

OWN FUNDS REPORT 2018

OWN FUNDS REPORT
AND LIFE SUPPLEMENT 2018

ALLIANZ GROUP

Allianz 

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CONTENT

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 2018.

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, financial institutions and 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 2018.

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 2018 is presented in this section.

Please note that AZ Life US is considered with its equivalent Own Funds in section B.2 when aggregating the results to the total Life/Health segment, for consistency to the Own Funds. Section B.6.8 then includes the MCEV of AZ Life US and the corresponding movements during 2018.

That section also contains details on the new business written during the year 2018 by our Life/Health insurance operating entities.

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

C: APPENDIX – DEFINITIONS AND ABBREVIATIONS

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

NOTE TO READERS

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

The input data used to prepare this report is partially identical to the data used for other purposes, e.g. for the MVBS and Technical Provisions ("TP"). The appropriateness of this data is verified regularly both internally and by external auditors. In addition, PwC performed an audit of our MVBS as of 31st December 2018. Technical Provisions were audited as part of the general MVBS audit process and no deficiency or material weakness was identified.

GROUP CHAPTERS



A.1 OVERVIEW

Allianz achieved excellent results in 2018 reaching the upper end of the Group's announced target range.

Our healthy and well-diversified business makes us confident that we will continue to deliver a strong financial performance in 2019.

Allianz delivered as promised

Allianz Group had a successful year in 2018 meeting its performance targets in all segments and maintaining a high level of capital strength.

Strong operating capital generation

Pre-tax and pre-dividend operating capital generation was very strong at 35%-p, remaining also strong after tax and dividends at 15%-p. This improvement offset the negative impact of market movements especially in the fourth quarter. Capital management (including dividends) & management actions had a combined effect of -13%-p.

All operating business segments supported growth

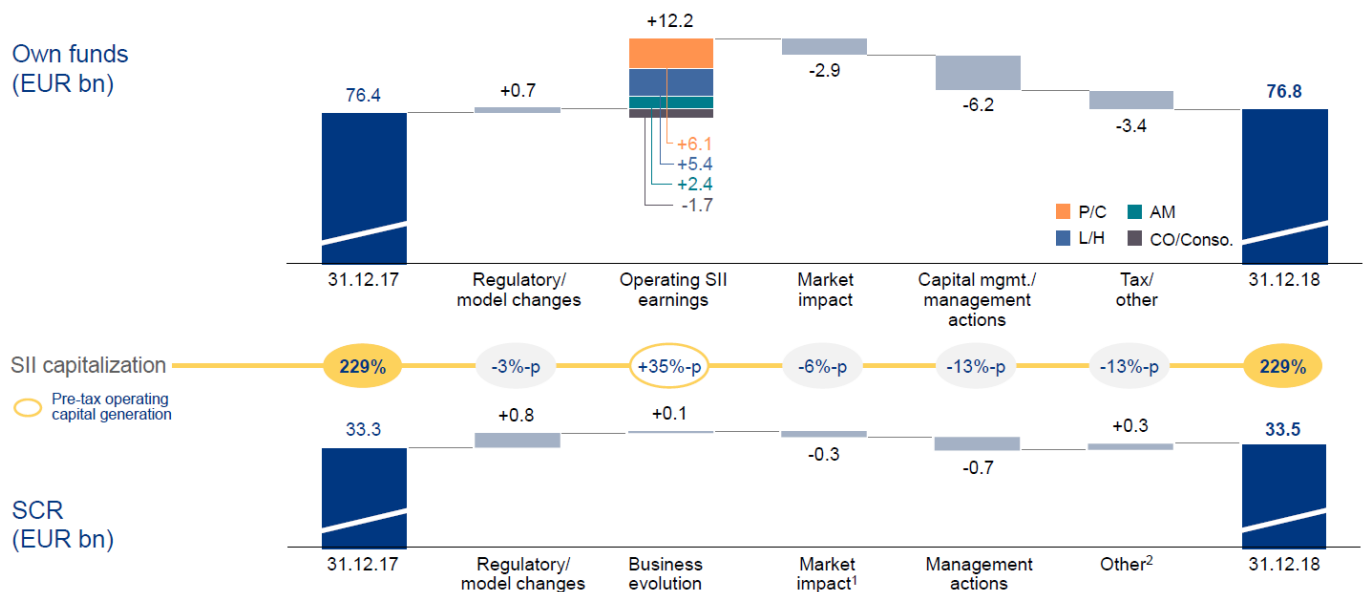
The **P/C segment** showed strong growth and good operating performance with consistently disciplined underwriting and a substantially improved expense ratio. The absence of high severity claims from natural catastrophes and premium growth also contributed positively.

The **L/H segment** has proved to be able to maintain profitable growth in new business. This continued growth in the segment reflects the success of our products that are designed to also cope with the low interest rate environment.

The **AM segment** delivered good performance despite difficult markets. In a challenging environment in 2018 with volatility in financial markets, the expansion of our margins clearly showed the good health of our business.

CO/Conso. was in line with expectations.

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 2018, the Group **Own Funds** increased by EUR 0.4 bn from EUR 76.4 bn to EUR 76.8 bn.

Key drivers were the strong operating SII earnings (EUR +12.2 bn), broadly neutralized by capital management & management actions with a combined effect of EUR -6.2 bn, adverse markets (EUR -2.9 bn), taxes (EUR -2.0 bn) and other effects (EUR -1.4 bn).

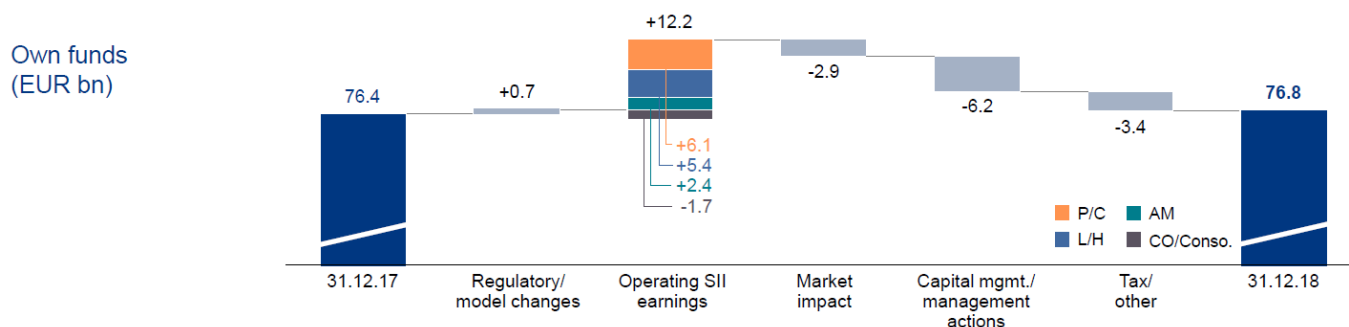
SCR – offsetting impacts

In 2018, the **SCR** increased by EUR 0.2 bn including several offsetting influences: increases from regulatory / model changes (EUR +0.8 bn), business evolution (EUR +0.1 bn) and other effects (EUR +0.3 bn including diversification) were partially compensated by management actions (EUR -0.7 bn) and market impacts (EUR -0.3 bn).

A.2 OWN FUNDS AND RELATED MOVEMENTS

In the 12 months ending 31st December 2018, the Group Own Funds increased by EUR 0.4 bn from EUR 76.4 bn to EUR 76.8 bn.

Figure 2: Movement of Own Funds



A.2.1 Own Funds overview

The Own Funds of Allianz Group as of 31st December 2018 amount to EUR 76.8 bn. EUR 67.9 bn Own Funds relate to the group of internal model and standard model entities. The remaining EUR 8.9 bn relate to the sectoral Own Funds of credit institutions, investment firms and financial institutions, and institutions for occupational retirement provisions, 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 31.12.2018

EUR bn	Own Funds	% of total
Core Tier 1 (Tier 1 unrestricted)	62.4	81.2%
Tier 1 Hybrid (Tier 1 restricted)	3.2	4.2%
Tier 2	10.5	13.6%
Tier 3	0.7	1.0%
Total Group Own Funds (incl. Sectoral and Equivalent Own Funds)	76.8	100.0%

Tier 1 restricted and Tier 2 correspond to subordinated liabilities from the insurance group (EUR 13.7 bn). Tier 3 relates mainly to the available part of the net deferred tax assets (EUR 0.7 bn). As of 31st December 2018, 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 2018 resulted in a EUR 0.7 bn increase of Own Funds after-tax, mainly driven by the L/H segment due to the inclusion of Allianz Ayudhya Assurance (Thailand) into the standard formula, partly offset by the ultimate forward rate ("UFR") reduction and the impact from introducing a regulatory own funds transferability restriction at AZ Life US.

Operating SII earnings

Operating SII earnings for the year 2018 amount to EUR 12.2 bn before tax and dividend accrual.

Operating SII earnings of the L/H segment (EUR 5.4 bn) are higher than the IFRS Operating result, mainly as a result of strong new business generation (EUR 2.1 bn). Changes of equivalent Own Funds of AZ Life US attributable to operating earnings amount to EUR 1.2 bn and are disclosed in line Other in table 2 below. Further details on all other line items can be found in section B.2.

Operating SII earnings of the P/C segment (EUR 6.1 bn) and the AM segment (EUR 2.4 bn) are close to the corresponding IFRS results. Operating SII earnings of the Corporate segment (EUR -1.7 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 2018 is at 35%-p as shown in Figure 1 in section A.1. Operating capital generation, net of tax and dividend, amounts to 15%-p for 2018.

Market impact

The **market impact** includes foreign exchange ("FX") movements. The total decline for 2018 amounts to EUR -2.9 bn, largely driven by the adverse markets mainly in the 4th quarter of the year, when both equity markets and interest rates went down affecting our L/H and P/C segments. The widening of credit spreads also had a negative impact, mainly to the European entities in the L/H segment.

Capital Management

Capital management consumed EUR 4.9 bn of Own Funds during 2018, mainly driven by the EUR 3.8 bn dividend accrual and the execution during 3Q 2018 of a share buy-back of EUR 1.0 bn.

In the first six months of 2018, 10,373,863 shares with total volume of EUR 2.0 bn were repurchased and cancelled. This transaction did not impact Group Own Funds during 2018, because the full EUR 2.0 bn had already been recognized as a deduction from 4Q 2017 Own Funds.

In 3Q 2018, further 5,416,122 shares for a total of EUR 1.0 bn were repurchased and cancelled.

Management actions

Management actions decreased Own Funds by EUR 1.3 bn during 2018, with the main impacts coming from the buy-out of Euler Hermes minorities (EUR -0.8 bn), the Oldenburgische Landesbank Aktiengesellschaft sale (EUR -0.4 bn) and the acquisition of Multiasistencia (EUR -0.3 bn).

Tax

Taxes reduced Own Funds by EUR 2.0 bn during 2018. Taxes relating to Operating SII earnings amount to EUR 3.0 bn.

Other changes

The **other changes** amount to EUR -1.4 bn during 2018, comprising EUR -1.1 bn from changes in transferability restrictions, and another EUR -0.3 bn from other non-operating impacts, mainly restructuring charges.

Table 2: Movement of Own Funds

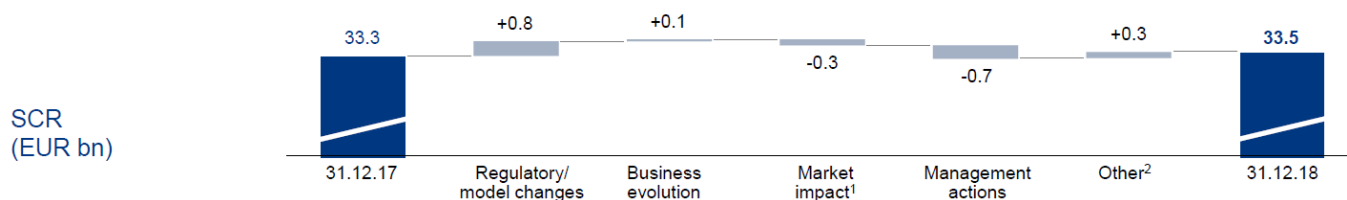
EUR bn

	L/H	P/C	AM	CO/Conso.	Group
Own Funds 31.12.2017					76.4
Regulatory / model Changes (after-tax impact)					0.7
Operating SII earnings	5.4	6.1	2.4	-1.7	12.2
New business contribution	2.1				2.1
Expected inforce contribution	2.3				2.3
Assumption changes & Experience variances	-0.2				-0.2
Debt costs				-0.8	-0.8
Other	1.2	6.1	2.4	-0.9	8.9
Market Impact including FX	-1.7	-1.5	0.0	0.3	-2.9
Capital Management					-4.9
Management Actions					-1.3
Tax					-2.0
Tax on Operating SII earnings					-3.0
Other Changes					-1.4
Changes in transferability restrictions					-1.1
Own Funds 31.12.2018					76.8

A.3 SCR MOVEMENTS

For the year 2018, the SCR showed a slight increase (EUR +0.2 bn) with several offsetting effects.

Figure 3: Movement of SCR



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

The key drivers of the movement are explained in detail below.

Regulatory / model changes

Regulatory / model changes (EUR +0.8 bn) were mainly driven by regulatory changes such as the reduction in the ultimate forward rate, the reduction in tax rate for AZ Life US and the inclusion of Euler Hermes Re and Allianz Ayudhya Assurance (Thailand) based on their standard formula results. Offsetting effects were observed from the introduction of model changes in the 1st and 4th quarter.

Business evolution

Business evolution (EUR +0.1 bn) mainly resulted from the higher net earned premium volume in the P/C segment. This was partially offset by inforce business run-off in the L/H segment.

Market impact

Market impact (EUR -0.3 bn) was predominantly caused by the decrease in equity indices, particularly in the 4th quarter, as well as an increase of credit spreads. Market movements inducing changes of diversification effects on market risks also contributed to a lesser extent.

Management actions

Management actions (EUR -0.7 bn) were driven by the sale of Oldenburgische Landesbank Aktiengesellschaft ("OLB") and the Allianz Taiwan Legacy book transaction with some compensating effect from the decrease in exposures to some government bonds, and the improvement of our interest rate risk profile.

Other

EUR +0.3 bn for **other** effects was mainly driven by diversification effects on Group level.

LIFE SUPPLEMENT

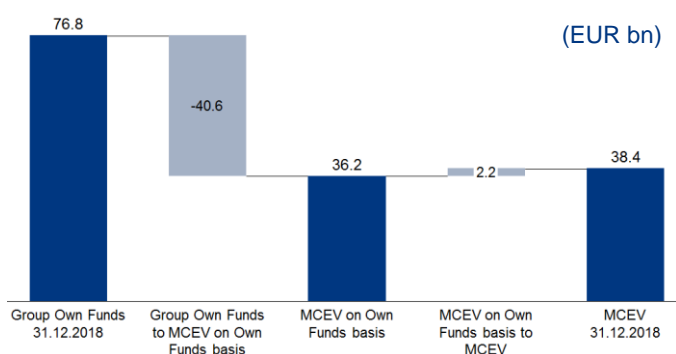
B

B.1 INTRODUCTION TO LIFE SUPPLEMENT

B.1.1 From Group Own Funds to MCEV

Figure 4 shows a reconciliation between Group Own Funds and Life/Health MCEV at the end of the year 2018.

Figure 4: Reconciliation Group Own Funds and MCEV 31.12.2018



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

- **Group Own Funds to MCEV on Own Funds basis**
 - Own Funds value related to non Life/Health businesses within the Allianz Group.
 - Surplus Funds and Going Concern Reserves part of Own Funds, but not considered shareholders' economic value under MCEV principles.
 - Entities within the Life/Health segment which are out of scope of MCEV.
 - Transferability restrictions applied for surplus funds and non-controlling interests as well as transferability restriction on AZ Life US equivalent Own Funds.
- **MCEV on Own Funds basis to MCEV**
 - Mexico, Middle-East & North-Africa and smaller Asian entities are out of scope while they are in scope for MCEV.
 - AZ Life US replacement of equivalent Own Funds by MCEV.
 - Thailand entered MCEV on Own Funds basis scope during 2018 while it was in scope for MCEV both in 2017 and 2018.

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 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 Own Funds basis.

B.1.2 Overview of results

In 2018, the MCEV of the Allianz Group Life/Health business was affected by an adverse economic environment with widening of credit spreads, negative equity performance and concerns on the Italian economy. Despite these market uncertainties, the MCEV increased to EUR 38,434 mn at the end of 2018 with a strong new business and inforce contribution.

Interest rates showed rather limited movements in Europe and the USA and remained low in the Eurozone. 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 more resilient MCEV, and it is also reflected in the sensitivities to economic factors which have decreased further compared to last year.

New business developed positively with a solid 11% increase in Value of New Business ("VNB") after tax compared to 2017, mainly resulting from higher volumes and productivity gains. New business continued to develop in line with the Allianz Group ambition:

- The New Business Margin closed the year at 3.6% in 2018 (3.4% in 2017), well above the target of 3.0%.
- 82% of the business is in preferred lines of business, which was above the target of 80%.

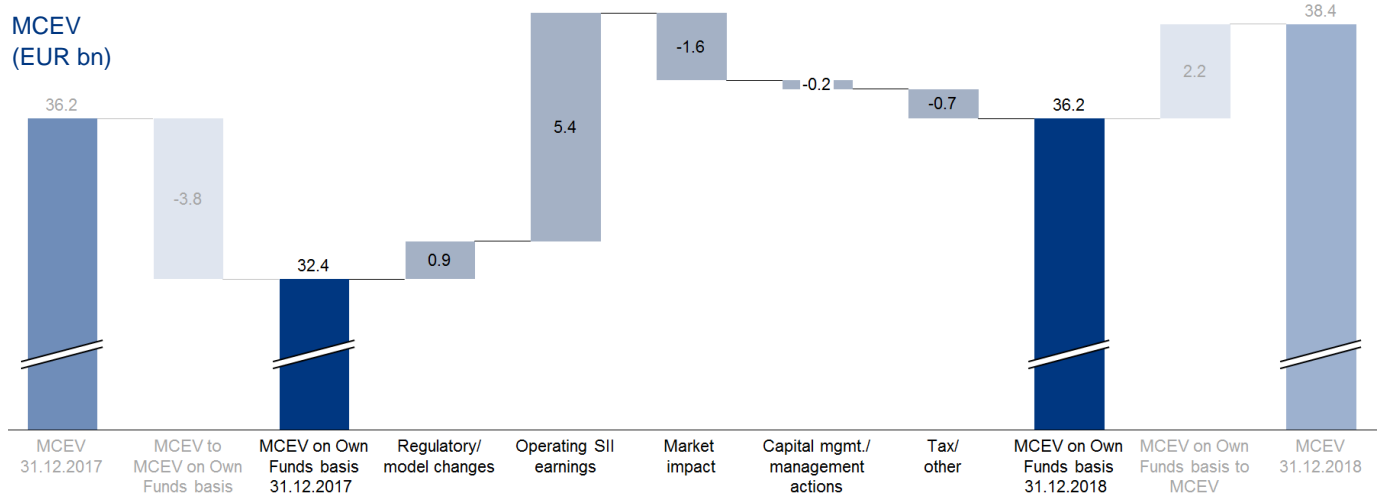
Table 3: Evolution of Embedded Value and Value of New Business

EUR mn	31.12.2017	31.12.2018	Change in %
MCEV	36,242	38,434	6%
Value of New Business	1,882	2,087	11%

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 5: Development of Embedded Value during the year 2018



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

The movement of the MCEV on Own Funds 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 and transferability restrictions.

Table 4: Analysis of Earnings of Embedded Value – L/H segment

EUR mn	MCEV
MCEV 31.12.2017	36,242
MCEV to MCEV on Own Funds basis	-3,793
MCEV on Own Funds basis 31.12.2017	32,449
Regulatory / model Changes (after-tax impact)	852
Operating SII earnings	5,435
New business contribution	2,104
Expected inforce contribution	2,291
Assumption changes & Experience variances	-193
Debt costs	
Other	1,233
Market Impact including FX	-1,641
Capital Management	-481
Management Actions	289
Tax	-653
Other Changes	-1
MCEV on Own Funds basis 31.12.2018	36,249
MCEV on Own Funds basis to MCEV	2,185
MCEV 31.12.2018	38,434

MCEV increased by 6% to EUR 38,434 mn compared to last year. MCEV on Own Funds basis increased by 12% to EUR 36,249 mn with robust Operating SII earnings (EUR 5,435 mn) and despite an unfavorable economic environment (EUR -1,641 mn).

On an Own Funds basis, the key components of the change in 2018 were as follows (all movement steps are before tax except for regulatory / model changes which are after tax):

Regulatory / model changes (EUR 852 mn after tax) can include both model changes or minor model changes the regulator has been informed about.

In 2018, it comprises changes such as the addition of Thailand in the scope of Own Funds, the 2018 update of EIOPA ultimate forward rate and the extended projection horizon for France's group business.

Operating SII earnings (EUR 5,435 mn) represents the sum of the operating drivers described below:

New business contribution (EUR 2,104 mn) takes into account all expenses with respect to new business written during the year, including acquisition expense over- and underruns.

In 2018, 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 2,291 mn) comprises:

- **Expected returns on reference rate** (EUR 860 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 val-

uation for uncertainty (options and guarantees) with regard to asymmetric financial risk and non-financial risk.

- **Over-returns in excess of reference rates** (EUR 1,418 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-flows movements** (EUR 13 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 -193 mn) comprise:

- **Non-economic assumption changes** (EUR 48 mn) reflect changes in assumptions such as lapses, mortality and expenses. For the 2018 annual update, the main drivers for the change were the updates from Spain, France and Italy.
- **Experience variances** (EUR -241 mn) reflect the deviations of actual experience from expectations during the year with respect to non-economic factors. The largest impact came from a one-off effect in Germany Life as a result of the deviation between projected and observed tax rate.
- **Other operating variances** (EUR 0 mn) mainly include management actions to economic developments. Management may, for example, act by changing crediting and investment strategies. This year the impact is 0 due to offsetting effects.

Other (EUR 1,233 mn) relates to changes of equivalent Own Funds of AZ Life US attributable to Operating SII earnings.

Market impact including FX (EUR -1,641 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 2018, the contribution from economic movements was largely negative. The main drivers were:

- **Credit spreads** widening in Europe and in US, in particular for corporate bonds during the 4th quarter of 2018. This led to significant changes in volatility adjustments ("VA"). E.g. for Euro, the VA increased by +11bps in 4Q 2018. Out of this +11bps, +10bps were due to the increase in corporate bond spreads.
- **Equity markets** decreases: -14% for the EURO STOXX 50 and -6% for the S&P 500. The related equity volatilities were slightly down as well: -2bps for the EURO STOXX 50, -5bps for the S&P 500.
- **Uncertainties around the Italian economy** that led to a rise in Italian government spread. The spread over the EIOPA EUR risk-free rate at the 5Y tenor was at 177 bps, 10Y at 213 bps at the end of the year. Nonetheless, this increase did not trigger any country specific VA at the end of the year.

Capital management (EUR -481 mn) and **Management actions** (EUR 289 mn) reflect the net dividends and capital movements from/to our life companies and the impact of acquired and divested business.

In 2018, the movement originated mostly from dividend payments. The amount of dividends was lower compared to last year (EUR 2.6 bn were paid in 2017). The three major drivers were:

- legacy transaction in Taiwan which required the injection of capital and can be seen as a M&A transaction;
- no dividend by AZ Life US as a consequence of tax reform and growth;
- lower upstreaming from Italy following an exceptionally high distribution in 2017.

Management actions included mainly the successful disposal of the legacy book in Taiwan.

Tax (EUR -653 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.

Debt costs and Other Changes (EUR -1 mn) are negligible.

The two reconciliation steps between **MCEV** and **MCEV on Own Funds basis** (EUR -3,793 mn and EUR 2,185 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 due to Thailand and AZ Life US. Thailand was integrated in the scope of the Own Funds at year end 2018. For AZ Life US, market movements had a different impact on MCEV and equivalent Own Funds.

B.3 DEVELOPMENT OF VALUE OF NEW BUSINESS

Table 5 shows the reconciliation between the new business contribution shown in previous chapters and the value of new business generated by our Life/Health entities. The main differences are tax and scope (AZ Life US, Thailand and entities out of the Solvency II scope).

Table 5: Reconciliation New Business – L/H segment

	2018
New business contribution to Own Funds movement (before tax)	2,104
Change in scope	716
Total New business contribution (before tax)	2,820
Tax	-733
Value of New Business (after tax)	2,087

Table 6 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 2018 was EUR 2,087 mn, 11% higher than in 2017. The New Business Margin ("NBM") increased from 3.4% to 3.6%.

Table 6: Value of New Business – L/H segment

	2018	2017	Change in %
Present Value of New Business Premiums	58,516	55,515	5%
New Business Margin ¹ (in %)	3.6%	3.4%	0.2%-p
Value of New Business	2,087	1,882	11%
(not included: look-through profits)	136	118	15%
APE Margin ² (in %)	24.9%	23.2%	1.6%-p
Single premium ³	36,691	34,263	7%
Recurrent Premium	4,723	4,671	1%
Recurrent premium multiplier ⁴	5	5	2%

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

Allianz entities have quickly adapted their products on sale to the economic environment, in which short term interest rates are still negative for CHF and EUR.

Successful management actions included:

- new business steering towards capital efficient products;
- lowering average guarantees in new traditional business from 0.64% to 0.58%, which resulted in a reduction of the average guarantees of the inforce from 2.06% in 2017 to 1.99% in 2018;
- lowering interest rate sensitivity, by introducing products with less dependency on market rates;
- increasing pricing agility;
- improving ALM.

The increase of 5% 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 fixed-indexed annuities in the USA, capital efficient products in Germany Life and unit-linked products in Taiwan.

Recurring premiums increased in almost all regions; the most notable exception being Spain with reduced sales of traditional and protection business mainly through the bancassurance channel.

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

	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	55,515	3.4%	1,882
Foreign Exchange Variance	-609	0.0%	-33
Acquired / Divested business	-	0.0%	-
VNB 31.12.2017 restated	54,906	3.4%	1,849
Volume	3,545	0.0%	145
Business mix	0	-0.1%	-64
Assumptions	65	0.3%	157
VNB 31.12.2018	58,516	3.6%	2,087

Foreign exchange adjustments due to a stronger Euro reduced VNB by EUR -33 mn, mainly from Turkey, USA and Indonesia.

The volume impact was driven by higher sales of capital efficient products in Germany (EUR 69 mn), fixed-indexed annuities in the USA (EUR 50 mn) and unit-linked in Taiwan (EUR 12 mn).

The negative impact of business mix can be explained by the USA (EUR -39 mn) due to fixed-indexed annuities product changes, and new local regulation introduced in China (EUR -24 mn). The overall negative impact also included positive contributions from Italy (EUR 15 mn) due to higher production of protection and capital efficient products, and Germany Life (EUR 7 mn).

The share of traditional guaranteed savings and annuity products in new business mix was lowered by 6%-p since more and more capital efficient products are being introduced.

The profitability of traditional guaranteed savings and annuity business could be improved after successful repricing actions, e.g. in Switzerland and in Thailand, this was further supported by economics in Europe.

Changes in assumptions of EUR 157 mn mainly reflect the non-economic assumption updates with the biggest impact from the USA after the introduction of the tax reform per end of 2017. The negative impact of the introduction of negative rates for new business valuation in 2018 and the update of the ultimate forward rate were almost offset by higher interest rates in the USA.

Further details on the drivers for the change in each region can be found in the regional analyses 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 saving 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.

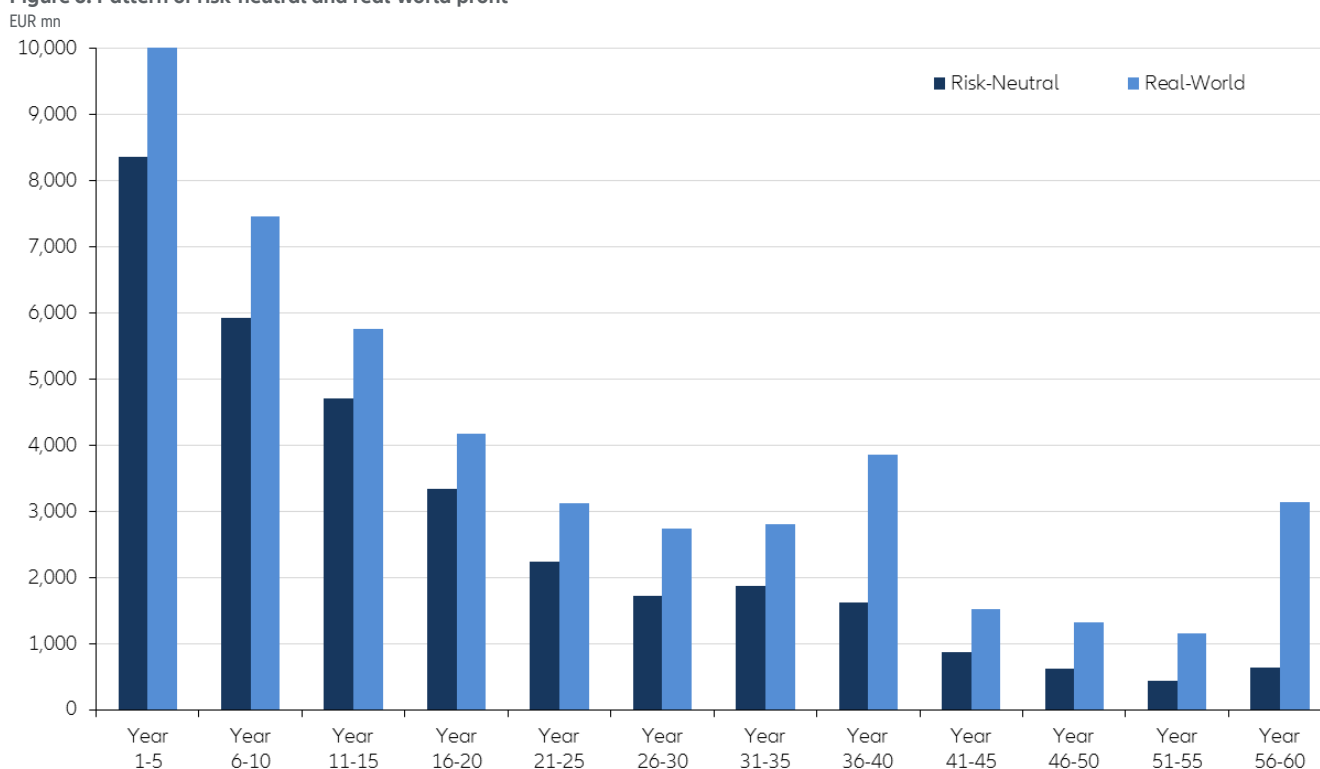
The following graph presents the pattern of risk-neutral and real-world profits grouped by 5 years time buckets. These profits are only related to the current inforce portfolio; future new business is not considered. Risk-neutral profits amount to 0.27% of average reserves over the entire projection period; the corresponding real-world ratio was 0.34%.

Table 8 below shows the corresponding expected maturity profile of the present value of future profits ("PVFP") in a risk-neutral environment.

Table 8: Remaining present value of future risk-neutral profits

EUR mn		
End of year	PVFP	% of initial PVFP
year 5	18,231	70%
year 10	13,494	52%
year 15	9,788	38%
year 20	7,232	28%
year 25	5,906	23%
year 30	4,996	19%
year 35	3,851	15%
year 40	2,783	11%
year 45	1,655	6%
year 50	1,151	4%

Figure 6: Pattern of risk-neutral and real-world profit



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 9 below correspond to the primary economic and non-economic factors specified in the MCEV Principles. The magnitude of the assumption shifts are not indicative of what may or may not actually occur.

Table 9: Sensitivities

EUR mn

	Inforce MCEV		New Business VNB ¹	
	EUR mn	%	EUR mn	%
Central Assumptions	38,434	100%	2,087	100%
Change by economic factors				
Risk Free Rate -50bp	-471	-1%	-28	-1%
Risk Free Rate +50bp	-72	0%	-30	-1%
Equity values -20 %	-1,400	-4%	-120	-6%
Swaption volatilities +25 %	-1,071	-3%	-41	-2%
Equity option volatilities +25 %	-893	-2%	-21	-1%
Change by non-economic factors				
Lapse Rates -10 %	621	2%	113	5%
Maintenance Expenses -10 %	1,151	3%	119	6%
Mortality +15 % for products with death risk	-502	-1%	-62	-3%
Mortality -20 % for products with longevity risk	-2,486	-6%	-37	-2%

¹ VNB sensitivities are the sum of quarter slice sensitivities.

DECREASE/INCREASE OF THE UNDERLYING MARKET RISK-FREE RATES

This sensitivity shows by how much the MCEV would change if market interest rates in the different economies were to fall/rise. The sensitivity is designed to indicate the impact of a sudden shift in the risk-free yield-curve, accompanied by a shift in all economic assumptions including discount rates, market values of fixed income assets as well as equity and real estate return assumptions. Yield-curve extrapolation is applied in sensitivities to interest rate shifts. This means that only the deep and liquid part of yield-curves are subject to parallel shifts while the ultimate forward rate is kept stable, in line with its design under Solvency II. Due to the asymmetric and non-linear impact of embedded financial options and guarantees ("O&G"), falling market rates usually have a higher impact on MCEV than rising rates and the impact increases for each further step down. A shift of -50bps in interest rates results in a reduction of the MCEV of EUR -471 mn or -1%. This is less than the corresponding impact shown for 2017 of -3%, driven by the successful lowering of guarantee levels in the inforce book and less interest rate sensitive products. Interest rate sensitivities are negative in both directions in 2018 mainly due to Germany Life: the change in regulation for additional interest reserve (ZZR-Korridorverfahren) reduced the volatility and hence the 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 -200bps and the deep and liquid part of the yield-curves remains unchanged. Lowering the UFR by 200bps reduces MCEV by EUR -2,637 mn. VNB would decrease by EUR -33 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 -1,400 mn or -4%. The change compared to last year (-4% instead of -6%) is mainly due to Germany Life after change in regulation for additional interest reserve (ZZR-Korridorverfahren).

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 -1,071 mn or -3% for an increase in swaption implied volatility, this is in line with last year's impact. VNB decreases by EUR -41 mn or -2%.

MCEV decreases by EUR -893 mn or -2% for an increase in equity option implied volatility and VNB decreases by EUR -21 mn or -1%.

DECREASE IN LAPSE RATES

A 10% proportionate decrease in projected lapse rates results in an increase in MCEV of EUR 621 mn or 2% with some offsetting effects across the different countries.

DECREASE IN MAINTENANCE EXPENSES

The impact of a 10% decrease in the projected expenses in MCEV is EUR 1,151 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 -502 mn or -1%. A decline in mortality rates by 20% on products exposed to longevity risk would lead to a decrease in MCEV of EUR -2,486 mn or -6%. This is similar to last year, a significant exposure being the longevity risks in the USA and France. The impact of non-economic shocks 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. 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.
- **Italy** includes Italian and Irish life subsidiaries and Italian variable annuity business.
- 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

- AZ Life **US**.

OTHER

- **HOLDING**: Internal life reinsurance.
- **MIDDLE-EAST**: **Egypt** and **Lebanon**.
- **Allianz Global Life**, excluding continental European branches.

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

B.6.2 Embedded Value by region

Table 10: 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 31.12.2017	14,448	10,312	9,739	5,799	2,251	1,377	1,209	1,639	7,429	401	36,242
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

B.6.3 Value of New Business by region

Table 11: 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	840	764	457	183	199	91	44	249	374	31	2,087
in % total VNB	40%	37%	22%	9%	10%	4%	2%	12%	18%	1%	100%
New Business Margin in %	4.0%	4.1%	2.5%	2.3%	2.4%	4.9%	5.8%	4.8%	3.5%	15.6%	3.6%
Present Value of NB Premiums	21,235	18,819	18,625	7,987	8,244	1,858	752	5,226	10,622	198	58,516
APE Margin ¹ in %	48.1%	47.7%	11.8%	7.5%	17.4%	31.3%	15.4%	26.8%	31.7%	43.7%	24.9%
APE Absolute	1,748	1,602	3,890	2,445	1,141	290	285	931	1,179	71	8,392
Single Premium ²	9,069	8,972	14,026	5,630	6,421	1,030	117	2,524	9,925	-	36,691
Recurrent Premium	841	705	2,487	1,882	499	187	273	678	186	71	4,723
Recurrent premium multiplier ³	14	14	2	1	4	4	2	4	4	3	5
Value of New Business by product type											
Capital Efficient	567	558	47	8	27	25	5	7	341	-	992
Guaranteed Savings & Annuities	129	124	89	69	9	9	2	48	10	1	288
Protection & Health	144	82	112	45	48	54	31	97	23	19	478
Unit-linked without Guarantees	1	-	209	61	115	3	6	98	-	11	329
New Business Margin by product type											
Capital Efficient in %	4.2%	4.2%	2.6%	2.8%	2.4%	3.3%	3.2%	3.0%	3.5%	n/a	3.8%
Guaranteed Savings & Annuities in %	2.7%	3.0%	2.1%	2.2%	0.8%	2.3%	2.9%	4.8%	4.5%	5.8%	2.7%
Protection & Health in %	4.5%	5.4%	3.4%	1.5%	19.3%	12.9%	10.1%	9.9%	3.3%	105.4%	5.4%
Unit-linked without Guarantees in %	4.0%	n/a	2.3%	3.5%	2.0%	1.0%	2.9%	3.2%	n/a	6.8%	2.5%

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

² In Germany, single premium excludes Parkdepot

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

B.6.4 Germany Life

Development of Embedded Value

The MCEV of Germany Life increased by 16% from EUR 10,312 mn to EUR 11,993 mn.

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

Table 12: Analysis of Earnings of Embedded Value

EUR mn	
	MCEV
MCEV 31.12.2017	10,312
Regulatory / model Changes (after-tax impact)	546
Operating SII earnings	1,726
New business contribution	1,107
Expected inforce contribution	972
Assumption changes & Experience variances	-353
Debt costs	
Other	
Market Impact including FX	-287
Capital Management	-1
Management Actions	0
Tax	-302
Other Changes	
MCEV 31.12.2018	11,993

The most significant model changes in 2018 were the adjustment of the local ZZR-Korridorverfahren with a major positive impact and the EIOPA update of the UFR which caused a partial offset.

Operating SII earnings were strong from both new business and inforce. The main effects of assumption changes & experience variances are the difference between projected and observed tax rate. The regular update process of best estimate non-economic assumptions and corresponding Life Non Market Risk stress parameters had a moderate negative impact. The update of the investment strategy led to slightly higher options and guarantees.

The downturn of equity markets (-18% for the DAX in 1 year) and widening of credit spreads (+102bps for EUR-CORP-BBB in 1 year) drove the negative market impact. This effect is partly offset by a favorable movement of the risk-free curve and lower volatilities of both equities and interest rates (see section B.7.2.1). As a result the impact of the economic environment was limited.

Capital movements were almost nil as the profit and loss transfer agreement was not renewed. The upstreaming takes place in form of family loan.

Development of Value of New Business

The VNB written by Germany Life in 2018 was EUR 764 mn, 20% higher than the value in 2017.

The table below presents an analysis of the changes.

Table 13: Development of Value of New Business

EUR mn			
	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	16,953	3.8%	639
Foreign Exchange Variance	0	0.0%	0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2017 restated	16,953	3.8%	639
Volume	1,824	0.0%	69
Business mix	0	0.0%	7
Assumptions	43	0.3%	50
VNB 31.12.2018	18,819	4.1%	764

Germany Life has strongly increased its VNB by continuously steering the business towards capital efficient products to replace the traditional products. With this strategy, the management has been able to increase volumes and as a consequence the share of preferred lines of business could be further strengthened compared to 2017. Higher share of annualized premiums with higher profitability compared to single premiums also contributed positively to the business mix.

The VNB increase of EUR 50 mn from assumption changes was driven by minor model changes as well as updates on cost assumptions. These effects were partly offset by the introduction of negative interest rates.

B.6.5 France

Development of Embedded Value

MCEV decreased by 3.3% from EUR 5,799 mn to EUR 5,609 mn, mainly driven by economics and model changes.

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

Table 14: Analysis of Earnings of Embedded Value

EUR mn	
	MCEV
MCEV 31.12.2017	5,799
Regulatory / model Changes (after-tax impact)	-422
Operating SII earnings	820
New business contribution	248
Expected inforce contribution	345
Assumption changes & Experience variances	226
Debt costs	
Other	
Market Impact including FX	-206
Capital Management	-243
Management Actions	0
Tax	-139
Other Changes	
MCEV 31.12.2018	5,609

Regulatory decisions drove model changes in 2018 e.g. extended projection horizon for the group business and EIOPA 2018 update of the UFR.

Efficient asset and inforce management has provided solid Operating SII earnings. Changes on Life Non-Market Risks led to a lower risk margin while policyholder behavior was observed to be more favorable with lower transfers to the general fund in multisupport products. Expense assumption updates had a positive impact.

Similar to other operating entities in the Eurozone, the economic environment had a negative influence on the MCEV. Interest rates had only a moderate impact as the lower level was offset by lower volatilities. Equity markets declined in 2018 (-11% for the CAC 40 over the year). Credit spreads widening had a negative impact which could be partially offset by the corresponding EIOPA Volatility Adjustment computation (+20bps over the year). A reduced inflation expectation and favorable real estate exposure also contributed to mitigate the overall unfavorable impact of economics.

Development of Value of New Business

The VNB written in France in 2018 increased to EUR 183 mn, 25% higher than the value in 2017. The NBM went up from 1.9% to 2.3%.

The table below presents an analysis of the changes.

Table 15: Development of Value of New Business

EUR mn			
	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	7,737	1.9%	146
Foreign Exchange Variance	-	0.0%	-
Acquired / Divested business	-	0.0%	-
VNB 31.12.2017 restated	7,737	1.9%	146
Volume	-65	0.0%	-1
Business mix	0	0.0%	-2
Assumptions	314	0.4%	41
VNB 31.12.2018	7,987	2.3%	183

After having steered the business successfully towards more profitable unit-linked business in 2017, the business mix remained stable in 2018. Savings volume was boosted by high sales of traditional reinsured Luxembourg business, albeit with higher profitability. Overall this led to a lower weight of unit-linked and an increase in savings. The share of individual protection and health dropped slightly whereas group business increased, leaving the overall share of protection and health on last year's level. The increase in overall NBM is driven by slightly better economics and model changes requested by the local regulator.

The slight negative impact from volume was mainly driven by a decline of unit-linked sales.

The small negative impact from business mix was due to the lower share of unit-linked and higher sales of less profitable group protection and health. A counterbalancing effect came from the improved profitability of capital efficient products sold by the Global Life branch.

Change in assumptions includes an update of loss ratios on individual protection and model updates.

B.6.6 Italy

Development of Embedded Value

The MCEV of Italy decreased by 8% from EUR 2,251 mn to EUR 2,065 mn largely affected by the economic environment.

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

Table 16: Analysis of Earnings of Embedded Value

EUR mn	
	MCEV
MCEV 31.12.2017	2,251
Regulatory / model Changes (after-tax impact)	-8
Operating SII earnings	375
New business contribution	270
Expected inforce contribution	141
Assumption changes & Experience variances	-36
Debt costs	
Other	
Market Impact including FX	-403
Capital Management	-173
Management Actions	0
Tax	24
Other Changes	
MCEV 31.12.2018	2,065

The impact from regulatory / model changes was minor.

Non-economic assumptions include the expenses assumption, more favorable lapse anticipation and mortality/morbidity updates. Experience variances are related to performance fees earned in Darta and observed lapses.

Starting from 2Q 2018, the Italian economy was under pressure. The government spread for Italy started with 135bps at the beginning of the year. While it narrowed to 102bps at the end of the first quarter, it then reached 201bps in 2Q, 227bps in 3Q and then closed the year at 213bps. Credit spreads widened for Italian government bonds BTP (+62bps over the year for 10yrs BTP) as well as for corporate bonds (+96bps over the year for 7yrs BBB). These economic circumstances mainly impacted traditional business. With this high level of spreads, EIOPA VA calculation was close to the threshold for a country specific VA for Italy but it was not triggered at year end. The movement of interest rates and the negative equity performance of European markets further contributed to the decline.

Capital management mostly reflects the dividend payment.

Development of Value of New Business

The VNB written in Italy in 2018 increased to EUR 199 mn, 8% higher than in 2017. The NBM went up from 2.2% to 2.4%.

The table below presents an analysis of the changes.

Table 17: Development of Value of New Business

EUR mn			
	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	8,346	2.2%	184
Foreign Exchange Variance	-0	0.0%	0
Acquired / Divested business	-	0.0%	-
VNB 31.12.2017 restated	8,346	2.2%	184
Volume	-95	0.0%	-2
Business mix	0	0.2%	15
Assumptions	-7	0.0%	2
VNB 31.12.2018	8,244	2.4%	199

The overall increase was driven by Allianz SpA where the VNB went from EUR 53 mn in 2017 to EUR 77 mn in 2018.

The reduced production of unit-linked in DARTA and Global Life branch reflects market volatility.

Changes in business mix added value due to higher share of very profitable capital efficient products, as well as higher sales of protection and health products.

VNB increased by EUR 2 mn from assumption changes.

B.6.7 Asia Pacific

Development of Embedded Value

The MCEV for Asia Pacific increased from EUR 1,639 mn to EUR 2,549 mn. The main driver is the successful conclusion of the sale of the legacy book in Taiwan.

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

Table 18: Analysis of Earnings of Embedded Value

EUR mn	
	MCEV
MCEV 31.12.2017	1,639
Regulatory / model Changes (after-tax impact)	-100
Operating SI earnings	532
New business contribution	297
Expected inforce contribution	190
Assumption changes & Experience variances	45
Debt costs	
Other	
Market Impact including FX	-130
Capital Management	546
Management Actions	150
Tax	-89
Other Changes	
MCEV 31.12.2018	2,549

Model changes largely reflect the full alignment to EIOPA specifications for Thailand, now reporting as a standard formula entity.

Assumptions update in 2018 included a favorable revision of mortality and lower lapses in the unit-linked business for Taiwan.

Market impact was overall negative mostly as a result of interest rates movements in Taiwan and Thailand. Foreign exchange variations were overall positive but rather limited.

The impact of the sale of the legacy book in Taiwan derived mainly from the transaction flow (capital injection net of disposal of the legacy book). Other capital movements accounted for the dividends paid by our Asian entities.

Development of Value of New Business

The VNB written in Asia Pacific in 2018 was EUR 249 mn, 10% higher than the value in 2017. The region had a very good development during the year supported by growth and costs reduction, which is reflected in the higher NBM which increased from 4.5% to 4.8%.

The table below presents an analysis of the changes.

Table 19: Development of Value of New Business

EUR mn			
	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	5,035	4.5%	227
Foreign Exchange Variance	-123	0.0%	-8
Acquired / Divested business	-	0.0%	-
VNB 31.12.2017 restated	4,912	4.5%	219
Volume	539	-0.1%	19
Business mix	0	-0.4%	-24
Assumptions	-226	0.8%	35
VNB 31.12.2018	5,226	4.8%	249

The impact of Foreign Exchange was driven by the depreciation of the Indonesian Rupiah throughout the year and the Taiwanese Dollar, mainly in the first half of the year, against the Euro.

The increase of the VNB from volume effects was mainly driven by higher sales of unit-linked products in Taiwan and by the solid volume growth in the bancassurance channel in Philippines.

The negative contribution from business mix was due to a product transformation after a new regulatory requirement in June 2018 in China and lower volumes of the more profitable savings business in Taiwan. This impact could partially be offset by Thailand thanks to a higher share of profitable protection business and by Taiwan as a result of unit-linked sales with a higher profitability than previous year.

The positive impact from assumption updates was driven by Taiwan. Overall the region showed productivity gains from lower expenses than previous year, driven by higher volumes and better expense management.

B.6.8 USA

Development of Embedded Value

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

The MCEV of AZ Life US decreased from EUR 7,429 mn to EUR 7,327 mn.

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

Table 20: Analysis of Earnings of Embedded Value

EUR mn	
	MCEV
MCEV 31.12.2017	7,429
Regulatory / model Changes (after-tax impact)	-47
Operating SII earnings	1,765
New business contribution	473
Expected inforce contribution	663
Assumption changes & Experience variances	629
Debt costs	
Other	
Market Impact including FX	-1,923
Capital Management	0
Management Actions	0
Tax	102
Other Changes	
MCEV 31.12.2018	7,327

Model changes are due to updated free partial withdrawal and commissions modelling.

The inforce contribution is stronger compared to European markets, because risk-free rates in US are significantly higher than in the Eurozone.

Positive impact from non-economic assumption updates is driven by effects from the fixed-indexed annuities line (dynamic surrender and guaranteed lifetime withdrawal benefit election), with a smaller traditional variable annuities contribution. There is a partial offset caused by the review of the Long Term Care business. Experience variances are driven by lower than expected lapses in fixed-indexed annuities. All other operating movements were negligible.

The US Dollar strengthened by 5% against the Euro compared to last year-end. Beside this, other market impacts were largely negative, dominated by the effect of increased credit spreads (portfolio average +35bps), partly offset by a higher volatility adjustment. The equity market (-6% for the S&P 500 over 2018) drove a slight MCEV decrease. Overall effects from interest rates and related volatilities were also slightly negative, mainly due to the decline in the 4th quarter of the year.

No dividend was paid as a consequence of tax reform and growth.

Development of Value of New Business

The VNB written in the USA in 2018 increased to EUR 374 mn, 16% higher than 2017. The NBM went up from 3.4% to 3.5%.

The table below presents an analysis of the changes.

Table 21: Development of Value of New Business

EUR mn			
	Present Value of New Business Premiums	New Business Margin (%)	Value of New Business
VNB 31.12.2017	9,360	3.4%	323
Foreign Exchange Variance	-199	0.0%	-9
Acquired / Divested business	0	0.0%	-
VNB 31.12.2017 restated	9,161	3.4%	314
Volume	1,461	0.0%	50
Business mix	0	-0.4%	-39
Assumptions	0	0.5%	48
VNB 31.12.2018	10,622	3.5%	374

The VNB declined by EUR -9 mn due to foreign exchange as the Euro was slightly stronger vs. the US Dollar on an annual average basis.

Positive 2018 interest rate and tax reform effects were mostly used to grow sales in very competitive markets through product modifications in favor of policyholders. This is visible in the movement detail, where the positive volume effect from increased sales is partly offset by the negative business mix contribution showing the impact from these product changes.

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 2018 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 2018 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 2018 are based on economic market conditions as of 31st December 2018. 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 2018 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 2018. Credit risk adjustments are shown below.

Table 22: Credit Risk Adjustment per currency as of 31.12.2018

Currency	Credit Risk Adjustment
EUR	10 bps
USD	18 bps
GBP	10 bps
CHF	10 bps
CZK	10 bps
HUF	10 bps
PLN	10 bps
TWD	10 bps
THB	13 bps

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

Table 23: Long-term guarantee measurement

Currency	29.12.2017	30.03.2018	29.06.2018	28.09.2018	31.12.2018
EUR	4 bps	2 bps	10 bps	13 bps	24 bps
CHF	-3 bps	-1 bps	0 bps	0 bps	4 bps
USD	28 bps	30 bps	38 bps	33 bps	54 bps
CZK	4 bps	3 bps	6 bps	8 bps	17 bps
HUK	2 bps	1 bps	4 bps	3 bps	5 bps
PLN	11 bps	5 bps	7 bps	6 bps	9 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 24: Risk-free rates

Currency as of dd.mm.yyyy	1 year	2 years	5 years	10 years	20 years
EUR					
29.12.2017	-0.36%	-0.25%	0.21%	0.80%	1.35%
30.03.2018	-0.36%	-0.26%	0.28%	0.88%	1.38%
29.06.2018	-0.35%	-0.28%	0.16%	0.78%	1.33%
28.09.2018	-0.34%	-0.21%	0.29%	0.90%	1.42%
31.12.2018	-0.33%	-0.28%	0.10%	0.72%	1.27%
CHF					
29.12.2017	-0.73%	-0.59%	-0.24%	0.18%	0.57%
30.03.2018	-0.74%	-0.61%	-0.18%	0.31%	0.73%
29.06.2018	-0.75%	-0.64%	-0.23%	0.31%	0.77%
28.09.2018	-0.75%	-0.61%	-0.13%	0.45%	0.92%
31.12.2018	-0.75%	-0.67%	-0.35%	0.22%	0.69%
USD					
29.12.2017	1.79%	1.97%	2.14%	2.30%	2.45%
30.03.2018	2.31%	2.47%	2.59%	2.67%	2.74%
29.06.2018	2.45%	2.64%	2.73%	2.78%	2.81%
28.09.2018	2.61%	2.81%	2.89%	2.95%	2.99%
31.12.2018	2.56%	2.46%	2.38%	2.52%	2.66%
CZK					
29.12.2017	0.98%	1.21%	1.51%	1.74%	2.18%
30.03.2018	0.91%	1.16%	1.53%	1.70%	2.07%
29.06.2018	1.29%	1.52%	1.80%	1.92%	2.15%
28.09.2018	1.87%	2.10%	2.28%	2.31%	2.42%
31.12.2018	1.94%	1.89%	1.69%	1.64%	2.00%
HUF					
29.12.2017	0.00%	0.32%	1.07%	2.04%	3.43%
30.03.2018	0.02%	0.54%	1.34%	2.42%	3.24%
29.06.2018	0.69%	1.52%	2.53%	3.63%	4.10%
28.09.2018	0.34%	1.39%	2.67%	3.54%	3.91%
31.12.2018	0.44%	1.03%	2.21%	3.08%	3.75%
PLN					
29.12.2017	1.39%	1.64%	2.53%	3.16%	3.32%
30.03.2018	1.20%	1.36%	2.29%	3.08%	3.55%
29.06.2018	1.25%	1.49%	2.39%	3.12%	3.31%
28.09.2018	1.17%	1.42%	2.44%	3.12%	3.28%
31.12.2018	0.93%	1.32%	2.11%	2.73%	3.05%
TWD					
29.12.2017	0.31%	0.40%	0.60%	0.93%	1.81%
30.03.2018	0.30%	0.40%	0.63%	0.95%	1.74%
29.06.2018	0.39%	0.48%	0.65%	0.90%	1.72%
28.09.2018	0.38%	0.46%	0.64%	0.80%	1.62%
31.12.2018	0.45%	0.50%	0.64%	0.79%	1.59%
JPY					
29.12.2017	-0.07%	-0.06%	0.00%	0.16%	0.57%
30.03.2018	-0.07%	-0.05%	0.01%	0.16%	0.53%
29.06.2018	-0.08%	-0.06%	0.00%	0.15%	0.51%
28.09.2018	-0.07%	-0.04%	0.05%	0.25%	0.66%
31.12.2018	-0.09%	-0.09%	-0.08%	0.07%	0.46%

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

Table 25: Yield-curve extrapolation per currency for 2018

Currency	Entry point	Ultimate forward rate
EUR	20	4.05%
CHF	25	3.05%
USD	50	4.05%
CZK	15	4.05%
HUF	15	4.35%
PLN	10	4.05%
THB	15	4.05%
TWD	10	4.05%
JPY	30	3.35%

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 26: Development of swaption implied volatilities

Currency & model	29.12.2017	30.03.2018	29.06.2018	28.09.2018	31.12.2018
EUR - normal	0.57%	0.55%	0.55%	0.54%	0.55%
CHF - normal	0.71%	0.71%	0.67%	0.66%	0.66%
USD - normal	0.59%	0.62%	0.65%	0.62%	0.64%

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

Table 27: Swaption implied volatilities

Option term	1 year	2 years	5 years	10 years	20 years
EUR					
29.12.2017 - normal	0.48%	0.53%	0.58%	0.57%	0.53%
31.12.2018 - normal	0.41%	0.46%	0.55%	0.55%	0.52%
CHF					
29.12.2017 - normal	0.50%	0.58%	0.72%	0.71%	0.60%
31.12.2018 - normal	0.48%	0.55%	0.65%	0.66%	0.58%
USD					
29.12.2017 - normal	0.61%	0.63%	0.64%	0.59%	0.64%
31.12.2018 - normal	0.68%	0.70%	0.70%	0.64%	0.67%

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 2018 MCEV calculations were therefore based on 31st December 2018.

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 28: Swaption volatility anchoring per currency as of 31.12.2018

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 29: Equity option implied volatilities

Index	29.12.2017	30.03.2018	29.06.2018	28.09.2018	31.12.2018
EUR - EURO STOXX 50	19.68%	17.89%	17.52%	18.00%	17.39%
CHF - SMI	14.86%	13.84%	14.35%	13.41%	16.01%
USD - S&P 500	23.63%	23.77%	23.09%	22.66%	22.50%

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 2018; the return period is on a quarterly basis.

Table 30: Correlation assumptions as of 31.12.2018

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	0.55	0.36	0.39
CHF		1	0.50	0.31	0.39
USD			1	0.30	0.31
Equity Indices					
MSCIEMU				1	0.87
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 31: Main exchange rates against EUR

FX against 1.00 EUR	31.12.2017	31.12.2018
CHF	1.17	1.13
USD	1.20	1.14
CZK	25.53	25.74
HUF	310.21	320.80
PLN	4.17	4.29
THB	39.13	37.22
TWD	35.73	35.14

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 32: Tax assumptions

	31.12.2017	31.12.2018
Germany	31%	31%
France	28.8%	28.0%
Italy	29.9%	29.9%
USA	21%	21%
Switzerland	21%	21%

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 33: Economic assumptions for real-world projections

	29.12.2017	31.12.2018
Equity risk premium	4.4%	4.1%
Real estate risk premium	3.9%	3.6%

APPENDIX



C.1 DEFINITIONS AND ABBREVIATIONS

BEL

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

BUSINESS EVOLUTION

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

CO/Conso.

(The allianz business segment) corporate and other.

CONTRACT BOUNDARIES

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

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).

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 F/X rates, taxes, non-operating restructuring charges, capital management (e.g. issuance or redemption of subordinated debt, dividend accruals and payments, share buy-back programs), one-off impacts from, e.g., the acquisition and disposal of

subsidiaries, changes in transferability restrictions, and tier limits. These effects are disclosed separately in our analysis of own funds movements.

OWN FUNDS

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

PRE-TAX OPERATING CAPITAL GENERATION

It represents the change in SII capitalization following regulatory and model changes and which is attributable to changes in own funds as a consequence of Operating SII earnings and changes in SCR as a consequence of business evolution.

Factors such as market developments, dividends, capital management activities, taxes, etc. are not 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.

PVNB

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

REFERENCE RATE

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

RM

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

SII

Solvency II.

SII CAPITALIZATION

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

SCR

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

TOTAL MCEV EARNINGS

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

TP

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

UFR

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

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.