Funds
4) Comprise Own Shares (-0.1 bn) and adjustment related to Ring-fenced Funds

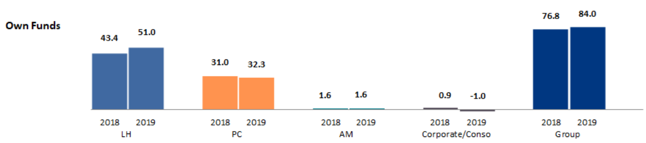
Key reconciliation items from MVBS EAoL to Solvency II Group Own Funds are:

- 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 on Allianz Life US Equivalent Own Funds.
- 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 Allianz 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.

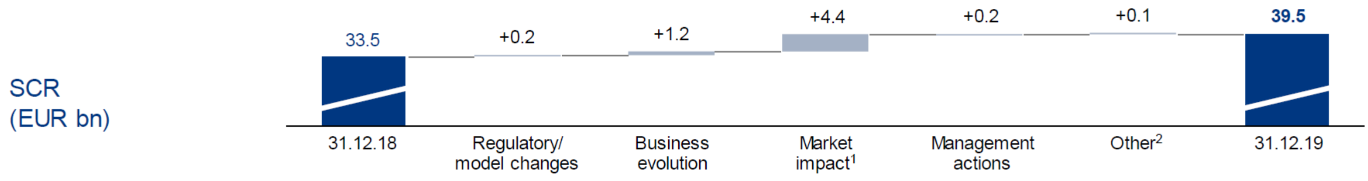
Table 3: Key contributors to Group Own Funds

Entities contributing more than 3% to Group Own Funds	OF contribution (bn EUR)	OF contribution (% of Group OF)
Allianz Lebensversicherungs-AG	23.8	28%
Allianz Life US	7.3	9%
Allianz Vie S.A.	5.7	7%
Allianz Versicherungs-AG	5.4	6%
AGCS incl. ART & AGR US	3.5	4%
Allianz IARD S.A.	3.0	4%
Allianz Private Krankenversicherung	3.0	4%
Euler Hermes	2.8	3%
Allianz S.p.A.	2.6	3%

A.3 SCR MOVEMENTS

For the year 2019, the SCR showed a strong increase of EUR +6.0 bn.

Figure 5: Movement of SCR



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

A.3.1 SCR movement

The SCR movement is mainly driven by adverse market movements including a significant drop in EUR and USD swap rates which also reduced policyholder participation, Euro depreciating against major foreign currencies as well as higher equity prices which increased the corresponding exposure. However, SCR increase from market movements was dampened slightly by duration management measures. Business evolution with higher net earned premiums in the P&C business segment and growth in the L/H business segment led to a further increase in SCR. The key drivers of the movement are explained in detail below.

REGULATORY / MODEL CHANGES

Regulatory Changes / Model Changes (EUR +0.2 bn) were mostly driven by the reduction of the ultimate forward rate in the first quarter of the year and the refinement of cross effect modeling. The resulting increase in SCR was offset to a degree by the introduction of several minor model changes at both the Group and entity levels implemented in the first and fourth quarter of the year.

BUSINESS EVOLUTION

Business evolution (EUR +1.2 bn) was mainly driven by higher net earned premiums in P&C and new business in L/H. This was partially offset by In Force business run-off in the L/H segment.

MARKET IMPACT

Market impact (EUR +4.4 bn) was driven by the strong decrease in swap rates as well as in the volatility adjuster leading also to lower policyholder participation. Higher equity levels as well as Euro depreciating against major foreign currencies led to a further increase of SCR.

MANAGEMENT ACTIONS

Management actions (EUR +0.2 bn) were driven by the investment in a 4% stake in Taikang in the third quarter as well as the acquisition and inclusion of new UK entities (Liverpool Victoria and Legal & General) in the Standard Model calculation. The increase in SCR due to acquisitions was partially offset by de-risking actions such as duration management which improved the interest rate risk profile.

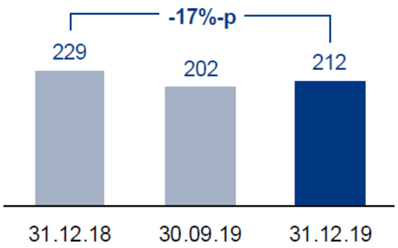
OTHER

Other effects (EUR +0.1 bn) remained mostly stable.

A.3.2 SII capitalization

In 12M 2019, the SII ratio declined versus FY 2018 by 17%-p to 212% as the increase in Solvency II Capital Requirement was only partially offset by the increase in Own Funds.

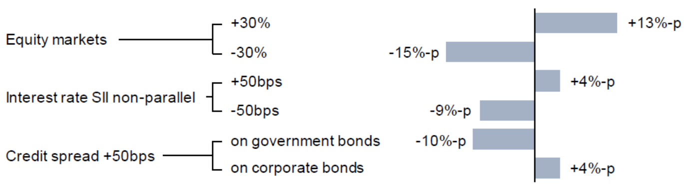
Figure 6: SII capitalization



The Solvency II ratio decrease was mainly driven by negative market developments (-17%-p) especially due to the decline in rates as well as (capital) management actions (-17%-p). The latter was mostly due to the dividend accrual and share buy backs, as well as the acquisition of shares of Taikang and of businesses from Liverpool Victoria General Insurance Group Limited and Legal & General Insurance Limited. Regulatory and model changes (-2%-p) as well as taxes and other changes (-6%-p) also contributed negatively. This was partly offset by the SII capital generation (+26%-p).

Figure 7 below presents the key sensitivities on SII capitalization. Changes in sensitivities compared to last year are predominantly driven by market movements in particular the decreased interest rate level and increased equity markets.

Figure 7: Key Sensitivities (EUR bn)



LIFE SUPPLEMENT

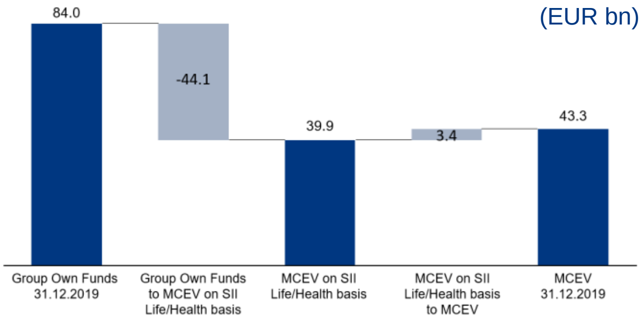
B

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 2019.

Figure 8: Reconciliation Group Own Funds and MCEV 31.12.2019



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

- Group Own Funds to MCEV on Solvency II Life/Health basis
  - Own Funds value related to non-Life/Health businesses within the Allianz Group.
  - Surplus Funds and Going Concern Reserves as part of Own Funds, but not considered shareholders' economic value under MCEV principles.
  - Transferability restrictions applied for surplus funds as well as transferability restrictions on Allianz Life US equivalent Own Funds.
  - Entities within the Life/Health segment which are out of scope of MCEV as well as non-controlling interests.

- MCEV on Solvency II Life/Health basis to MCEV
  - Mexico, Middle-East & North-Africa and smaller Asian entities are out of scope while they are in scope for MCEV.
  - Allianz Life US replacement of equivalent Own Funds by MCEV.

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 of 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 Life/Health basis.

B.1.2 Overview of results

In 2019, the MCEV of the Allianz Group Life/Health business was supported by the narrowing of credit spreads and positive equity performance, partly counterbalanced by lower interest rates. The MCEV increased to EUR 43,312 mn at the end of 2019 with a strong new business and inforce contribution.

Interest rates significantly decreased in Europe and the USA. Allianz Group has worked over the years to reduce its exposure to interest rates by effective business steering towards preferred lines of business. This has led to a resilient MCEV, and is also reflected in the sensitivities to economic factors, which only slightly increased.

Despite lower interest rates, new business developed positively with a solid 4% increase in Value of New Business ("VNB") after tax compared to 2018, mainly resulting from higher volumes and improved business mix. New business continued to develop in line with the Allianz Group ambition:

- The New Business Margin closed the year at 3.2% in 2019 (3.6% in 2018), well above the target of 3.0%.
- 81% of sales are in preferred lines of business, which was above the target of 80%.

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

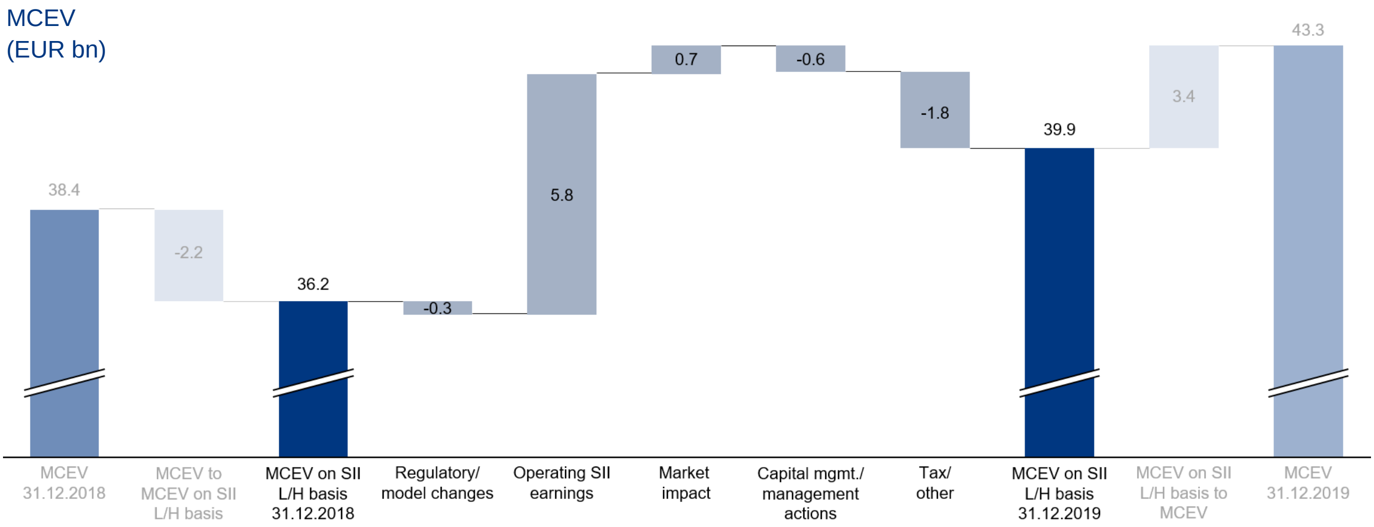
EUR mn

	31.12.2018	31.12.2019	Change in %
MCEV	38,434	43,312	13%
Value of New Business	2,087	2,167	4%

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 2019



Allianz has leveraged on the adoption of Solvency II to further streamline the reporting chain striving for simplification, performance and technical excellence. To avoid redundancies, by embracing the Own Funds as a key metric, Allianz has introduced MCEV on Solvency II Life/Health basis. This is a valuable instrument to explain the Own Funds movements for the L/H segment.

The movement of the MCEV on Solvency II Life/Health 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.

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

EUR mn

	MCEV
MCEV 31.12.2018	**38,434**
MCEV to MCEV on SII Life/Health basis	-2,185
MCEV on SII Life/Health basis 31.12.2018	**36,249**
Regulatory / model Changes (after-tax impact)	-322
Operating SII earnings	5,760
New business contribution	2,209
Expected inforce contribution	2,409
Assumption changes & Experience variances	-219
Debt costs	
Other	1,361
Market Impact including FX	684
Capital Management	-1,006
Management Actions	373
Tax	-1,368
Other Changes	-454
MCEV on SII Life/Health basis 31.12.2019	**39,916**
MCEV on SII Life/Health basis to MCEV	3,396
MCEV 31.12.2019	**43,312**

MCEV increased by 13% to EUR 43,312 mn compared to last year. MCEV on SII Life/Health basis increased by 10% to EUR 39,916 mn with robust Operating SII earnings (EUR 5,760 mn) and a favorable economic environment (EUR 684 mn).

On an SII Life/Health basis, the key components of the change in 2019 were as follows (all movement steps are before tax except for regulatory / model changes which are after tax):

Regulatory / model changes (EUR -322 mn after tax) include required regulatory changes.

In 2019, it comprises changes such as the 2019 update of EIOPA ultimate forward rate, modelling of dynamic cost inflation at Allianz Leben and an update of contract boundaries at Allianz Vie.

Operating SII earnings (EUR 5,760 mn) represents the sum of the operating drivers described below:

New business contribution (EUR 2,209 mn) takes into account all expenses with respect to new business written during the year, including acquisition expense over- and underruns.

In 2019, new business was well on track with Group ambition with an excellent quality of underwritten business and further productivity gains. Main contributor was Germany Life with strong sales of our capital efficient products, which was also supported by lower expenses.

Expected inforce contribution (EUR 2,409 mn) comprises:

– Expected returns on reference rate (EUR 993 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 1,400 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 16 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 -219 mn) comprise:

- Non-economic assumption changes (EUR 362 mn) reflect changes in assumptions such as lapses, mortality and expenses. For the 2019 annual assumption changes, the main drivers were the updates from Germany Life, in particular risk margin parameters. Germany Health and Switzerland contributed as well to the overall positive impact.
- Experience variances (EUR -439 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 RfB.
- Other operating variances (EUR -142 mn) is mainly driven by an asset reallocation in France between L/H and P&C segments.

Other (EUR 1,361 mn) relates to changes of equivalent Own Funds of Allianz Life US attributable to Operating SII earnings.

Market impact including FX (EUR 684 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 2019, the contribution from economic movements was largely positive. The main drivers were:

- Credit spreads narrowed, in particular for Italian government bonds. This led as well to lower volatility adjustments ("VA"), e.g. for Euro, the VA decreased by 17 basis points.
- Equity markets increased: +25% for the EURO STOXX 50 and +29% for the S&P 500. The related equity volatilities were on the same level for the EURO STOXX 50 resp. slightly down for the S&P 500.
- Risk free rates were significantly lower, e.g. 10Y EUR-SWAP rate was 61 basis points lower (0.11% vs. 0.72%) and 10Y USD-SWAP rate was 75 basis points lower (1.77% vs. 2.52%).
- Foreign exchange rates were beneficial, in particular the Swiss Franc, the Thailand Baht and the Taiwan Dollar appreciated against the Euro.

Capital management (EUR -1,006 mn) reflect the net dividends and capital movements from/to our life companies and the impact of acquired and divested business.

In 2019, the movement originated mostly from dividend payments. The amount of dividends was higher compared to last year (EUR 0.5 bn were paid in 2018). The major drivers were:

- upstreaming from US after no dividend was paid previous year as a consequence of tax reform and growth;
- no capital injection compared to last year's significant legacy transaction in Taiwan.

Management actions (EUR 373 mn) are mainly driven by the US from a reinsurance agreement with Hannover Re, renegotiations of a group pension contract in Italy as well as an update of the investment strategy for the German Life business.

Tax (EUR -1,368 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 gain in the Life/Health portfolio.

Other changes (EUR -454 mn) are impacted by Germany Health with a model correction, France with a change in risk margin methodology and the reclassification of restructuring charges.

The two reconciliation steps between MCEV and MCEV on SII Life/Health basis (EUR -2,185 mn and EUR 3,396 mn) are designed to help the reader understand the bridge between Own Funds and MCEV shareholders' value. These movements are symmetric.

The difference in magnitude between the two values was driven by Allianz Life US, where market movements had a different impact on MCEV and equivalent Own Funds, as well as the movements of Asian entities that are in scope of MCEV only.

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 (Allianz Life US, and entities out of the Solvency II scope) as well as the renegotiation of a group contract in Italy.

Table 6: Reconciliation New Business – L/H segment

EUR mn

	2019
New business contribution to Own Funds movement (before tax)	**2,209**
Change in scope	765
Total New business contribution (before tax)	2,974
Tax	-807
Value of New Business (after tax)	**2,167**

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 2019 was EUR 2,167 mn, 4% higher than in 2018. The New Business Margin ("NBM") decreased from 3.6% to 3.2%.

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

EUR mn

	2019	2018	Change in %
Present Value of New Business Premiums	67,046	58,516	15%
New Business Margin[1] (in %)	3.2%	3.6%	-0.3%-p
Value of New Business	**2,167**	**2,087**	**4%**
(not included: look-through profits)	143	136	5%
APE Margin[2] (in %)	22.7%	24.9%	-2.2%-p
Single premium[3]	40,737	36,691	11%
Recurrent Premium	5,489	4,723	16%
Recurrent premium multiplier[4]	4.8	4.6	4%

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 quickly adapted their products on sale to the economic environment, in which short and even mid-term interest rates are negative for CHF and EUR.

Successful management actions included:

- new business steering towards capital efficient products;
- lowering average guarantees in new traditional business from 0.58% to 0.50%, which resulted in a reduction of the average guarantees of the inforce from 1.98% in 2018 to 1.93% in 2019;
- interest rate sensitivity on a low level, by introducing products with less dependency on market rates;
- increasing pricing agility;
- improving ALM.

The increase of 15% in the present value of new business premiums ("PVNBP") reflects an increase of both single and recurring premiums.

Higher sales of single premiums were mainly driven by increased capital efficient products in Germany Life and higher capital-efficient variable annuities in the US.

Recurring premiums increased in almost all regions.

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 31.12.2018	**58,516**	**3.6%**	**2,087**
Foreign Exchange Variance	754	0.0%	30
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	59,270	3.6%	2,117
Volume	7,628	0.0%	255
Business mix	0	0.2%	177
Assumptions	148	-0.6%	-381
VNB 31.12.2019	**67,046**	**3.2%**	**2,167**

Foreign exchange adjustments increased VNB by EUR 30 mn, mainly from USA, Asia (Thailand, Taiwan, Indonesia) and Switzerland, partly offset by Turkey.

The volume impact was driven by higher sales of capital efficient products in Germany (EUR 226 mn) and in the USA (EUR 36 mn), partly offset by lower unit-linked business in Taiwan (EUR -28 mn).

Business mix improvement was driven by USA (EUR 49 mn) due to hybrid variable annuities sales campaign and higher share of Protection & Health business, AZAP due to lower share of UL in Taiwan (EUR 27 mn) in Bancassurance and more profitable Protection & Health riders in Indonesia (EUR 11 mn), and Germany Life (EUR 35 mn).

The share of capital efficient products increased by 3.5%-p. whilst unit linked products without guarantees show a decrease. Traditional guaranteed savings and annuity products share in new business slightly increased compared to last year after the group contract renegotiation in Italy, which has a positive impact on the profitability of this line of business.

The economic environment with lower interest rates had a negative effect in all Europe and USA portfolios (EUR -331 mn).

Changes in assumptions of EUR -14 mn mainly reflect the non-economic assumption updates.

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 projection of future profits shows a stable earnings release and return on capital over the entire projection period.

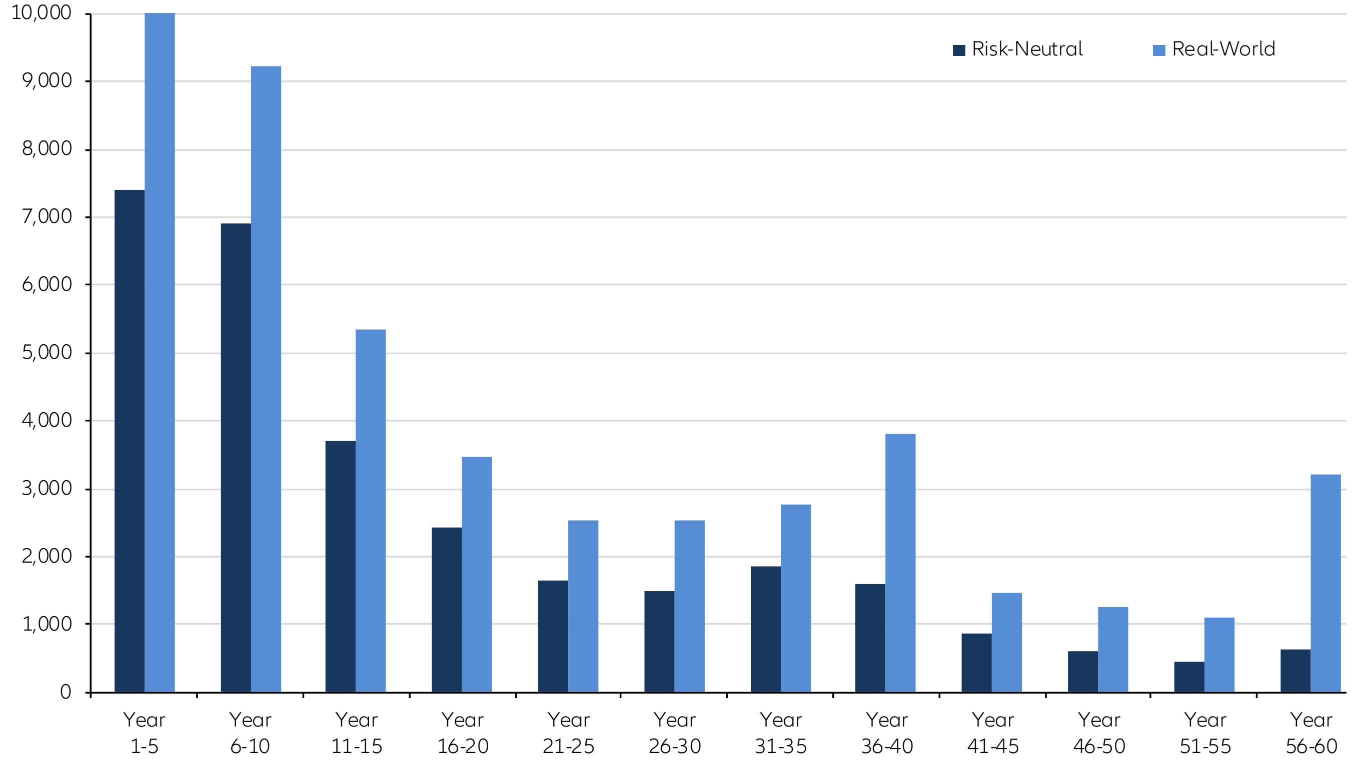
The following graph presents the pattern of risk-neutral and real-world profits grouped by 5 years' time buckets. These profits are only related to the current inforce portfolio; it includes the new business of the current year but future new business is not considered.

Table 9 below 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	19,455	72%
year 10	12,702	47%
year 15	9,145	34%
year 20	6,872	25%
year 25	5,784	21%
year 30	4,957	18%
year 35	3,683	14%
year 40	2,491	9%
year 45	1,778	7%
year 50	1,343	5%

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



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. For sensitivities on VNB, the change in assumptions is applied after point of sale. The magnitude of the assumption shifts are not indicative of what may or may not actually occur.

Table 10: Sensitivities

EUR mn

	Inforce MCEV		New Business VNB[1]	
	EUR mn	%	EUR mn	%
Central Assumptions	**43,312**	**100%**	**2,167**	**100%**
Change by economic factors				
Risk Free Rate –50bp	-938	-2%	-51	-2%
Risk Free Rate +50bp	305	1%	39	2%
Equity values –20 %	-2,402	-6%	-140	-6%
Swaption volatilities +25 %	-1,380	-3%	-60	-3%
Equity option volatilities +25 %	-1,046	-2%	0	0%
Change by non-economic factors				
Lapse Rates –10 %	225	1%	145	7%
Maintenance Expenses –10 %	1,101	3%	120	6%
Mortality +15 % for products with death risk	-594	-1%	-106	-5%
Mortality –20 % for products with longevity risk	-3,203	-7%	-66	-3%

1_VNB sensitivities are the sum of quarter slice sensitivities.

DECREASE/INCREASE OF THE UNDERLYING MARKET RISK-FREE INETERST 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 an implicit 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. 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 shift of -50 basis points in interest rates results in a reduction of the MCEV of EUR -938 mn or -2%. This is higher than the corresponding impact shown for 2018 of -1%, driven by the low interest rate environment which increased O&G.

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 -200 basis points and the deep and liquid part of the yield-curves remains unchanged. Lowering the UFR by 200 basis points reduces MCEV by EUR -4,071 mn. VNB would decrease by EUR -106 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 -2,402 mn or -6%. The change compared to last year (-6% in 2019 vs. -4% in 2018) is driven by Germany Life being impacted by changes in investment strategy.

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 -1,380 mn or -3% for an increase in swaption implied volatility, this is in line with last year's impact. VNB decreases by EUR -60 mn or -3%.

MCEV decreases by EUR -1,046 mn or -2% for an increase in equity option implied volatility and VNB decreases only by EUR -0.1 mn.

DECREASE IN LAPSE RATES

A 10% proportionate decrease in projected lapse rates results in an increase in MCEV of EUR 225 mn or 1% with some offsetting effects across the different countries.

DECREASE IN MAINTENANCE EXPENSES

The impact of a 10% decrease in projected expenses in MCEV is EUR 1,101 mn or 3%. This sensitivity is similar to last year.

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 -594 mn or -1%. This is similar to last year. A decline in mortality rates by 20% on products exposed to longevity risk would lead to a decrease in MCEV of EUR -3,203 mn or -7%. This is slightly higher than last year. The lower interest rate environment increases the longevity risks, as higher option & guarantees remain even longer in our portfolio. The impact of non-economic shocks on MCEV is generally low as they are mitigated by the ability to share technical profits and losses with policyholders, particularly in Germany.

B.6 REGIONAL ANALYSIS

B.6.1 Regional distribution

The regional distribution consists of:

GERMAN SPEAKING COUNTRIES

- Germany Life includes Allianz 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, 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

- Allianz 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 31.12.2018	**16,114**	11,993	**9,328**	5,609	2,065	**1,454**	**1,211**	**2,549**	**7,327**	**452**	**38,434**
MCEV 31.12.2019	**17,286**	13,040	**9,805**	5,659	2,432	**1,645**	**1,167**	**3,227**	**9,649**	**533**	**43,312**

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	960	872	383	105	201	78	50	290	338	69	2,167
in % total VNB	**44%**	40%	**18%**	5%	9%	**4%**	**2%**	**13%**	**16%**	**3%**	**100%**
New Business Margin in %	**3.4%**	3.5%	**2.1%**	1.4%	2.4%	**4.4%**	**5.4%**	**5.7%**	**2.8%**	**8.3%**	**3.2%**
Present Value of NB Premiums	**27,872**	24,691	**18,482**	7,426	8,389	**1,769**	**923**	**5,056**	**12,115**	**830**	**67,046**
APE Margin [1] in %	**42.2%**	41.7%	**9.0%**	4.5%	12.8%	**27.2%**	**15.6%**	**32.4%**	**24.9%**	**38.8%**	**22.7%**
APE Absolute	**2,273**	2,090	**4,252**	2,314	1,576	**286**	**322**	**894**	**1,359**	**176**	**9,563**
Single Premium [2]	**13,030**	12,810	**13,554**	5,268	6,131	**873**	**177**	**1,906**	**11,198**	**0**	**40,737**
Recurrent Premium	**970**	809	**2,897**	1,787	963	**198**	**304**	**703**	**239**	**176**	**5,489**
Recurrent premium multiplier [3]	**15**	15	**2**	1	2	**5**	**2**	**4**	**4**	**5**	**5**
Value of New Business by product type											
Capital Efficient	**641**	636	**37**	3	27	**22**	**5**	**21**	**304**	**3**	**1,034**
Guaranteed Savings & Annuities	**145**	136	**76**	43	27	**2**	**2**	**56**	**3**	**1**	**286**
Protection & Health	**172**	100	**91**	25	36	**51**	**32**	**143**	**31**	**41**	**561**
Unit-linked without Guarantees	**2**	-	**179**	33	112	**2**	**10**	**70**	**-**	**23**	**286**
New Business Margin by product type											
Capital Efficient in %	**3.5%**	3.6%	**2.5%**	2.8%	2.9%	**3.1%**	**3.0%**	**4.1%**	**2.8%**	**4.9%**	**3.2%**
Guaranteed Savings & Annuities in %	**2.4%**	2.7%	**1.6%**	1.4%	1.6%	**0.8%**	**2.4%**	**5.1%**	**1.9%**	**5.8%**	**2.3%**
Protection & Health in %	**4.6%**	6.0%	**2.8%**	0.9%	13.1%	**11.8%**	**8.9%**	**11.2%**	**3.4%**	**8.0%**	**5.4%**
Unit-linked without Guarantees in %	**3.6%**	-	**2.0%**	2.3%	2.0%	**0.5%**	**3.7%**	**3.2%**	**-**	**7.9%**	**2.4%**

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 9% from EUR 11,993 mn to EUR 13,040 mn, supported by strong Operating SII earnings.

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

Table 13: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2018	**11,993**
Regulatory / model Changes (after-tax impact)	-75
Operating SII earnings	2,200
New business contribution	1,264
Expected inforce contribution	1,088
Assumption changes & Experience variances	-151
Debt costs	
Other	
Market Impact including FX	-494
Capital Management	-1
Management Actions	-153
Tax	-430
Other Changes	
MCEV 31.12.2019	**13,040**

The most significant model change in 2019 was the EIOPA update of the UFR which caused a negative impact. This was partly offset by the calibration of equity options and cost inflation.

Operating SII earnings were strong from both new business and inforce. The main effects of assumption changes & experience variances are due to a strengthening of RfB. The regular update process of non-economic assumptions had a positive impact, particularly from the risk margin parameters.

Lower interest rates and the widening of credit spreads drove the negative market impact. This effect is partly offset by strong equity markets (+25% for the EuroStoxx50 in 2019).

Capital movements were almost nil as there is currently no profit and loss transfer agreement with Allianz Leben.

Management actions are driven by an update of the investment strategy with higher real assets leading to higher options and guarantees.

DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written by Germany Life in 2019 was EUR 872 mn, 14% higher than the value in 2018.

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 31.12.2018	**18,819**	**4.1%**	**764**
Foreign Exchange Variance	-	0.0%	-
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	**18,819**	**4.1%**	**764**
Volume	6,045	0.0%	226
Business mix	-	0.1%	35
Assumptions	-172	-0.7%	-153
VNB 31.12.2019	**24,691**	**3.5%**	**872**

Germany Life has strongly increased its VNB by continuously steering sales towards capital efficient products to replace the traditional products. With this strategy, the company has been able to increase volumes and as a consequence the share of preferred lines of business could be further strengthened. Growth came equally from corporate and retail business.

VNB decreased by EUR 153 mn from assumption changes due to a deterioration of interest rates and model changes, mainly the introduction of the new methodology for the Zinszusatzreserve ("ZZR").

B.6.5 France

DEVELOPMENT OF EMBEDDED VALUE

MCEV slightly increased by 0.9% from EUR 5,609 mn to EUR 5,659 mn, mainly impacted by model changes.

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

Table 15: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2018	**5,609**
Regulatory / model Changes (after-tax impact)	-199
Operating SII earnings	297
New business contribution	146
Expected inforce contribution	350
Assumption changes & Experience variances	-198
Debt costs	
Other	
Market Impact including FX	60
Capital Management	0
Management Actions	35
Tax	-47
Other Changes	-95
MCEV 31.12.2019	**5,659**

Model changes in 2019 are largely driven by revised modeling of contract boundaries and EIOPA 2019 update of the UFR.

Solid Operating SII earnings are impacted by lower new business contribution and a change in asset allocation. Experience variances mainly from lower lapses are limited and offset by favorable assumption updates.

The economic environment had an overall positive influence on the MCEV. While interest rate movements had a negative impact, equity markets increased in 2019. In addition, a reduced inflation expectation and favorable real estate exposure also contributed favorably.

Management actions are due to an asset duration increase to reduce the duration gap and other changes are impacted by the change of the longevity driver for the risk margin.

DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in France in 2019 decreased to EUR 105 mn, -43% lower than the value in 2018. The NBM decreased from 2.3% to 1.4% mainly driven by economic assumption changes.

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 31.12.2018	**7,987**	**2.3%**	**183**
Foreign Exchange Variance	-0	0.0%	-0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	7,986	2.3%	183
Volume	-531	0.0%	-14
Business mix	-	-0.1%	-11
Assumptions	-29	-0.7%	-53
VNB 31.12.2019	**7,426**	**1.4%**	**105**

The negative impact from volume was mainly driven by a decline of unit-linked sales and lower volumes in the Global Life branch after a strong outperformance in 2018.

The negative impact from business mix was attributable to a higher combined ratio in Group Health business due to unfavorable claims in sick leave and health.

Change in assumptions were mainly driven by a less favorable economic environment, in particular lower interest rates in the second half of 2019.

B.6.6 Italy

DEVELOPMENT OF EMBEDDED VALUE

The MCEV increased by 18% from EUR 2,065 mn to EUR 2,432 mn largely supported by Operating SII earnings and the 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 31.12.2018	2,065
Regulatory / model Changes (after-tax impact)	-67
Operating SII earnings	394
New business contribution	232
Expected inforce contribution	180
Assumption changes & Experience variances	-19
Debt costs	
Other	
Market Impact including FX	171
Capital Management	-23
Management Actions	40
Tax	-147
Other Changes	
MCEV 31.12.2019	2,432

Apart from the EIOPA 2019 update of the UFR the impact from model changes was mainly due to a revised cost allocation approach and a change in operational risk modeling.

Non-economic assumptions include updated expenses assumption, partly offset by more favorable lapse anticipation and mortality/morbidity updates. Experience variances were negligible.

Credit spreads significantly narrowed for Italian government bonds BTP (-76 bps over the year for 10yrs BTP) and European equity markets improved (+25% for the EuroStoxx50 in 2019). These market impacts were partly offset by an unfavorable movement of interest rates.

Capital management mostly reflects the dividend payment.

Management actions are due to successful renegotiations of a group pension contract with reduced guarantee level.

DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Italy in 2019 increased to EUR 201 mn, 1% higher than in 2018. The NBM was stable at 2.4%.

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 31.12.2018	8,244	2.4%	199
Foreign Exchange Variance	-0	0.0%	0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	8,244	2.4%	199
Volume	106	0.0%	3
Business mix	-	0.1%	8
Assumptions	40	-0.1%	-8
VNB 31.12.2019	8,389	2.4%	201

The overall increase was driven by the agency channel where the VNB went from EUR 77 mn in 2018 to EUR 85 mn in 2019, partly offset by bank channel that went from EUR 55 mn to EUR 50 mn in 2019.

The increased production was driven by the renegotiation of a group contract adjusting the conditions to the current market environment and higher unit-linked business in the FA channel. The production of unit-linked business in the bank channel and capital efficient products in Global Life branch declined.

Changes in business mix benefited from the renegotiation of a group contract.

VNB decreased by EUR -8 mn from assumptions mainly driven by deterioration of interest rates through the year.

B.6.7 Asia Pacific

DEVELOPMENT OF EMBEDDED VALUE

The MCEV for Asia Pacific increased by 27% from EUR 2,549 mn to EUR 3,227 mn, supported by favorable economic movements and stronger Asian currencies.

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

Table 19: Analysis of Earnings of Embedded Value

EUR mn

	MCEV
MCEV 31.12.2018	**2,549**
Regulatory / model Changes (after-tax impact)	-7
Operating SII earnings	561
New business contribution	376
Expected inforce contribution	231
Assumption changes & Experience variances	-45
Debt costs	
Other	
Market Impact including FX	525
Capital Management	-67
Management Actions	-83
Tax	-251
Other Changes	
MCEV 31.12.2019	**3,227**

Model changes largely reflect the EIOPA 2019 update of the UFR in Taiwan.

Assumption changes in 2019 included an unfavorable update of morbidity assumptions in Indonesia and China. Experience variances are related to lapses in unit-linked business in Taiwan and worsened health morbidity experience in Indonesia.

Market impact was positive mostly as a result of favorable interest rates movements in Thailand and Indonesia as well as increased equity markets. In addition, foreign exchange variations were overall positive.

Capital management accounted for the dividends paid by Indonesia and Thailand.

Management actions consist of changes in participations: revaluation of puttable liability to the joint venture partner in China (-116 mn) and participation increase in Thailand (+32 mn).

DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Asia Pacific in 2019 was EUR 290 mn, 16% higher than the value in 2018. The region had a good development during the year supported by an improved business mix. The NBM increased from 4.8% 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 31.12.2018	**5,226**	**4.8%**	**249**
Foreign Exchange Variance	241	0.0%	13
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	**5,466**	**4.8%**	**263**
Volume	-508	0.0%	-24
Business mix	-	1.3%	64
Assumptions	97	-0.4%	-12
VNB 31.12.2019	**5,056**	**5.7%**	**290**

The impact of Foreign Exchange was driven by the appreciation of the Thailand Baht, Taiwan Dollar and Indonesian Rupiah against the Euro.

The decrease of the VNB from volume effects was mainly driven by lower sales of unit-linked products in Taiwan, partly offset by Indonesia and Thailand with higher volumes of profitable protection business.

The lower share of unit linked sales in Taiwan, which has a lower profitability than other businesses in the region, had a positive effect on the overall business mix. This was also supported by a higher share of protection business from Indonesia and Thailand.

The negative impact from assumption updates was driven by Taiwan due to updated corporate tax rate and lower interest rates in Thailand, partially offset by updated lapse and expense assumptions in China.

B.6.8 USA

DEVELOPMENT OF EMBEDDED VALUE

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

The MCEV of Allianz Life US increased by 32% to EUR 9,649 mn, driven by 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 31.12.2018	**7,327**
Regulatory / model Changes (after-tax impact)	-238
Operating SII earnings	1,228
New business contribution	428
Expected inforce contribution	733
Assumption changes & Experience variances	66
Debt costs	
Other	
Market Impact including FX	2,139
Capital Management	-290
Management Actions	0
Tax	-518
Other Changes	
MCEV 31.12.2019	**9,649**

Model changes are driven by the integration of credit risk modelling for long term care business.

The inforce contribution remains strong due to a focus on continuously managing product spreads toward target profitability.

Positive impact from assumption changes is mainly driven by updated Guaranteed Minimum Withdrawal Benefit utilization rates partly offset by updated expense assumptions. Positive experience variances are driven by fewer annuitizations, partly offset by lower than expected lapses in fixed-indexed annuities.

The US Dollar strengthened by 2% against the Euro compared to last year-end. Beside this, market impacts were significantly positive, dominated by the effect of decreased credit spreads (portfolio average -36 bps), In addition, favorable equity markets (+29% for the S&P 500 over 2019) increased MCEV. This was partly offset by overall negative effects from interest rates and related volatilities.

A dividend of EUR 290 mn was paid.

DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in the USA in 2019 decreased to EUR 338 mn, -10% lower than 2018. The NBM went down from 3.5% to 2.8%.

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 31.12.2018	**10,622**	**3.5%**	**374**
Foreign Exchange Variance	509	0.0%	18
Acquired / Divested business	-	0.0%	-
VNB 31.12.2018 restated	**11,131**	**3.5%**	**392**
Volume	984	0.0%	36
Business mix	-	0.4%	49
Assumptions	-	-1.1%	-138
VNB 31.12.2019	**12,115**	**2.8%**	**338**

The VNB increased by EUR 18 mn as the US Dollar strengthened against the Euro.

The development of interest rates during 2019 had a negative impact on VNB, mainly in the fixed-indexed annuity business. The effect was counterbalanced by measures implemented, especially in the second half of the year, supported by higher volumes of capital-efficient variable annuities leading to a better business mix.

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 2019 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 2019 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 taking into account 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"), 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 the market price 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 is the expected cost of transferring the non-hedgeable financial, insurance and operational risks to another insurer or reinsurer. 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 2019 are based on economic market conditions as of 31st December 2019. 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:

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

Market data for interest rates have been taken from an internal data base fed by Bloomberg. Market data used for calibration of 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 2019 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 2019. Credit risk adjustments are shown below.

Table 23: Credit Risk Adjustment per currency as of 31.12.2019

Currency	Credit Risk Adjustment
EUR	10 bps
USD	13 bps
GBP	11 bps
CHF	10 bps
CZK	10 bps
HUF	10 bps
PLN	10 bps
TWD	10 bps
THB	10 bps

The application ratio for the volatility adjustment is 65%. The table below shows the development of the volatility adjustment for each currency.

Table 24: Long-term guarantee measurement

Currency	31.12.2018	30.03.2019	29.06.2019	28.09.2019	31.12.2019
EUR	24 bps	14bps	9 bps	11 bps	7 bps
CHF	4 bps	4 bps	6 bps	10 bps	5 bps
USD	54 bps	41 bps	36 bps	41 bps	28 bps
CZK	17 bps	12 bps	12 bps	13 bps	12 bps
HUK	5 bps	3 bps	3 bps	2 bps	1 bp
PLN	9 bps	10 bps	11 bps	10 bps	8 bps

For application to products we apply a simplified bucketing approach. We apply no volatility adjustment to variable annuities and volatility adjustment based on a 65% application ratio to all participating, unit-linked and other businesses, including US fixed annuities and fixed-indexed annuities. 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					
31.12.2018	-0.33%	-0.28%	0.10%	0.72%	1.27%
29.03.2019	-0.33%	-0.29%	-0.09%	0.38%	0.91%
28.06.2019	-0.46%	-0.48%	-0.34%	0.08%	0.57%
30.09.2019	-0.53%	-0.55%	-0.51%	-0.25%	0.09%
31.12.2019	-0.42%	-0.39%	-0.23%	0.11%	0.50%
CHF					
31.12.2018	-0.75%	-0.67%	-0.35%	0.22%	0.69%
29.03.2019	-0.76%	-0.74%	-0.53%	-0.08%	0.39%
28.06.2019	-0.86%	-0.90%	-0.74%	-0.33%	0.15%
30.09.2019	-0.87%	-0.89%	-0.80%	-0.51%	-0.19%
31.12.2019	-0.74%	-0.71%	-0.53%	-0.20%	0.09%
USD					
31.12.2018	2.56%	2.46%	2.38%	2.52%	2.66%
29.03.2019	2.35%	2.20%	2.10%	2.23%	2.40%
28.06.2019	1.87%	1.67%	1.63%	1.84%	2.07%
30.09.2019	1.69%	1.50%	1.36%	1.43%	1.57%
31.12.2019	1.65%	1.56%	1.59%	1.77%	1.95%
CZK					
31.12.2018	1.94%	1.89%	1.69%	1.64%	2.00%
29.03.2019	1.97%	1.89%	1.70%	1.66%	1.97%
28.06.2019	2.00%	1.84%	1.55%	1.49%	1.85%
30.09.2019	2.06%	1.97%	1.59%	1.22%	1.58%
31.12.2019	2.14%	2.14%	1.94%	1.60%	1.94%
HUF					
31.12.2018	0.44%	1.03%	2.21%	3.08%	3.75%
29.03.2019	0.28%	0.91%	1.67%	2.69%	3.46%
28.06.2019	0.28%	0.66%	1.44%	2.47%	3.43%
30.09.2019	0.02%	0.23%	0.91%	1.86%	2.61%
31.12.2019	0.02%	0.15%	0.95%	1.92%	3.00%
PLN					
31.12.2018	0.93%	1.32%	2.11%	2.73%	3.05%
29.03.2019	1.40%	1.55%	2.07%	2.71%	3.07%
28.06.2019	1.27%	1.48%	1.88%	2.28%	2.64%
30.09.2019	1.09%	1.38%	1.66%	1.89%	2.37%
31.12.2019	1.02%	1.40%	1.72%	2.01%	2.38%
TWD					
31.12.2018	0.45%	0.50%	0.64%	0.79%	1.59%
29.03.2019	0.39%	0.43%	0.55%	0.68%	1.47%
28.06.2019	0.43%	0.44%	0.51%	0.61%	1.41%
30.09.2019	0.45%	0.45%	0.54%	0.63%	1.41%
31.12.2019	0.40%	0.40%	0.48%	0.58%	1.36%
JPY					
31.12.2018	-0.09%	-0.09%	-0.08%	0.07%	0.46%
29.03.2019	-0.11%	-0.14%	-0.14%	0.00%	0.32%
28.06.2019	-0.17%	-0.20%	-0.21%	-0.07%	0.20%
30.09.2019	-0.21%	-0.25%	-0.25%	-0.12%	0.13%
31.12.2019	-0.09%	-0.09%	-0.07%	0.01%	0.23%

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 2019

Currency	Entry point	Ultimate forward rate
EUR	20	3.90%
CHF	25	2.90%
USD	50	3.90%
CZK	15	3.90%
HUF	15	4.50%
PLN	10	3.90%
THB	15	3.90%
TWD	10	3.90%
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	31.12.2018	29.03.2019	28.06.2019	30.09.2019	31.12.2019
EUR - normal	0.55%	0.49%	0.48%	0.53%	0.53%
CHF - normal	0.66%	0.62%	0.62%	0.59%	0.59%
USD - normal	0.64%	0.60%	0.58%	0.60%	0.56%

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 years	5 years	10 years	20 years
EUR					
31.12.2018 - normal	0.41%	0.46%	0.55%	0.55%	0.52%
31.12.2019 - normal	0.51%	0.52%	0.53%	0.53%	0.51%
CHF					
31.12.2018 - normal	0.48%	0.55%	0.65%	0.66%	0.58%
31.12.2019 - normal	0.49%	0.52%	0.56%	0.59%	0.53%
USD					
31.12.2018 - normal	0.68%	0.70%	0.70%	0.64%	0.67%
31.12.2019 - normal	0.64%	0.62%	0.59%	0.56%	0.63%

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 2019 MCEV calculations were therefore based on 31st December 2019.

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 31.12.2019

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	92 bps

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

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 to the longest maturity option available (10 years). The table below shows the equity option implied volatility for the main equity indices.

Table 30: Equity option implied volatilities

Index	31.12.2018	29.03.2019	28.06.2019	30.09.2019	31.12.2019
EUR - EURO STOXX 50	17.39%	16.94%	17.39%	17.67%	17.67%
CHF - SMI	16.01%	13.85%	13.97%	14.25%	14.57%
USD - S&P 500	22.50%	21.60%	21.37%	21.39%	21.63%

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 were estimated from historic market data. The table below shows the correlation assumptions for 2019; the return period is on a quarterly basis.

Table 31: Correlation assumptions as of 31.12.2019

Index	Fixed income 1 year bond rate			Equity Indices	
	EUR	CHF	USD	MSCIEMU	S&P 500
Fixed income 1 year bond rate					
EUR	1	0.76	0.54	0.35	0.38
CHF		1	0.49	0.30	0.38
USD			1	0.27	0.29
Equity Indices					
MSCIEMU				1	0.86
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 Solvency II Market Value Balance Sheet, for the calculation of the risk margin, using 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 table below.

Table 32: Main exchange rates against EUR

FX against 1.00 EUR	31.12.2018	31.12.2019
CHF	1.13	1.09
USD	1.14	1.12
CZK	25.74	25.41
HUF	320.80	330.71
PLN	4.29	4.25
THB	37.22	33.62
TWD	35.14	33.65

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 taken into account 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

	31.12.2018	31.12.2019
Germany	31%	31%
France	28%	28%
Italy	30%	26%
USA	21%	21%
Switzerland	21%	20%

B.7.2.6 REAL-WORLD ECONOMIC ASSUMPTIONS

The following 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

	31.12.2018	31.12.2019
Equity risk premium	4.1%	4.2%
Real estate risk premium	3.6%	3.7%

APPENDIX

C

C.1 DEFINITIONS AND ABBREVIATIONS

APE
Annual premium equivalent. A measure to normalize single premiums to the recurring premiums. It is calculated as the sum of recurring new business premiums and 10% of single new business premiums.

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

BPS
Basis points. Hundredths of a percent.

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.

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.

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).

LOB
Lines of business. Allianz Life and Health lines of business include:

Guaranteed Savings & Annuities
Life insurance products linked to life expectancy, offering life and / or death benefits in the form of single or multiple payments to beneficiaries and possibly including financial and non-financial guarantees.

Capital Efficient
Products that are based on the general account but involve a significantly lower market risk, either through comprehensive asset/liability management or through significant limitation of the guarantee. This also includes hybrid products which, in addition to conventional assets, invest in a separate account (unit-linked). Capital efficient products offer a guaranteed surrender value at limited risk, due to, e.g. precise asset-liability management or market value adjustment.

Protection & Health
Insurance products covering the risks associated with events that affect an individual's physical or mental integrity.

Unit-linked without Guarantees
With conventional unit-linked products, all benefits under the contract are directly linked to the value of a set of assets which are pooled in an internal or external fund and held in a separate account by the insurer. In this constellation, it is the policyholder rather than the insurer who bears the risk.

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. 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 ongoing 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 FX 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 taken into account.

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.

UCITS
Undertakings for Collective Investments in Transferable Securities. UCITS is a EU Directive, that allows investment schemes to operate throughout the EU on the basis of a single authorization from one member state.

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.

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.