

# Market Consistent Embedded Value Report 2015



# CONTTENT

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# Introduction

# 1.1 Basis of preparation

Market consistent embedded value ("MCEV") represents shareholders' economic value of the in-force life and pension business of an insurance company. Future new business is not included. The MCEV of Allianz Group as of 31 December 2015 is disclosed in this report.

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. 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.

From 2015 onwards, Allianz uses a balance sheet approach to calculate and publish its MCEV results as is further explained in section 1.3.

This document presents the results, methodology and underlying assumptions used to calculate the 2015 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.

The methodology and assumptions used to determine the 2015 MCEV for the Allianz Group were reviewed by KPMG and can be found in appendices A and B. An accompanying glossary of definitions and abbreviations in given in appendix C.

### 1.2 Covered business

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

- Life 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.

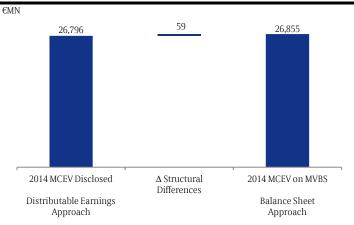
Entities that are not consolidated into Allianz IFRS accounts, i.e. entities where Allianz only holds a minority, are not included in the 2015 MCEV results. In particular the company in India is not included. The pension fund business written outside the Life/Health segment is also not included.

# 1.3 MCEV methodology

Allianz reporting has further evolved in order to fully align with the Solvency II regulation. As a consequence, from 2015 onwards, 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").

As such, the MCEV on MVBS is essentially the shareholder's equity in the Life/ Health segment on a Solvency II basis. A more detailed description of the new methodology may be found in appendix A. The reconciliation performed over the 12M 2014 MCEV from the distributable earnings to the balance sheet approach revealed a difference of only 0.2%:

MCEV RECONCILIATION



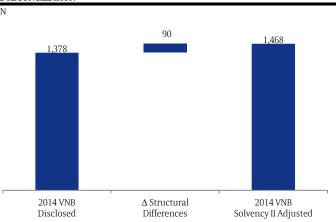
The new methodology and further alignment to the Solvency II requirements and guidance comprises:

- Reference rates used for the calculation of the best estimate liabilities follow EIOPA specifications;
- Implementation of Solvency II contract boundary definition;
- Removal of cost of Required Capital ("CReC") and replacement
  of Cost of Non-Hedgeable Risk ("CNHR") by Risk Margin, as
  Solvency II requires an allowance for the cost of holding nonhedgeable risk capital but not for hedgeable financial risks as
  these may be removed through the capital markets;
- Reflecting the full bottom-up tax calculations incorporated in the MVBS;
- Removal of explicit allocation of holding expenses to Life and Health segment.

The calculation of VNB has been kept under distributable earnings approach on an after-tax basis, but was also aligned to Solvency II: Full EIOPA specifications, contract boundaries definition and

application of risk margin, which allows to use the value as contribution of VNB in the development of MCEV on MVBS. The corresponding reconciliation performed over the 12M 2014 VNB revealed a difference of 6.5%. Look-through profits are not included.

#### VNB RECONCILIATION



# Overview of results

### 2.1 Introduction

2015 was a year in which market conditions considerably worsened further in the first half of the year, leading to the lowest interest rates we have seen in the Eurozone in the first quarter.

In most markets, interest rates recovered towards midyear and stayed comparatively stable, exceptions being Switzerland and Asia Pacific, were rates went down considerably towards the end of the year. Spreads decreased in the Eurozone but increased in the US and Korea. Equity markets increased in Europe, while in the US and Korea equity markets performed relatively consistently.

At 31 December 2015, Allianz Group's Life & Health MCEV amounted to EUR 28,737mn. Operating MCEV Earnings were EUR 5,040mn. Total MCEV Earnings were reduced to EUR 2,692mn after tax, including a negative economic impact mainly coming from unfavorable credit spread conditions in the US. The amount of dividends paid in 2015 with EUR 1,7bn was on a similar level as in 2014.

The VNB written in 2015 was EUR 1,196mn. The overall decrease in 2015 was driven by the extreme market conditions in the first half of the year. Management actions on product design and new business steering towards more profitable product lines, together with the overall recovery of the markets led to a positive turnaround in the second half of the year. VNB was back to the healthy level of 2014, where interest rates had been higher. Also the new business margin ("NBM") in the second half of 2015 saw an increase compared to both, second half of 2014 and first half of 2015.

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

### 2.2 Embedded value results

Exhibit 1 shows the development of Allianz MCEV in 2015 with a split into the components net asset value ("NAV") and value of in-force ("VIF").

MCEV			Exhibit 1
€MN			
			Change in
	2015	2014	2015(%)
Net asset value	17,546	16,428	7%
Value of Inforce	11,191	10,427	7%
MCEV	28,737	26,855	7%

The MCEV has increased by 7% to EUR 28,737mn, the same relative gain holds for the NAV and the VIF. The MCEV on MVBS represents the shareholder's equity in the Life/ Health segment on a Solvency II basis. The NAV is calculated from statutory equity and reflects the market value after tax of the assets, which are not backing the liabilities. The VIF is defined as the difference between the MCEV and the NAV, equivalent to the VIF's alternative calculation based on the distributable earnings approach.

The positive development in the shareholders' economic value of the life in-force business was primarily based on the following factors:

- The overall more favorable economic conditions end of 2015 compared to end of 2014, including higher interest rates and lower credit spreads in Europe, as well as an overall positive evolution of equity markets;
- Significant expected over-returns during the period, especially in Germany Life and the US, where spreads on the corporate bond portfolio were realized;
- The contribution of the value of new business, comprising a more profitable business mix.

MCEV also benefited from management actions during the year: Reduction of average guarantees for total in-force (from 2.4% to 2.3%) as well as for new traditional business (from 1.0% to 0.8%), lowering interest rate sensitivity for new business in general, increasing pricing agility and extension of the duration on the asset side.

The only significant drivers that hindered a further MCEV increase were reductions due to lower interest rates in the Asian Pacific region, affecting the old in-force blocks with high guarantees, and significant economic movements due to the widening of credit spreads in the US.

More granular drivers of the change in MCEV during the year are explained in detail in section 2.4.

### 2.3 New business

Exhibit 2 shows the value of new business ("VNB") at point of sale on an after-tax basis, calculated as the sum of quarterly disclosed values. Values are calculated using assumptions as of the start of the quarter in which the business was sold. As such, the overall 2015 VNB reflects economic movements throughout the year. Appendix A.5 contains a description of our VNB methodology.

VALUE OF NEW BUSINESS			Exhibit 2
€MN			
	2015	2014	Change in 2015 (%)
Value of New Business	1,196	1,468	-19%
(not included: look-through profits)	91	61	48%
New Business Margin <sup>1</sup> (in %)	2.1%	2.6%	-0.4%-p
Present value of new business premiums	56,323	57,178	-1%
APE Margin <sup>2</sup> (in %)	18.0%	22.9%	-4.9%-p
Single premium <sup>3</sup>	35,945	36,128	-1%
Recurrent Premium	3,061	2,785	10%
Recurrent premium multiplier <sup>4</sup>	7	8	-12%

- 1-NMB= VNB / Present value of future new business premiums
- 2—APE margin = VNB / (recurrent premium + single premium / 10)
- 3—In Germany, single premium excludes Parkdepot (EUR 1,753mn)
- 4—Recurent Premium Multiplier = (PVNBP single premium) / recurrent premium

The VNB in 2015 was EUR 1,196mn, 19% lower than in 2014. The NBM decreased from 2.6% to 2.1%. Both mainly suffered from the extreme market conditions at the beginning of 2015, including record low interest rates in many economies at the end of the first quarter.

In the second half of the year, Allianz managed to increase its VNB by 50% from EUR 479mn to EUR 717mn and to improve the NBM from 1.5% to 2.9% compared to the first half of the year. As such, VNB was back to the level of 2014 where interest rates had been higher, and NBM improved by 30bps compared to the second half of 2014.

The positive turnaround was partially based on slightly recovering economic conditions, but primarily on successful management actions comprising:

- New business mix steering away from traditional savings towards higher profitable unit-linked products;
- Lowering average guarantees in new traditional business;
- Re-pricing measures and introduction of new products with less market sensitivity.

The slight decrease of 1% in the present value of new business premiums ("PVNBP") reflects a combination of a drop of 1% in single premium and a gain of 10% in recurring premium business.

Single premiums went down for traditional and capitalization products in Germany Life as well as in US fixed-indexed and traditional variable annuity business, nearly compensated by a raise in French, Italian and Taiwan unit-linked products. Recurring premiums increased in almost all entities, only offset by a drop in French and Italian traditional savings business.

Exhibit 3 summarizes the development in VNB and NBM from 2014 to 2015 on the basis of its main drivers.

DEVELOPMENT OF VALUE OF NEW BU	Exhibit 3		
€MN	Value of New	New Business	Present Value of NB
	Business	Margin (%)	Premium
Value as at 31 December 2014	1,468	2,6%	57,178
Change in Foreign Exchange	105	0,1%	2,834
Change in Allianz interest	0	0,0%	6
Adjusted Value as at 31 December			
2014	1,573	2,6%	60,018
Change in volume	-173	0,0%	-5,869
Change in business mix	182	0,3%	224
Change in economics and others	-386	-0,8%	1,950
Value as at 31 December 2015	1,196	2,1%	56,323

Foreign exchange adjustment on VNB was EUR 105mn, essentially due to a weakened Euro against US Dollar contributing EUR 90mn.

The negative volume impact of EUR -173mn was mainly based on lower sales of fixed-indexed annuities in the US (EUR -144mn), where the exceptionally high production of 2014 could expectedly not be repeated, and a drop of 15% in Germany Life single premium business (EUR -24mn). Positive off-setting effects came from a high new business production of unit-linked products in Taiwan and of the new long term savings product with fiscal benefits in Spain (combined EUR 21mn).

The strong VNB and NBM gains of EUR 182mn and +0.3%-p. on business mix respectively reflect the ongoing management actions on repricing, new business steering towards more profitable product lines and lowering guarantee levels in traditional new business. For almost all entities there was a positive VNB contribution on business mix, including US (EUR 68mn), Italy (EUR 38mn), France (EUR 27mn), Germany Life (EUR 26mn) and Taiwan (EUR 17mn).

Repricing measures were for example taken in Belgium and Spain on savings, in Malaysia on unit-linked business and in the US by making variable annuity (VA) products less market sensitive and by increasing the IRR target in fixed-annuity (FIA) business. The new VA products in the US consistently gained a higher new business share throughout 2015, the NBM for US FIA business increased by 81bps.

The new business share of the less profitable traditional guaranteed savings and annuity business was lowered by 9%-p. to the benefit of more profitable unit-linked and capital-light products, like e.g. in Germany Life. France and Italy saw an increase of 6%-p. and 12%-p. in unit-linked business respectively. An increase of new business share of unit-linked products were also seen in Taiwan, Indonesia and Slovakia.

Guarantees for new traditional business were lowered in Germany (where guaranteed rate dropped from 1.75% to 1.25% with effect of 01.01.2015 by German law), as well as in Italy, Belgium and Spain, leading to an overall drop in the average guarantee level by 20bps to 0.8% on new business.

The overall biggest impact on VNB came from the unfavorable economic environment in the first half of the year (EUR -445mn), that could not be compensated by the overall more profitable non-economic conditions such as improved customer persistency and lower expenses (EUR 98mn), both essentially reflecting the final movement step of EUR -386mn.

Further details on the drivers for the change in each region may be found in the regional analyses in chapter 3.

## 2.4 Analysis of MCEV earnings

Exhibit 4 presents the change in MCEV from the restated published value for 2014 to the value as of 31 December 2015. The value of new business is considered on a pre-tax level in the MCEV movement.

ANALYSIS OF EARNINGS OF EMBEDDED VALUE					
€MN					
	Earni				
	Assets	Liabilities	MCEV		
Opening MCEV as at 31 December 2014	582,457	555,602	26,855		
Foreign Exchange Variance	14,656	13,840	816		
Acquired / Divested business	214	181	33		
Others	0	0	0		
Adjusted Opening MCEV as at 31 December 2014	597,327	569,623	27,704		
Value of new business at point of sale (pre-tax)			1,578		
Expected existing business contribution					
reference rate			996		
in excess of reference rate			2,339		
other: transfer from VIF			58		
Non-economic assumption changes			-627		
Operating variances			696		
Operating MCEV earnings			5,040		
Economic variances			-1,061		
Other non-operating variance			0		
Tax			-1,287		
Total MCEV earnings	12,962	10,270	2,692		
Net capital movements	-1,658		-1,659		
Closing MCEV as at 31 December 2015	608,630	579,893	28,737		

The initial adjustments included the following changes:

- Foreign exchange variance of EUR 816mn was driven by the weakening of the Euro against the US Dollar and the Swiss Franc.
- Acquired / Divested business of EUR 33mn reflects:
  - Divested business in France (EUR 13mn);
  - Acquired business in Italy (EUR 14mn);
  - Changes in minority shareholding in Turkey (EUR 5mn).

The key components of the change in 2015 were as follows:

Value of new business at point of sale (pre-tax) of EUR 1,578mn saw main contributions from Germany Life, AZ Life US, Italy and Taiwan. The contribution is higher than in 2014 and is based on a more favorable business mix across all regions. The value takes into account all expenses with respect to new business

written during 2015, including acquisition expense over- and underruns. The value contain back-out tax of EUR 382mn.

- Expected existing business contribution comprises:
  - Expected existing business contribution on reference rate of EUR 996mn shows the unwinding of the discount on MCEV with reference rates used in the market consistent projection. The VIF increases as all future profits now require one year less discounting. For new business, the value reflects the progression from point of sale to end of year. The margin for the year built into the valuation for uncertainty (options and guarantees) with regard to asymmetric financial risk and non-financial risk is released in this step;
  - Existing business contribution in excess of reference rates of EUR 2,339mn shows the additional earnings in MCEV consistent with management expectations and mainly reflect overreturns. Biggest impact is from Germany Life (EUR 696mn) and from the realization of spreads on US corporate bond portfolio (EUR 1,062mn). In this step, based on normalized real-world assumptions provided in appendix B, risk premiums on corporate bonds, equity and real estate are expected to materialize;
  - Other transfer from VIF of EUR 58mn shows the effect of the realization of projected net profits to the NAV. This step is not material for the MCEV development.
- Non-economic assumption changes of EUR -627mn reflect changes in assumptions such as those for lapses, mortality and expenses. A significant contribution to the change in 2015 was caused by changes to expenses in Germany Life (EUR -278mn).
- Operating variances of EUR 696mn contain experience variances of EUR 210mn and other operating variances of EUR 486mn. Experience variances reflect deviations of actual experience from expectations during the year with respect to non-economic factors. Larger impacts came from Switzerland (EUR 155mn) and France (EUR 101mn). Other operating variances incorporate management reactions to economic developments. Management may, for example, react by changing crediting and investment strategies like in France described in section 3.5.
- Operating MCEV earnings of EUR 5,040mn reflect the change of the adjusted opening MCEV due to all operating drivers described above. The 2015 operating MCEV earnings amounts to 18% of the adjusted opening MCEV.
- Economic variances of EUR -1,061mn include the impacts of changes in interest rates, actual development of financial markets and of actual performance of the assets in the portfolio. For 2015, the negative sign is almost exclusively driven by the widening of credit spreads in the US contributing EUR -3.3bn. This was to a significant extend set off by recovering interest rates in the Eurozone in the second half of the year and the overall positive evolution of the equity markets, the largest

- impact coming from Germany Life with EUR 2.1bn on economic variances. Development by region is described in chapter 3.
- Other non-operating variances (EUR 0mn) may for example reflect changes in government regulations that are not included in other operating variances.
- Tax of EUR -1,287mn reflects bottom-up tax calculation on the Solvency II balance sheet. The effect is in line with the overall gain in the life portfolio.
- Total MCEV earnings of EUR 2,692mn summarize the movements during the year due to all drivers investigated. The 2015 MCEV earnings resulted in an increase of the MCEV of 10%, after adjustment and before dividends, due to the large impact of operating earnings, offset by economic variances and taxes described above.
- Net capital movements of EUR -1,659mn reflect net movement of dividends and capital injections from/to our life companies.

Further details on the drivers for the change in each region may be found in the regional analyses in chapter 3.

# 2.5 Projected profits

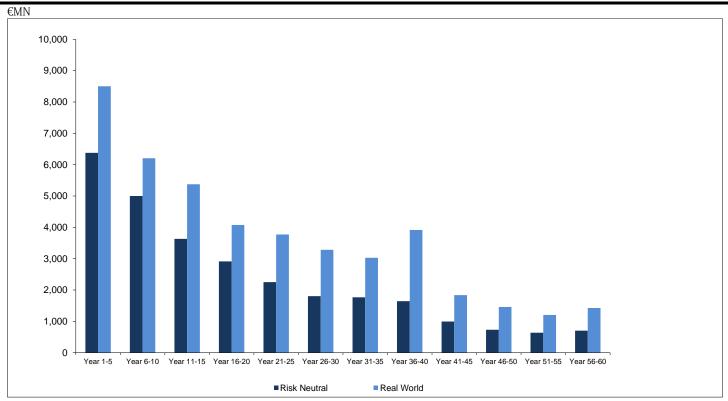
To present the timing of release of profits, Exhibit 5 shows the expected maturity profile of the present value of future profits ("PVFP") used for MCEV. The table shows discounted risk-neutral profits with respect to the current in-force portfolio. Future new business is not considered.

REMAINING PRESENT VALUE OF	Exhibit 5	
€MN End of year	PVFP	% of initial PVFP
year 5	14,068	72%
year 10	10,549	54%
year 15	8,264	42%
year 20	6,373	33%
year 25	5,120	26%
year 30	4,220	22%
year 35	3,212	16%
year 40	2,147	11%
year 45	1,541	8%
year 50	1,085	6%

Timing of the cash-flows depends very much on the underlying portfolio, and varies over the Group. Within Allianz there are short term portfolios, such as short term saving or protection, as well as long term portfolios, for example annuities. The overall length of the duration of the liabilities is mainly 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 represents the pattern of risk neutral and real world profits grouped by 5 year time buckets. Risk-neutral profits divided by average reserves over the entire projection period was 0.26% and the corresponding real-world ratio was 0.37%. This is at the same level as last year.

#### PATTERN OF RISK NEUTRAL AND REAL WORLD PROFITS

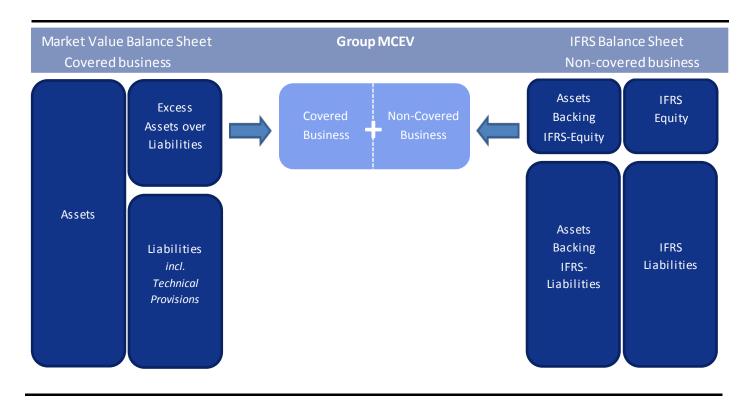


## 2.6 Group MCEV

Allianz MCEV reflects the value of assets in excess of liabilities derived from the Market Value Balance Sheet under Solvency II. The result of these calculations is a balance sheet reflecting the shareholder value of the in-force business.

The definition of MCEV determines the split of the total MCEV into NAV, i.e. the value of the assets not backing liabilities, which can also be interpreted as the equity component of the MCEV, and VIF, i.e. the value of future profits emerging from operations and assets backing liabilities.

For Allianz Group's other segments, the shareholder value is derived from the Group's IFRS equity. As the impact of future new business is not included in the MCEV, we compare it to the IFRS equity for covered business excluding any goodwill.



The Group MCEV as of 31 December 2015 was EUR 63,840mn, 9% higher than the value for 2014 of EUR 58,346mn. The increase was after a dividend payment to shareholders of EUR 3,382mn.

Exhibit 6 shows the analysis of earnings of Group MCEV. "Non-covered" includes all segments except for Life/Health, in particular it also contains the impact of Allianz Group's financing structure as well as consolidation effects between covered and non-covered business. The analysis of earnings for non-covered business is based on the IFRS income statement and balance sheet, specifically operating earnings for non-covered business are based on IFRS operating profit. Due to the differences in definition of

operating profit for IFRS applied to non-covered business and operating earnings in MCEV for the covered business we do not show a total for operating earnings and non-operating earnings separately.

THE TOLD OF LE MATERIAGO OF GROOF M	CLV		LAHIDICO
€MN			
		Non covered	
	Covered	business &	
	business	financing	Total group
	MCEV	adj. IFRS	MCEV
Opening Group MCEV as at 31			
December 2014	26,855	31,491	58,346
Opening adjustments	849	297	1,146
Adjusted Opening MCEV as at 31			
December 2014	27,704	31,788	59,492
			not
Operating MCEV earnings <sup>1</sup>	5,040	6,939	meaningful
			not
Non-operating MCEV earnings <sup>2</sup>	-1,061	139	meaningful
Non-covered: OCI and other			
equity changes		900	
Other non-operating earnings	-1,061	-761	
Tax	-1,287	-2,040	
Total MCEV earnings	2,692	5,038	7,730
Net capital movements/ other	-1,659	-1,723	-3,382
<u> </u>	,,,,,		
Closing MCEV as at 31 December			
2015	28,737	35,103	63,840
	/		

<sup>1 —</sup> For the non-covered business, IFRS Operating Profit of the Allianz Group excluding

Group MCEV increased by EUR 5,494mn, driven by the increase in covered as well as in non-covered business MCEV by a similar relative amount. The opening adjustment of the non-covered business reflects FX effects. The operating profit of the noncovered business, amounting to EUR 6,939mn, was mainly due to P&C business. The increase in covered business MCEV is described in detail in the remainder of this report. The total movement of Group MCEV was reduced by net capital movements of EUR 3,382mn essentially comprising dividends paid from Allianz SE to shareholders.

the Life/Health Segment was used as Operating MCEV earnings.

2— For the covered business, other non-operating earnings reflect economic variances. For the non-covered business, the non-operating MCEV earnings were calculated as follows:

Changes in OCI (Unrealized Gains / Losses and DBP) and other equity changes of the Allianz Group attributable to shareholders not included in covered business;

IFRS non-operating earnings of the Allianz Group attributable to shareholders not included in covered business.

### 2.7 Sensitivities

Sensitivity testing with respect to the underlying best estimate assumptions is an important part of MCEV calculations. Both economic and non-economic factors are tested. The same management rules and policyholder behavior have been assumed in the sensitivities 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 symmetrical, one-sided sensitivities are shown.

The sensitivities presented in Exhibit 7 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.

€MN	Inforc	e MCEV		usiness NB
	EUR mn	%	EUR mn	%
Central Assumptions	28,737	100%	1,196	100%
EV change by economic factors				
Risk Free Rate – 50bp	-2,389	-8%	-155	-13%
Risk Free Rate +50bp	1,463	5%	104	9%
Equity values – 20 %	-2,357	-8%	-151	-13%
Swaption volatilities +25 %	-340	-1%	-28	-2%
Equity option volatilities +25 %	-1,255	-4%	-48	-4%
EV change by non-economic factors				
Lapse Rates – 10 %	172	1%	158	13%
Maintenance Expenses – 10 %	1,355	5%	89	7%
Mortality + 15 % for products with death risk	-566	-2%	-71	-6%
Mortality – 20 % for products with longevity risk	-2,933	-10%	-35	-3%

A description of the disclosed sensitivities follows. Details of the sensitivities by region are provided in chapter 3.

#### Sensitivity to a decrease/increase of the underlying market riskfree 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 with the ultimate forward rate ("UFR") being kept stable, in line with its design under Solvency II.

Due to the asymmetric and non-linear impact of embedded financial options and guarantees, falling market rates usually have a higher impact on MCEV than rising interest rates and the impact increases for each further step down.

Under the current methodology, if a sensitivity produces a negative interest rate, the interest rate is floored at 0%. Due to the current low interest rate environment, the sensitivities for -100bps were no longer meaningful as the movement no longer always represented a full -100bps shift. The interest rate shifts in the sensitivity tables now only show -50bps/+50bps levels to ensure the movements disclosed are a complete representation of the sensitivity.

A shift of -50bps in interest rates results in a reduction of the MCEV of EUR 2,389mn or 8%. This is lower than the corresponding impact shown for 2014 of -12%, driven by the overall higher interest rates at valuation date, but also by the successful lowering of guarantee levels in the in-force book. VNB would decrease by EUR 155mn or 13%. As such, the sensitivity is still on last year's level, since the economic development of the whole business year is reflected respectively.

The VNB sensitivity on a shift of +50bps in interest rates remained stable compared to last year, the one on MCEV slightly decreased.

We ran additional sensitivities to test the sensitivity of the UFR. In contrast to the sensitivities in which the deep and liquid part of the yield-curves are shocked, in these additional sensitivities we shock the UFR by -200bps and keep the deep and liquid part of the yield-curves unchanged. Reducing the UFR by 200bps reduces the MCEV by EUR 3,960mn. Similarly, the VNB reduces by EUR 246mn.

#### Sensitivity to a decrease in equity values at the valuation date by 20%

This sensitivity is designed to indicate the impact of a sudden change in the market values of equity assets. Since the modeled investment strategies take into account a certain target allocation based on market value, this shock may lead to a rebalancing of the modeled assets at the end of the first year, when defined boundaries for each asset class are exceeded. A drop of equity values by 20% reduces MCEV by EUR 2,357mn or by 8%. This is higher compared to last year's drop of 6% due to higher equity exposures in the portfolio of some entities, including Germany and France.

### Sensitivities to increases in volatilities for fixed income and equity by 25%

This 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 a higher O&G for traditional participating business.

MCEV decreases by EUR 340mn or 1% for an increase in swaption implied volatility, by EUR 1,255mn or 4% for an increase in equity option implied volatility. Compared to last year, the exposure to swaption volatilities was reduced, the one to equity options volatilities was kept stable.

#### - Sensitivity to a decrease in lapse rates by 10%

The impact of a 10% proportionate decrease in projected lapse rates is an increase in MCEV of EUR 172mn or 1%. This is comparable with the value from 2014.

#### - Sensitivity to a decrease in maintenance expenses by 10%

The impact of a 10% decrease in the projected expenses on MCEV is EUR 1,355mn or 5%. This sensitivity is larger than last year.

#### - Sensitivity to 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 of this sensitivity are shown separately.

For products with death risks the impact of an increase in mortality rates by 15% leads to a decrease in MCEV of EUR 566mn or 2%. The impact of decrease in mortality rates by 20% on products exposed to longevity risk would lead to a decrease in MCEV of EUR 2,933mn or 10%. This is higher than last year, inter alia due to GMWB options included in the US portfolio, which are more expensive in the lower interest rate environment in the US at valuation date compared to 2014.

The impact of non-economic shocks are in general low as they are mitigated by the ability to share technical profits and losses with policyholders, particularly in Germany.

# Regional analysis of embedded value

### 3.1 Overview

The following tables provide overviews of the contribution of the various regions and operating entities to the MCEV and VNB results of the Allianz Group. Detailed analyses for each region follow. The regional distribution consists in:

#### 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 and Austria.

#### Western & Southern Europe, Middle East, Africa

- 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, Egypt and Lebanon.
- The non-consolidated life operation in India is not included.

#### Iberia & Latin America

Life operations in Spain, Portugal and Mexico.

#### Central and Eastern Europe

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

#### Asia Pacific

- Life operations in South Korea, Taiwan, Thailand, China, Indonesia, Malaysia and Japan.
- Allianz Global Life.

#### USA

Allianz Life US.

#### Holding

Internal life reinsurance.

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

Exhibit 8 provides an overview of the 2015 MCEV by region and a corresponding split into NAV and VIF:

EMBEDDED VALUE RESULTS BY REGION							Exhibit 8				
€MN											
	German		Western &			Iberia and					
	speaking		Southern			Latin		Asia-		11	
	countries		Europe			America	CEE	Pacific	USA	Holding	Total
		Germany Life		France	Italy						
Net asset value	3,562	1,840	4,960	1,908	1,899	595	522	1,808	5,819	280	17,546
Value of Inforce	7,626	5,840	5,381	3,909	711	536	255	-2,132	-486	12	11,192
MCEV	11,188	7,680	10,341	5,816	2,610	1,131	777	-324	5,332	292	28,737
in % of total MCEV	39%	27%	36%	20%	9%	4%	3%	-1%	19%	1%	100%

Exhibit 9 provides an overview of the 2015 VNB by region and a corresponding split by main product types. The highest NBM is seen in Protection and Health business with 4.6%, followed by unitlinked with 2.1% and traditional savings and annuities with 1.7%. The VNB share of latter decreased from 63% in 2014 to 55% in 2015, the other product types gained shares.

VALUE OF NEW BUSINESS AT POINT OF SA	ALE BY REGION	I									Exhibit 9
€MN	German Speaking Countries	Germany Life	Western & Southern Europe	France	Italy	Iberia and Latin America	CEE	Asia Pacific	USA	Holding	Total
Value of New Business	361	304	205	35	111	60	32	194	318	27	1,196
in % total VNB	30%	25%	17%	3%	9%	5%	3%	16%	27%	2%	100%
New Business Margin in %	2.1%	2.1%	1.0%	0.5%	1.2%	2.7%	5.1%	3.2%	3.1%	n/a	2.1%
Present value of NB premium	17,439	14,376	19,544	7,269	9,538	2,233	630	6,059	10,417	0	56,323
APE Margin <sup>1</sup> in %	25.4%	25.1%	8.1%	4.6%	9.0%	22.3%	9.4%	20.2%	28.1%	n/a	18.0%
APE Absolute	1,420	1,211	2,533	753	1,234	267	340	963	1,132	n/a	6,655
Single Premium <sup>2</sup>	6,454	6,060	15,349	6,649	7,167	1,053	131	3,125	9,834		35,945
Recurrent Premium	774	605	998	88	518	161	327	651	149		3,061
Recent premium multiplier <sup>3</sup>	14	14	4	7	5	7	2	5	4	0	7
IRR in %	14.6%	14.8%	9.1%	5.6%	13.8%	12.7%	18.1%	15.2%	12.6%		12.5%
Payback Period (in years)	6.81	6.87	4.29	4.22	4.97	7.28	2.73	5.04	5.65		4.54
Value of New Business by product type											
Guaranteed Savings & Annuities	320	304	-9	29	-37	7	5	37	302	0	662
Protection & Health	41	0	69	6	25	41	23	67	16	27	283
Unit Linked without Guarantees	0	0	145	0	123	12	4	91	0	0	251
New Business Margin by product type											
Guaranteed Savings & Annuities in %	2.4%	2.5%	2.9%	1.4%	-2.2%	0.9%	2.3%	2.0%	3.4%	n/a	1.7%
Protection & Health in %	3.0%	n/a	2.5%	0.2%	16.7%	12.9%	9.8%	7.3%	2.8%	n/a	4.6%

n/a

1.7%

n/a

2.1%

2.9%

4.5%

1.3%

Unit Linked without Guarantees in %

<sup>1—</sup>APE margin = Value of new business / (recurrent premium + single premium / 10)
2—In Germany, single premium excludes Parkdepot and Kapitalisierungsprodukt
3—Recurrent Premium Multiplier = (PVNBP - single premium) / recurrent premium

<sup>15</sup> 

# 3.2 German Speaking Countries

#### 3.2.1. DEVELOPMENT OF VALUE FOR NEW BUSINESS

The VNB written by the German Speaking Countries in 2015 was EUR 361mn, 16% lower than previous year. Exhibit 10 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF NEW I	Exhibit 10		
€MN	Value of New Business	New Business Margin (%)	Present Value of NB Premium
Value as at 31 December 2014	432	2.5%	17,251
Change in Foreign Exchange	5	0.0%	176
Change in Allianz interest	0	0.0%	0
Adjusted Value as at 31 December 2014	436	2.5%	17,427
Change in volume	-19	0.0%	-770
Change in business mix	31	0.2%	-108
Change in economics and others	-87	-0.6%	890
Value as at 31 December 2015	361	2.1%	17,439

The movement of VNB and NBM in the region is mainly driven by Germany Life, dealt with in the next section.

Germany Life, Germany Health and Austria saw a qualitatively common movement of losses in the first half of 2015 due to extremely low interest rates in the Eurozone, followed by significant gains in the second half of the year based on recovering rates and successful business steering actions. For these entities combined, VNB and NBM doubled from EUR 116mn to EUR 219mn and from 1.4% to 2.8% respectively compared to the first half of the year. As such, their NBM was 38bps higher than in the second half of 2014.

The opposite development was seen in Switzerland, with a decrease of VNB and NBM from EUR 20mn to EUR 6mn and 1.9% to 1.2% respectively from the first towards the second half of 2015. The main reason was the adverse economic development with highly decreasing rather than recovering interest rates towards the end of 2015.

The overall German Speaking Countries' VNB movement contains an effect of EUR 5mn due to a weakened EUR against the Swiss Franc. Volume losses on VNB of EUR -19mn mainly come from lower single premium business in Germany Life.

All four entities contributed positively to the gain of EUR 31mn on VNB and 0.2%-p. on NBM due to changes in business mix. Apart from Germany Life, this includes impacts of

- EUR 2mn from Austria based on lower overall guarantee rates and new products with zero guarantee but higher terminal bonus ("Fixkosten Plus");
- EUR 1mn from Switzerland due to the lower guarantees in recurring premium savings and the closing of single premium traditional business;
- EUR 2mn from Germany Health.

The remaining drop of EUR -87mn mainly reflects the losses of EUR -112mn due to the economic environment, insufficiently compensated by more profitable non-economic conditions that include cost reduction in Swiss risk business.

#### 3.2.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV for the German Speaking Countries increased from EUR 9,618mn to EUR 11,188mn after capital transfers of EUR 637mn. The analysis of earnings in Exhibit 11 presents the drivers of the change in MCEV.

ANALYSIS OF EARNINGS OF EMBEDDED VA	ALUE		Exhibit 11
€MN			
	Earni	ngs on MCEV anal	lysis
	Assets	Liabilities	MCEV
Opening MCEV as at 31 December			
2014	275,859	266,241	9,618

	110000	Elabilities	cz ·
Opening MCEV as at 31 December 2014	275,859	266,241	9,618
Foreign Exchange Variance	1,759	1,581	179
Acquired / Divested business	0	0	0
Others	0	0	0
Adjusted Opening MCEV as at 31 December 2014	277,618	267,822	9,797
Value of new business at point of sale (pre-tax)			501
Expected existing business contribution			
reference rate			295
in excess of reference rate			835
other: transfer from VIF			37
Non-economic assumption changes			-316
Operating variances			-275
Operating MCEV earnings			1,078
Economic variances .			1,748
Other non-operating variance			0
Tax			-796
Total MCEV earnings	4,316	2,287	2,029
Net capital movements	-637		-637
Closing MCEV as at 31 December 2015	281,297	270,109	11,188

Operating MCEV earnings contributed 11% and the key economic variance 18% of the adjusted opening EV. Germany Life was the

main driver of the region's positive result and is analyzed separately in the next section.

MCEV of Germany Health remained stable, MCEV of Switzerland and Austria gained 7% and 30% respectively. The opening foreign exchange gain of EUR 179mn reflects the weakening of the Euro against the Swiss Franc.

The VNB at point of sale contributed EUR 501mn before tax, thereof EUR 32mn from Switzerland and EUR 28mn from Germany Health. Excluding Germany Life, earning the reference rate on the in-force portfolio increased MCEV by EUR 71mn, expected returns in excess of the reference rate added EUR 139mn. The decrease of EUR -316mn on non-economic parameters is mainly based on higher expenses in Germany Life.

The overall contribution of EUR 1,748mn on economic drivers essentially contains an offset of EUR -394mn from Switzerland on the large positive impact of EUR 2,105mn from Germany Life. The decrease in Switzerland is based on lower interest rates and higher volatilities.

Germany Life made a capital transfer of EUR 499mn, Germany Health of EUR 104mn and Switzerland of EUR 74mn. Included in the overall change of EUR -637mn on MCEV is a capital injection of EUR 40mn in Austria in 2015.

#### 3.2.3. SENSITIVITIES

Exhibit 12 shows the sensitivities for the German Speaking Countries' MCEV and VNB.

	Inforce MCEV		New Business VNB	
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	11,188	100%	361	100%
EV change by economic factors				
Risk Free Rate – 50bp	-1,562	-14%	-72	-20%
Risk Free Rate +50bp	1,044	9%	47	13%
Equity values – 20 %	-1,437	-13%	-83	-23%
Swaption volatilities +25 %	348	3%	1	0%
Equity option volatilities +25 %	-170	-2%	-23	-7%
EV change by non-economic factors				
Lapse Rates – 10 %	121	1%	38	11%
Maintenance Expenses – 10 %	251	2%	21	6%
Mortality + 15 % for products with death risk	-84	-1%	-10	-3%
Mortality – 20 % for products with longevity risk	-822	-7%	-16	-4%

The portfolio is mostly participating business with long premium paying terms. Sensitivities to non-economic assumptions are relatively low because technical surplus is shared with policyholders. For the German health business, premiums adjust when assumptions change.

Due to the asymmetric nature of embedded options and guarantees, falling market rates have a higher impact on MCEV and VNB than rising rates. Interest rate sensitivities on MCEV in 2015 are overall lower than those of 2014 due to higher interest rates at valuation date compared to last year, with the exception of Switzerland, where for the adverse reasons the sensitivity increased.

The sensitivities on a drop in equity values increased from last year, based on a higher equity exposure in the portfolios. The non-economic sensitivities stayed roughly stable, with the exception of a higher exposure to longevity risks in 2015.

# 3.3 Germany Life

#### 3.3.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written by Germany Life in 2015 was EUR 304mn, 17% lower than the value in 2014. The NBM changed from 2.5% to 2.1%. Exhibit 13 presents an analysis of the changes.

Value of New Business	New Business Margin (%)	Present Value of NB Premium
365	2.5%	14,850
0	0.0%	0
0	0.0%	0
365	2.5%	14,850
-24	0.0%	-972
26	0.2%	18
-63	-0.5%	480
304	2.1%	14,376
	New Business  365  0  0  365  -24  26  -63	New Business Margin (%)         Business Margin (%)           365         2.5%           0         0.0%           365         2.5%           -24         0.0%           26         0.2%           -63         -0.5%

The VNB development for Germany Life reflects the overall movement for the Group. VNB and NBM suffered from the extreme market conditions at the beginning of 2015, with a very positive turnaround in the second half of the year. VNB and NBM doubled from EUR 103mn to EUR 201mn and from 1.4% to 2.8% respectively compared to the first half of the year. As such, NBM is by 39bps higher than in the second half of 2014.

The volume effect of EUR -24mn on VNB is based on a decrease of 15% on single premium business in traditional and capitalization products. Regular premiums went up by 2% due to a successful start of "Komfort Dynamic" with 9,000 policies sold and more than 90,000 policies on "Perspective", including capitalization and protection products.

The positive VNB contribution of EUR 26mn on business mix leading to an increase in NBM of 0.2%-p. is based on reduced guarantee rates in traditional savings from 1.75% to 1.25% (German law) and a more profitable new business share. On PVNBP basis traditional guaranteed savings and annuity business decreased its share compared to prior year to the benefit of less capital consumption products.

The remaining VNB decrease of EUR -63mn contains an impact of EUR -91mn caused by the very low economic parameters in the first half of the year, that could not be compensated by more profitable non-economic conditions, mainly reflecting changes in dynamic policyholder behavior.

#### 3.3.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV of Germany Life increased by 22% from EUR 6,283mn to EUR 7,680mn, including capital transfer of EUR 499mn. The analysis of earnings in Exhibit 14 presents the drivers of the change in MCEV.

#### ANALYSIS OF EARNINGS OF EMBEDDED VALUE

Exhibit 14

Assets	Liabilities	MCEV
222,027	215,744	6,283
0	0	0
0	0	0
0	0	0
222,027	215,744	6,283
		440
		224
		696
		31
		-278
		-594
		520
		2,105
		0
		-730
3,814	1,918	1,896
-499		-499
225,342	217,662	7,680
	Assets  222,027  0 0 222,027  3,814	222,027 215,744  0 0 0 0 0 0 222,027 215,744  222,027 215,744  3,814 1,918  -499 0

Operating MCEV earnings contributed EUR 520mn and were complemented by a significant economic impact of EUR 2,105mn reflecting higher interest rate environment at valuation date and the positive evolution of the equity markets.

The VNB at point of sale contributed EUR 440mn before tax. Earning the reference rate on the in-force portfolio increased EV by EUR 224mn. Expected returns in excess of the reference rate added a significant amount of EUR 696mn.

Offset effects under non-economic assumptions of EUR -278mn and of EUR -594mn under operating variances reflect respectively higher maintenance expenses and commissions and deviations between projected and actual business in force on the liability side.

The key contribution of EUR 2,105mn under economic variances comprises EUR 711mn on higher interest rates, EUR 874mn on changes in equity values and EUR 197mn due to lower credit spreads.

There were also net capital movements of EUR -499mn in respect of the profit/loss transfer agreements.

#### 3.3.3. SENSITIVITIES

Exhibit 15 shows the sensitivities for Germany Life's MCEV and VNB.

	Inforce	MCEV	New Bus VN	
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	7,680	100%	304	100%
EV change by economic factors				
Risk Free Rate – 50bp	-1,173	-15%	-65	-21%
Risk Free Rate +50bp	973	13%	39	13%
Equity values – 20 %	-1,267	-16%	-77	-25%
Swaption volatilities +25 %	576	7%	4	1%
Equity option volatilities +25 %	-180	-2%	-24	-8%
EV change by non-economic factors				
Lapse Rates – 10 %	130	2%	35	12%
Maintenance Expenses – 10 %	75	1%	9	3%
Mortality + 15 % for products with death risk	-18	0%	-3	-1%
Mortality – 20 % for products with longevity risk	-683	-9%	-20	-7%

Germany Life's portfolio is mostly traditional participating business with long premium paying terms. Sensitivities to noneconomic assumptions are relatively low because technical surplus is shared with policyholders.

Due to the asymmetric nature of embedded options and guarantees, falling market rates have a higher impact than rising rates. Interest rate sensitivities on MCEV in 2015 were lower than in 2014 due to recovered interest rates at valuation date, but also due to the contribution of lower guarantee level effect in new business. Therefore also the VNB sensitivity on interest rates dropped compared to last year.

The sensitivities on a drop in equity values increased from last year, based on a higher equity exposure in the German Life portfolio.

The non-economic sensitivities stayed roughly stable, only the VNB would benefit even more from higher policyholder persistency than last year.

# 3.4 Western & Southern Europe

#### 3.4.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Western & Southern Europe in 2015 was EUR 205mn, 32% lower than the value in 2014. The NBM decreased from 1.5% to 1.0%. Exhibit 16 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF N	Exhibit 16		
	Value of New Business	New Business Margin	Present Value of NB Premium
	EUR mn	%	EUR mn
Value as at 31 December 2014	302	1.5%	20,317
Change in Foreign Exchange	-3	0.0%	-57
Change in Allianz interest	-1	0.0%	-11
Adjusted Value as at 31 December 2014	298	1.5%	20,250
Change in volume	-27	0.0%	-1,839
Change in business mix	50	0.3%	223
Change in economics and others	-116	-0.7%	911
Value as at 31 December 2015	205	1.0%	19,544

The decrease in VNB is mainly based on losses in France and Italy in the first half of the year, explained in detail in the next sections.

The slight losses in foreign exchange and Allianz interest are based on the weakening of Turkish Lira against the Euro and changes in minority shareholding in Turkey.

The decrease in VNB of EUR -27mn on volume is mainly caused by France (EUR -42mn) and Italy (EUR -10mn), but there were also positive effects like in Turkey (EUR 5mn) based on steady new business volume growth in unit-linked and single premium risk business.

Similarly, the gain in VNB of EUR 50mn on a more profitable new business mix is caused by France (EUR 27mn) and especially Italy (EUR 38mn), but also comprising a material contribution from Turkey (EUR 7mn) due to higher single premiums in high profitable risk business.

The remaining component of EUR -116mn comprises the economic impact of extremely low interest rates in the Eurozone in the first half of the year (EUR -161mn), new restrictive fee and customer refund regulations in Turkey (EUR -10mn), but also a positive impact of overall more profitable non-economic conditions (EUR 18mn), such as lower expenses in France and higher customer persistency in Egypt and Lebanon.

#### 3.4.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV for Western & Southern Europe increased from EUR 9,180mn to EUR 10,341mn which represents an increment of 13%. The analysis of earnings in Exhibit 17 presents the drivers of the change in MCEV.

#### ANALYSIS OF EARNINGS OF EMBEDDED VALUE

Exhibit 17

€MN			
	Earnir	ngs on MCEV anal	,
	Assets	Liabilities	MCEV
Opening MCEV as at 31 December 2014	166,165	156,986	9,180
Foreign Exchange Variance	7	27	-19
Acquired / Divested business	214	181	33
Others	0	0	C
Adjusted Opening MCEV as at 31 December 2014	166,387	157,193	9,194
Value of new business at point of sale (pre-tax)			238
Expected existing business contribution			
reference rate			425
in excess of reference rate			168
other: transfer from VIF			22
Non-economic assumption changes			-12
Operating variances			444
Operating MCEV earnings			1,285
Economic variances			958
Other non-operating variance			0
Tax			-664
Total MCEV earnings	5,596	4,016	1,580
Net capital movements	-433		-433
Closing MCEV as at 31 December 2015	171,550	161,210	10,341

Operating MCEV earnings contributed 14%, the improved economic conditions towards end of the year 10% of the adjusted opening MCEV. France and Italy were the main driving countries of the positive development and are analyzed separately. All other entities in the region showed a stable or slightly increasing MCEV in a challenging environment, with the exception of Turkey with an MCEV decrease of 24% after foreign exchange, due to new restrictive fee and customer refund regulations in the country.

The opening foreign exchange loss of EUR -19mn mainly reflects the weakening of the Turkish Lira against the Euro, the gain of EUR 33mn is due to divested and acquired business in France and Italy and an upgrade in minority shareholding in Turkey at valuation date.

The VNB at point of sale added EUR 238mn before tax, including a significant contribution from Turkey of EUR 42mn next to France and Italy. Earning the reference rate on the in-force portfolio increased EV by EUR 425mn, expected returns in excess of the reference rate added another EUR 168mn.

Other operating variances of EUR 444mn are primarily based on contributions from France (EUR 255mn) and Italy (EUR 191mn) explained below.

The non-economic impact of EUR -12mn comprises offset effects between EUR 129mn from Italy on more profitable dynamic surrender behavior of policyholders and higher expenses in Belgium and Turkey and mortality table updates in the Netherlands.

The highly positive contribution of economic drivers (EUR 958mn) were almost exclusively coming from France and Italy.

Dividends of overall EUR 433mn were paid in 2015, comprising France (360mn), Belgium (EUR 13mn), Netherlands (EUR 42mn), Egypt (EUR 12mn) and Lebanon (EUR 7mn).

#### 3.4.3. SENSITIVITIES

Exhibit 18 presents the sensitivities for Western & Southern Europe's MCEV and VNB.

SENSITIVITIES			Ex	hibit 18
€MN	Inforce MCEV		New Business VNB	
	EUR mn	%	EUR mn	%
Central Assumptions	10,341	100%	205	100%
EV change by economic factors				
Risk Free Rate – 50bp	-520	-5%	-59	-29%
Risk Free Rate +50bp	317	3%	34	17%
Equity values – 20 %	-790	-8%	-55	-27%
Swaption volatilities +25 %	-220	-2%	-11	-6%
Equity option volatilities +25 %	-435	-4%	-11	-6%
EV change by non-economic factors				
Lapse Rates – 10 %	58	1%	78	38%
Maintenance Expenses – 10 %	685	7%	36	18%
Mortality + 15 % for products with death risk	-186	-2%	-24	-12%
Mortality – 20 % for products with longevity risk	-812	-8%	-1	-1%

Due to the asymmetric nature of embedded options and guarantees, falling market rates have a higher impact on MCEV and VNB than rising rates. The interest rate sensitivity of the MCEV was considerably lowered in the region, especially for falling rates with -5% against prior year's -8%.

The higher equity sensitivity compared to last year is based on an overall increasing equity exposure in the SAAs, especially in the French portfolio.

The non-economic exposures remained on a relatively low level, with the exception of higher VNB lapse and maintenance expense sensitivity coming from France.

### 3.5 France

#### 3.5.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in France in 2015 decreased to EUR 35mn, 37% lower than the value in 2014. The NBM went down from 0.7% to 0.5%. Exhibit 19 presents an analysis of the changes.

ne of New ness mn <b>55</b>	New Business Margin % 0.7%	Present Value of NB Premium EUR mn
55	0.7%	
	0.170	7,455
0	0.0%	0
0	0.0%	0
55	0.7%	7,456
-42	0.0%	-5,669
27	-0.2%	5,647
-5	-0.1%	-165
	0.50/	7,269
	-42 27 -5	-42     0.0%       27     -0.2%

The VNB development of France in 2015 was similar to that of other bigger entities in the Eurozone. VNB and NBM suffered from the extreme market conditions at the beginning of 2015, where the low income earned put the coverage of guarantees and expenses under pressure.

The positive turnaround comprised an increase in VNB and NBM from EUR -13mn and -0.3% in the first half to EUR +48mn and 1.6% in the second half of the year respectively. As such, VNB and NBM had doubled in the second half of 2015 compared to the second half of 2014, where interest rates had been higher.

The volume effect of EUR -42mn on VNB is based on a decrease of single premium VA business in France Global Life after re-pricings in 2015 and a considerable drop in sales of savings products.

Successful steering of new business mix increased the VNB by EUR 27mn. The new business share of more profitable unit-linked products went up by 6%-p. on cost of unprofitable savings losing 8%-p. Also the NBM within the unit-linked business went up by 18bps after re-pricing measures.

The remaining drop of EUR -5mn reflects the negative influence of the economic environment that could not have been fully offset by positive contributions from lower expenses.

#### 3.5.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV of France increased by 8% from EUR 5,377mn to EUR 5,816mn after dividend payments of EUR 360mn. The analysis of earnings in Exhibit 20 presents the drivers of the change in MCEV.

€MN					
Civil	Earnings on MCEV analysis				
•	Assets	Liabilities	MCEV		
Opening MCEV as at 31 December 2014	94,569	89,191	5,377		
Foreign Exchange Variance	0	0	0		
Acquired / Divested business	-152	-165	13		
Others	0	0	0		
Adjusted Opening MCEV as at 31 December 2014	94,417	89,026	5,391		
Value of new business at point of sale (pre-tax)			36		
Expected existing business contribution					
reference rate			225		
in excess of reference rate			113		
other: transfer from VIF			0		
Non-economic assumption changes			-28		
Operating variances			255		
Operating MCEV earnings			602		
Economic variances			505		
Other non-operating variance			0		
Tax			-321		
Total MCEV earnings	-453	-1,238	785		
Net capital movements	-360		-360		
Closing MCEV as at 31 December 2015	93,604	87,888	5,816		

Operating MCEV earnings contributed 11% of the adjusted opening MCEV, another 9% came from the improved economic environment at valuation date.

MCEV gained EUR 13mm due to cancelling contracts with the pension funds Prefon and Aperf. The VNB at point of sale contributed EUR 36mm before tax. Earning the reference rate on the in-force portfolio increased EV by EUR 225mm. Expected returns in excess of the reference rate added another EUR 113mm.

Operating variances of EUR 255mn comprise effects of lower crediting to policyholders (EUR 53mn), improved morbidity development affecting France Health business (EUR 41mn), impacts of higher equity exposure in SAA and the new crediting strategy reflecting the more persistent nature of in-force policyholders (combined EUR 70mn).

Economic variances had a significant positive impact of EUR 505mn, reflecting simulated interest rate effect of EUR 106mn on behalf of duration mismatch, roll-forward of VNB at point of sale to end of year with EUR 116mn and true-ups on the asset side of EUR 171mn. Dividends of EUR 360mn were paid during 2015.

#### 3.5.3. SENSITIVITIES

Exhibit 21 shows the sensitivities for France's MCEV and VNB.

SENSITIVITIES			Е	xhibit 21
€MN	Inforce M	MCEV	New Busin	ess VNB
	EUR mn	%	EUR mn	%
Central Assumptions	5,816	100%	35	100%
EV change by economic factors				
Risk Free Rate – 50bp	-251	-4%	-51	-148%
Risk Free Rate +50bp	91	2%	31	89%
Equity values – 20 %	-439	-8%	-28	-80%
Swaption volatilities +25 %	-107	-2%	-2	-5%
Equity option volatilities +25 %	-398	-7%	-8	-23%
EV change by non-economic factors				
Lapse Rates – 10 %	15	0%	64	184%
Maintenance Expenses – 10 %	518	9%	21	60%
Mortality + 15 % for products with death risk	-120	-2%	-12	-36%
Mortality – 20 % for products with longevity risk	-741	-13%	0	0%

Due to the asymmetric nature of embedded options and guarantees, falling market rates have a higher impact on MCEV and VNB than rising rates. Due to higher interest rates at valuation date in 2015, the interest rate sensitivity of the MCEV has decreased.

The higher equity sensitivity compared to last year is based on an increasing equity exposure in the SAA of the French portfolio.

# 3.6 Italy

#### 3.6.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Italy in 2015 decreased to EUR 111mn, 32% lower than the value in 2014. The NBM went down from 1.5% to 1.2%. Exhibit 22 presents an analysis of the changes.

DEVELOPMENT OF NEW BUSIN	ESS VALUE		Exhibit 22
	Value of New Business	New Business Margin	Present Value of NB Premium
Value as at 31 December	EUR mn	%	EUR mn
2014	163	1.5%	10,638
Change in Foreign Exchange	0	0.0%	0
Change in Allianz interest	0	0.0%	4
Adjusted Value as at 31 December 2014	163	1.5%	10,643
Change in volume	-10	0.0%	-658
Change in business mix	38	0.7%	-1,303
Change in economics and others	-80	-1.0%	856
Value as at 31 December 2015	111	1.2%	9,538

For CreditRAS and DARTA the VNB increased in 2015 by EUR 9mn (+25%) and by EUR 10mn (+15%) respectively, the overall drop of EUR 52mn is caused by the saving business in Allianz SpA (agency channel), leading to a negative VNB of EUR -8mn for the full year in Allianz SpA.

The main VNB impact of EUR -80mn mainly comprises the economic influence of lower interest rates and higher volatilities on the savings portfolio in the first half of the year. It also contains a component of EUR -10mn on acquisition expense overrun from incentive programs to support the sustainable change in business mix.

The negative impact of EUR -10mn due to lower new business volumes, especially in Allianz SpA on savings, was over-compensated by an increase of EUR 38mn due to a much more profitable new business mix.

The value of new business clearly recovered in the second half of the year (including a positive VNB of EUR 8mn in the fourth quarter for Allianz SpA), not only due to recovering economic data, but also from successful new business steering towards more profitable unit-linked products with higher margins and lowering guarantees in savings products.

#### 3.6.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV of Italy increased significantly by 43% from EUR 1,828mn to EUR 2,610mn. The analysis of earnings in Exhibit 23 presents the drivers of the change in MCEV.

€MN			
	Earnir	ngs on MCEV anal	ysis
	Assets	Liabilities	MCEV
Opening MCEV as at 31 December 2014	51,211	49,384	1,828
Foreign Exchange Variance	0	0	0
Acquired / Divested business	364	350	14
Others	0	0	0
Adjusted Opening MCEV as at 31 December 2014	51,576	49,733	1,842
Value of new business at point of sale (pre-tax)			141
Expected existing business contribution			
reference rate			123
in excess of reference rate			27
other : transfer from VIF			20
Non-economic assumption changes			129
Operating variances			191
Operating MCEV earnings			632
Economic variances			462
Other non-operating variance			0
Tax			-327
Total MCEV earnings	2,837	2,069	767
Net capital movements	0		0
Closing MCEV as at 31 December 2015	54,412	51,803	2,610

Operating MCEV earnings contributed 34% of the adjusted opening MCEV, another 25% came from the improved economic environment at valuation date.

MCEV gained EUR 14mn due to Allianz SpA taking over the full share of AVPV. The VNB at point of sale contributed EUR 141mn before tax. Earning the reference rate on the in-force portfolio increased MCEV by EUR 123mn. Expected returns in excess of the reference rate added another EUR 27mn.

Significant contribution of EUR 129mn came from modelling the more profitable dynamic surrender behavior of policyholders. Other operating variances comprise EUR 90mn reflecting new crediting strategy of unrealized capital gains ("UCG") to manage the segregated fund return optimally.

The overall biggest contribution of EUR 462mn is due to economic variances, mainly comprising higher interest rates and lower credit spreads.

#### 3.6.3. SENSITIVITIES

Exhibit 24 shows the sensitivities for Italy's MCEV and VNB.

SENSITIVITIES			Ex	khibit 24
€MN			New Bus	iness
	Inforce !	MCEV	VNI	3
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	2,610	100%	111	100%
EV change by economic factors				
Risk Free Rate – 50bp	-201	-8%	-4	-3%
Risk Free Rate +50bp	174	7%	-1	-1%
Equity values – 20 %	-261	-10%	-23	-21%
Swaption volatilities +25 %	-90	-3%	-7	-7%
Equity option volatilities +25 %	-25	-1%	-2	-2%
EV change by non-economic factors				
Lapse Rates – 10 %	55	2%	10	9%
Maintenance Expenses – 10 %	90	3%	10	9%
Mortality + 15 % for products with death risk	-40	-2%	-7	-7%
Mortality – 20 % for products with longevity risk	-56	-2%	0	0%

The VNB exposure to changes in interest rates decreased significantly from last year due to the shift in new business mix towards risk and unit-linked products, and savings with lower guarantees. The corresponding MCEV exposure also dropped due to AL-mismatch reduction on segregated funds.

Equity sensitivity is driven by unit-linked business in DARTA. The impact of equity is more significant for new business given the volumes of unit-linked business sold during the year.

### 3.7 Iberia & Latin America

#### 3.7.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Iberia & Latin America in 2015 decreased to EUR 60mn, 12% lower than the value in 2014. The NBM changed from 4.0% to 2.7%. Exhibit 25 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF N	EW BUSINESS		Exhibit 25
			Present Value
	Value of New Business	New Business Margin	of NB Premium
	EUR mn	%	EUR mn
Values as at 31 December 2014	68	4.0%	1,678
Change in Foreign Exchange	0	0.0%	-4
Change in Allianz interest	0	0.0%	0
Adjusted Value as at 31 December 2014	67	4.0%	1,674
Change in volume	16	0.0%	386
Change in business mix	5	0.2%	43
Change in economics and others	-29	-1.5%	130
Value as at 31 December 2015	60	2.7%	2,233

The overall decrease of EUR 8mn in VNB was mainly caused by the difficult economic environment observed in the first half of the year. The development of VNB was positively impacted by higher new business volumes and successful business steering towards more profitable products in Spain and Portugal.

In Spain VNB dropped by EUR 5mn overall in 2015. While premium volumes increased significantly with the introduction of new, tax incentivized savings products, interest rates went down again in the first quarter, leaving these products underpriced for current conditions. Therefore the VNB in the first half of 2015 was EUR 14mn lower compared to prior year. Due to re-pricing efforts with reductions of guarantees and credited rates, the value in the second half of 2015 improved by EUR 9mn compared to 2014.

Portugal saw a steady increase of VNB resulting in EUR 2mn overall, mainly coming from higher new business share of more profitable protection products as the credit activity in the country gradually recovers.

In Mexico there was a stable development in new business, the decrease in VNB of EUR 4.8mn was merely due to a more conservative assumption update including IBNR into the calculation of Group Life business.

#### 3.7.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV for Iberia & Latin America increased from EUR 1,019mn to EUR 1,131mn after dividend payments of EUR 56mn. The analysis of earnings in Exhibit 26 presents the drivers of the change in MCEV.

#### ANALYSIS OF EARNINGS OF EMBEDDED VALUE

Exhibit 26

€MN			
	Earnir	ngs on MCEV anal	J
	Assets	Liabilities	MCEV
Opening MCEV as at 31 December 2014	8,917	7,898	1,019
Foreign Exchange Variance	-4	3	-7
Acquired / Divested business	0	0	0
Others	0	0	0
Adjusted Opening MCEV as at 31 December 2014	8,914	7,901	1,012
Value of new business at point of sale (pre-tax)			75
Expected existing business contribution			
reference rate			44
in excess of reference rate			106
other: transfer from VIF			1
Non-economic assumption changes			-2
Operating variances			67
Operating MCEV earnings			291
Economic variances			-57
Other non-operating variance			0
Tax			-60
Total MCEV earnings	141	-34	175
Net capital movements	-56		-56
Closing MCEV as at 31 December 2015	8,999	7,868	1,131

Total MCEV earnings added 17% to the adjusted opening EV. The change was mainly driven by new business added and realized spreads on investments.

Opening FX variance reflects the strengthening of the Euro against the Mexican Peso, lowering the MCEV by EUR 7mn. The VNB at point of sale before tax added EUR 76mn.

Earning the reference rate on the in-force portfolio increased MCEV by EUR 44mn. Expected returns in excess of the reference rate added another EUR 106mn.

Other operating variances of EUR 67mn reflect a change of method within the standard risk capital model and the abandonment of matching adjustments in Spain (EUR 92mn), offset by lower than

expected lapses on a portfolio of bank products with no prior experience in Spain (EUR -25mn).

Economic variances of EUR -57mn was mainly driven by lower interest rates. In Spain and Portugal dividends of EUR 42mn and EUR 14mn were paid respectively. Mexico did not make any dividend payments.

#### 3.7.3. SENSITIVITIES

Exhibit 27 presents the sensitivities for Iberia & Latin America's MCEV and VNB.

SENSITIVITIES			Ex	khibit 27
€MN	Inforce MCEV		New Business VNB	
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	1,131	100%	60	100%
EV change by economic factors				
Risk Free Rate – 50bp	14	1%	-3	-5%
Risk Free Rate +50bp	-22	-2%	0	0%
Equity values – 20 %	-35	-3%	0	0%
Swaption volatilities +25 %	-26	-2%	-6	-11%
Equity option volatilities +25 %	-4	0%	0	0%
EV change by non-economic factors				
Lapse Rates – 10 %	86	8%	10	16%
Maintenance Expenses – 10 %	39	3%	3	5%
Mortality + 15 % for products with death risk	-84	-7%	-8	-13%
Mortality – 20 % for products with longevity risk	-239	-21%	-2	-3%

Interest rate sensitivity for the in-force blocks is dominated by the protection portfolios in Portugal and Spain and the unit linked portfolio in Mexico, where rising rates mainly affect PVFP discounting and therefore lower the value. For the new business this effect is reversed due to the high production of the new taxincentivized savings products in Spain.

The in-force sensitivity to equity impacts results exclusively from Spain, the other companies don't have a corresponding exposure.

Non-economic sensitivities are relatively higher than in other entities, driven by the risk portfolios in Spain and Portugal.

The exposure to longevity risk relates to the existing pension portfolio in Spain and the annuity portfolio in Mexico.

# 3.8 Central and Eastern Europe

#### 3.8.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Central and Eastern Europe in 2015 remained stable at EUR 32mn. The NBM increased from 4.4% to 5.1%. Exhibit 28 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF N	EW BUSINESS		Exhibit 28
	Value of New Business	New Business Margin	Present Value of NB Premium
	EUR mn		EUR mn
Value as at 31 December 2014	32	4.4%	728
Change in Foreign Exchange	0	0.0%	1
Change in Allianz interest	0	0.0%	0
Adjusted Value as at 31 December 2014	32	4.4%	728
Change in volume	-4	0.0%	-87
Change in business mix	7	1.3%	-28
Change in economics and others	-3	-0.6%	18
Value as at 31 December 2015	32	5.1%	630

The stability of the VNB in the region reflects successful business steering towards more profitable product lines in almost all countries, which compensates for the losses due to lower new business volumes in less profitable lines and more conservative non-economic assumption updates. This is also the reason for the significant increase of NBM by 70bps.

The region is overall less affected by the challenging economic environment, since corresponding losses in traditional business e.g. in Slovakia were leveled out by the nature of non-traditional business (unit-linked and risk) in Hungary and Poland, where profit partially benefits from lower yields.

The new business in the Euro country Slovakia, which accounts for about half of the region's VNB, was indeed affected by lower yields and higher commissions, but the overall decrease in VNB of EUR 3mn in the country was kept in bounds due to a positive effect of EUR 5mn coming from the shift of traditional saving towards higher profitable unit-linked products and riders.

The losses in Slovakia were compensated by an increase in Czech Republic VNB of EUR 3mn, reflecting larger new business share of protection rider products with significantly higher margins.

#### 3.8.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV for Central and Eastern Europe increased from EUR 692mn to EUR 777mn after dividend payments of EUR 24mn. The analysis of earnings in Exhibit 29 presents the drivers of the change in MCEV.

#### ANALYSIS OF EARNINGS OF EMBEDDED VALUE

Exhibit 29

€MN	Earnings on MCEV analysis			
	Assets	Liabilities	MCEV	
Opening MCEV as at 31 December 2014	3,883	3,191	692	
Foreign Exchange Variance	20	18	2	
Acquired / Divested business	0	0	0	
Others	0	0	0	
Adjusted Opening MCEV as at 31 December 2014	3,903	3,209	695	
Value of new business at point of sale (pre-tax)			40	
Expected existing business contribution				
reference rate			15	
in excess of reference rate			55	
other: transfer from VIF			-3	
Non-economic assumption changes			5	
Operating variances			-19	
Operating MCEV earnings			94	
Economic variances			52	
Other non-operating variance			0	
Tax			-39	
Total MCEV earnings	49	-57	106	
Net capital movements	-24	0	-24	
Closing MCEV as at 31 December 2015	3,929	3,152	777	

Total MCEV earnings added 15% to the adjusted opening EV. Considerable impact is from new business and positive economic variances. Driving countries for the MCEV increase in the region are Slovakia and Croatia, a decrease in MCEV was only seen in Hungary.

Opening FX mainly reflects the weakening of the Euro against the Czech Koruna in the second half of 2015, increasing the MCEV by EUR 2mn. The VNB at point of sale before tax added EUR 40mn with biggest contribution from Slovakia and Poland.

Earning the reference rate on the in-force portfolio increased MCEV by EUR 15mn, expected returns in excess of the reference rate added another EUR 55mn, mainly coming from over-return on management expectations in Slovakia.

Operating variances of EUR -19mn contain EUR -23mn from prior uncovered business in Slovakia and EUR -26mn from contract boundary implementation on Hungarian unit-linked business, offset by EUR +25mn due to the movement from Euro denominated government bonds to HRK curves in Croatia.

Economic variances of overall EUR 52mn essentially contain asset earnings from credit spreads in Slovakia (EUR 42mn). Hungary and Poland paid dividends of EUR 14mn and EUR 10mn respectively.

#### 3.8.3. SENSITIVITIES

Exhibit 30 presents the sensitivities for Central and Eastern Europe's MCEV and VNB.

SENSITIVITIES			]	Exhibit 30
€MN	Inforc	e MCEV		usiness NB
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	777	100%	32	100%
EV change by economic factors				
Risk Free Rate – 50bp	-9	-1%	-1	-3%
Risk Free Rate +50bp	-4	-1%	1	2%
Equity values – 20 %	6	1%	0	0%
Swaption volatilities +25 %	-9	-1%	-1	-2%
Equity option volatilities +25 %	-1	0%	0	0%
EV change by non-economic factors				
Lapse Rates – 10 %	21	3%	4	12%
Maintenance Expenses – 10 %	24	3%	3	10%
Mortality + 15 % for products with death risk	-14	-2%	-2	-7%
Mortality – 20 % for products with longevity risk	-1	0%	0	0%

For the in-force blocks, interest rate sensitivity is dominated by Croatian traditional savings products with high guarantees. For rising interest rates, the effect on PVFP discounting leading to lower values for unit-linked business in Slovakia, Czech Republic, Poland and Hungary, offsets the corresponding positive contribution from Croatia.

For new business, the interest rate exposures reflect the sensitivity of saving products with guarantees in both Croatia and Slovakia.

The exposure to swaption volatilities is almost exclusively based on guarantee costs in Slovakia, the exposure to death risks relates to business in Slovakia and Poland for in-force and new business.

The new business sensitivity to lapse rates is mostly driven by Slovakia and Poland. The corresponding in-force lapse sensitivity is lower, due to offsetting effects between old business where guarantees are in the money and new business with lower guarantees.

### 3.9 Asia Pacific

#### 3.9.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in Asia Pacific in 2015 was EUR 194mn, 19% higher than the value in 2014. The NBM is stable at 3.2%. Exhibit 31 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF N	EW BUSINESS		Exhibit 31
	Value of New	New Business	Present Value of NB
	Business	Margin	Premium
	EUR mn	%	EUR mn
Value as at 31 December 2014	164	3.2%	5,145
Change in Foreign Exchange	14	0.0%	501
Change in Allianz interest	1	0.0%	16
Adjusted Value as at 31 December 2014	178	3.1%	5,662
Change in volume	6	0.0%	189
Change in business mix	21	0.3%	98
Change in economics and others	-10	-0.2%	110
Value as at 31 December 2015	194	3.2%	6,059

The gain in VNB on foreign exchange is due to a weakened Euro against the currencies in Taiwan and China in 2015, as well as Korea and Thailand in the first half of the year, complemented by a slight gain due to an increase of Allianz share in Malaysia.

The positive development of the VNB is primarily based on higher new business volumes and a much more profitable new business mix with an impact of EUR 6mn and EUR 21mn respectively. Significant losses of EUR 22mn due to lower interest rates could partially be compensated with EUR 11mn by expense controls and further profitable experience updates in non-economic drivers, combining for the remaining effect of EUR -10mn. Overall these effects kept the NBM constant at 3.2%.

Positive volume effects could most of all be observed in Taiwan with a single impact of EUR 9mn due to steeply rising sales in unit-linked business in the first half of the year.

The region strongly contributes to the successful steering of new business towards a higher share of unit-linked and protection business on cost of traditional guaranteed savings and annuities. Biggest impact comes from Taiwan with a sole effect of EUR 17mn, also including a shift from top-ups to back end loaded products within the unit-linked business and riders with higher margins.

The successful development of VNB in the region, including significant increases in almost all countries, is only offset by the

development of new business in Korea. An interest rate effect of EUR -12mn as well as an expense overrun effect of EUR -11mn due to lower sales, led to a VNB decrease of EUR 21mn overall in the country. Similarly, all countries except Korea increased their NBM significantly (mainly due to the new business mix strategy) or consolidated it on a high level like in Thailand at 7.3%.

#### 3.9.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV for Asia Pacific decreased from EUR 226mn to a negative EUR -324mn after net capital movements of EUR 50mn. The analysis of earnings in Exhibit 32 presents the drivers of the change in MCEV.

ANALYSIS OF EARNINGS OF EMBEDDED VA €MN	ECE.		Exhibit 32
€MIN	ngs on MCEV anal	ysis	
	Assets	Liabilities	MCEV
Opening MCEV as at 31 December 2014	21,647	21,422	226
Foreign Exchange Variance	1,031	1,052	-21
Acquired / Divested business	0	0	(
Others	0	0	(
Adjusted Opening MCEV as at 31 December 2014	22,678	22,474	204
Value of new business at point of sale (pre-tax)			190
Expected existing business contribution			
reference rate			13
in excess of reference rate			114
other: transfer from VIF			
Non-economic assumption changes			-22
Operating variances			-8:
Operating MCEV earnings			14
Economic variances			-48
Other non-operating variance			(
Tax			-232
Total MCEV earnings	2,024	2,602	-578
Net capital movements	50		5
Closing MCEV as at 31 December 2015	24,752	25,076	-324

Operating MCEV earnings contributed EUR 140mm, but the main impact came from economic variances of EUR -485mm, where lower interest rates and higher credit spreads affected the traditional portfolios with high guarantees in Korea and Taiwan.

Excluding Korea, the MCEV in the region is positive at EUR 1bn, about EUR 200mn higher than last year (the adjusted opening MCEV value for Korea was EUR -0.6bn after FX).

The foreign exchange variance of EUR -21mn mainly reflects a strengthened Euro against the Malaysian Ringgit and a weakened Euro against the Taiwan Dollar (negative MCEV in Taiwan) at valuation date.

The VNB at point of sale contributed EUR 196mn before tax. Earning the reference rate on the in-force portfolio increased MCEV by EUR 135mn. Expected returns in excess of the reference rate added another EUR 144mn.

Significant contribution of EUR -224mn came mainly from lower lapse assumptions in Korea, since lower interest rates increase the persistency of policyholders in high guarantee in-force block.

The overall economic impact of EUR -485mn contains EUR -260mn based on the influence of overall lower interest rates in the region. Korea adds EUR -102mn due to losses on higher credit spreads and EUR -143mn on lower expected returns because of change in asset allocation from equity to bonds.

Net capital movements of overall EUR 50mn comprise a capital injection for Taiwan of EUR 37mn to support production of profitable back-end loaded unit-linked products, a net capital movement of EUR 44mn from Global Life, reduced by dividends paid in Thailand of EUR 34mn.

#### 3.9.3. SENSITIVITIES

Exhibit 33 presents the sensitivities for Asia Pacific's MCEV and VNB.

SENSITIVITIES			I	Exhibit 33
€MN	Inforce	e MCEV <sup>1</sup>		usiness NB
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	-324	100%	194	100%
EV change by economic factors				
Risk Free Rate – 50bp	-417	129%	-23	-12%
Risk Free Rate +50bp	330	-102%	27	14%
Equity values – 20 %	-81	25%	-8	-4%
Swaption volatilities +25 %	-111	34%	-7	-4%
Equity option volatilities +25 %	-8	2%	-1	0%
EV change by non-economic factors				
Lapse Rates – 10 %	-1	0%	25	13%
Maintenance Expenses – 10 %	107	-33%	15	8%
Mortality + 15 % for products with death risk	-140	43%	-22	-12%
Mortality – 20 % for products with longevity risk	-151	47%	-1	-1%

Sensitivities to interest rates are driven by the high guarantees in the old-block of traditional portfolios in South Korea and Taiwan.

Based on the asymmetric nature of embedded options and guarantees, falling market rates have a higher impact on in-force block than rising rates. Due to the ongoing new business shift towards non-traditional products, rising rates meanwhile have a higher impact on VNB than falling ones.

EV sensitivities for Swaption volatilities went up compared to last year, mainly due to increased bond volatilities in Korea.

The new business sensitivity to lapse rates is mostly driven by Korea and Taiwan. The corresponding in-force lapse sensitivity is not significant, due to offsetting effects between old business where guarantees are in the money and new business with lower guarantees.

 $<sup>^{\</sup>rm 1}$  The respective sign of the relative MCEV impact is due to the negative central assumption base.

### 3.10 USA

#### 3.10.1. DEVELOPMENT OF VALUE OF NEW BUSINESS

The VNB written in the USA in 2015 decreased to EUR 318mn, 31% lower than the value in 2014. The NBM went down from 3.8% to 3.1%. Exhibit 34 presents an analysis of the changes.

DEVELOPMENT OF VALUE OF N	EW BUSINESS		Exhibit 34
	Value of New Business	New Business Margin	Present Value of NB Premium
	EUR mn	%	EUR mn
Value as at 31 December 2014	458	3.8%	11,981
Change in Foreign Exchange	90	0.0%	2,229
Change in Allianz interest	0	0.0%	0
Adjusted Value as at 31 December 2014	548	3.9%	14,210
Change in volume	-144	0.0%	-3,747
Change in business mix	68	0.6%	-4
Change in economics and others	-153	-1.5%	-42
Value as at 31 December 2015	318	3.1%	10,417

The gain of VNB in foreign exchange was caused by a weakened Euro against the US dollar throughout 2015. The drop in VNB was equally dominated by lower new business volumes and the economic environment with significantly lower interest rates and higher equity and swaption volatilities. Ongoing management actions in pricing and product development led to a partially compensating effect of EUR 68mn on business mix.

The exceptionally high production of fixed-index annuities in 2014 could expectedly not be repeated and is back to prior levels. The economic impact was especially felt in the first half of the year and affected the profitability in all lines of business, bringing the NBM down to 3.1%.

Management actions comprised increasing IRR target in fixed-indexed annuity and repricing efforts in variable annuity business. For the latter, new products with less market sensitivity were introduced and consistently gained a higher new business share throughout 2015.

These measures significantly increased new business margins during 2015, leading to a considerable recovery of VNB and NBM in the second half of the year (EUR 130mn to EUR 188mn and 2.4% to 3.7% respectively).

#### 3.10.2. DEVELOPMENT OF EMBEDDED VALUE

The MCEV of the US decreased from EUR 6,049 to EUR 5,332mn after a dividend payment of EUR 525mn. The analysis of earnings in Exhibit 35 presents the drivers of the change in MCEV.

ANALYSIS OF EARNINGS OF EMBEDDED VA	TOE		Exhibit 35		
€MN	Earnings on MCEV analysis				
	Assets	Liabilities	MCEV		
Opening MCEV as at 31 December 2014	103,879	97,830	6,049		
Foreign Exchange Variance	11,834	11,145	689		
Acquired / Divested business	0	0	0		
Others	0	0	0		
Adjusted Opening MCEV as at 31 December 2014	115,712	108,974	6,738		
Value of new business at point of sale (pre-tax)			489		
Expected existing business contribution					
reference rate			77		
in excess of reference rate			1,062		
other: transfer from VIF			0		
Non-economic assumption changes			-76		
Operating variances			336		
Operating MCEV earnings			1,887		
Economic variances			-3,274		
Other non-operating variance			0		
Tax			506		
Total MCEV earnings	516	1,397	-881		
Net capital movements	-525		-525		
Closing MCEV as at 31 December 2015	115,704	110,371	5,332		

Operating MCEV earnings contributed 28% of the adjusted opening MCEV, but were more than offset by the negative economic influence of higher credit spreads and equity volatilities.

The opening foreign exchange adjustment reflects the weakening of the Euro against the US Dollar. The currency movement impacted MCEV by EUR 689mn. The VNB at point of sale contributed EUR 489mn before tax.

Earning the reference rate on the in-force portfolio added EUR 77mm to MCEV. Expected returns in excess of the reference rate, mainly the realization of expected corporate spreads during the year, further increased MCEV by EUR 1,062mm.

Non-economic assumption changes of overall EUR -76mn include negative impacts from longevity and expenses, partly offset by the favorable lapse development.

Operating variances of EUR 336mn reflect gains based on changes in investment and crediting strategy, partly offset by changes to the long term care ("LTC") model to appropriately reflect future rate increases and include some minor tax items. The positive tax contribution of EUR 506mn reflects deferred tax liabilities.

Economic variances resulted from higher credit spreads (+41bps) and higher equity volatility (+4.1%), contributing EUR -2,994mn and EUR -272mn respectively. Dividends of EUR 525mn were paid.

#### 3.10.3. SENSITIVITIES

Exhibit 36 shows the sensitivities for the MCEV and VNB in the USA.

€MN				
	Inforce MCEV		New Business VNB	
	EUR		EUR	
	mn	%	mn	%
Central Assumptions	5,332	100%	318	100%
EV change by economic factors				
Risk Free Rate – 50bp	102	2%	3	1%
Risk Free Rate +50bp	-197	-4%	-4	-1%
Equity values – 20 %	-20	0%	-4	-1%
Swaption volatilities +25 %	-321	-6%	-4	-1%
Equity option volatilities +25 %	-638	-12%	-12	-4%
EV change by non-economic factors				
Lapse Rates – 10 %	-122	-2%	1	0%
Maintenance Expenses – 10 %	247	5%	10	3%
Mortality + 15 % for products with death risk	-37	-1%	0	0%
Mortality – 20 % for products with longevity risk	-906	-17%	-14	-4%

With the weight of fixed-index annuities in the in-force portfolio increasing, the exposure to interest upshifts again became predominant in terms of absolute values, same as for new business. Interest rate sensitivities have switched signs since 2014, as different lines of business respond differently to the development in rates. An interest rate up-shock on fixed-index annuities has a negative impact that is more significant for the 2015 results.

On new business, the equity impacts on both value and volatility result almost exclusively from Variable Annuities.

Lower lapse rates would cut into the value of the in-force portfolio, while they are beneficial for the product mix currently on sale. The significant longevity exposure especially of both the in-force block and the new business is related to the GMWB options included, which are more expensive in the compared to last year lower US interest rate environment at valuation date.

# Independent Opinion

KPMG has been engaged to review the Market Consistent Embedded Value (MCEV) of Allianz Group, Munich, as at 31 December 2015 as stipulated in the MCEV Principles published by the CFO forum in June 2008 and amended in October 2009 (MCEV Principles) as described in the accompanying MCEV Report of Allianz Group. Management is responsible for the preparation of the MCEV Report including the calculation of the MCEV. This includes particularly setting the operative and economic assumptions, the explanation concerning the determination of the MCEV and its roll forward, the implementation and the operativeness of the system which ensures the completeness and correctness of the data which are necessary for the calculation of the MCEV. KPMG's responsibility is to express an opinion on the calculation of the MCEV based on review procedures. Assessment criteria for this opinion are the MCEV Principles.

We conducted our review of the MCEV in accordance with IDW PS 570. This standard requires that we plan and conduct the review so that we can preclude through critical evaluation, with a certain level of assurance, that the MCEV report – the methodology and assumptions used, the calculation and further information – has not been prepared in material aspects in accordance with the requirements of the MCEV Principles. A review is limited primarily to inquiries of company employees and analytical assessments and therefore does not provide the assurance attainable in a MCEV audit.

The calculation of the MCEV is subject to numerous assumptions on future conditions and events which are uncertain and beyond control of the company. Therefore the actual future cash-flows might differ significantly from those underlying the MCEV report.

Based on our review no matters have come to our attention that causes us to presume that the MCEV report has not been prepared in material respects in accordance with the MCEV Principles.

Munich, 10th March 2016

KPMG AG Wirtschaftsprüfungsgesellschaft

Dr. Peter Ott Ralf Goschnick

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# Appendix A: Methodology

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

#### A.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 item that is not considered shareholder interest. It is calculated on an after-tax basis taking into account current and known future changes in legislation.

Allianz disclosed MCEV is in alignment with Solvency II and for most parts also in alignment with the MCEV principles, with the exceptions listed below:

- MCEV components: net asset value ("NAV") and value of inforce ("VIF"). No further split of ViF is explicitly calculated compared to a distributable earnings approach.
- 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 therefore as Allianz MCEV is aligned with Solvency II MVBS, are not calculated;
- Costs of non-hedgeable risks ("CNHR") has been replaced for the Risk Margin required by Solvency II that covers a similar purpose. A more detail section on Risk Margin can be found below;
- Application of Solvency II contract boundary definition;
- MCEV is disclosed on a net of tax basis using the full bottomup 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.

# A.2 Net asset value and Value of inforce covered business

The MCEV can be broken down into the NAV, i.e. the market value of the assets after tax not backing liabilities, and the VIF, i.e. the value of future profits emerging from operations and assets backing liabilities.

In order to perform this split, Allianz calculates the NAV on statutory basis, as the market value of the assets of a life company not backing local statutory reserves at 31 December 2015, net of an allowance for tax on unrealized capital gains. In case of a composite insurer only those assets are considered that are allocated to the company's life segment.

The VIF is calculated as the difference between the MCEV and the NAV and therefore not explicitly calculated.

### A.3 Assets

Assets in 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.

### A.4 Liabilities

Liabilities in 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.

#### A.4.1. 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 Solvency II Directive the BEL is calculated gross of reinsurance and gross of any amounts recoverable from special purpose vehicles. The Solvency II Balance Sheet is constructed on a gross/gross basis with the assets grossed up for the recoveries and gross liabilities, rather than netted down by the recoveries.

Best Estimate liabilities are calculated for all in-force polices 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.

#### A.4.2. TIME VALUE OF OPTIONS AND GUARANTEES

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

O&G is determined based on stochastic techniques. Due to their complex nature, for the majority of the business there is no closed form solution to determine the 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 Appendix B.1.

#### A.4.3. RISK MARGIN

Solvency II Directive defines the RM as the cost of providing an amount of available financial resources (AFR) 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 removed through the capital markets. RM has replaced the calculation of CNHR and is required for non-hedgeable risks - the financial other than interest rate risk, insurance and operational risks that cannot be removed through the capital markets.

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 6% cost of capital rate (CoC), after tax and 100% capitalization of risk capital in line with Solvency II requirements.

### A.5 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 in-force 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 is comprised 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 allowance for renewal rates in line with observed experience.

The calculation of VNB has been kept under distributable earnings approach, but was 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 to use 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 ("O&G") 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. Appendix B.1 shows the corresponding economic assumptions. For business in the USA, where products are re-priced more frequently, we apply a biweekly 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 Appendix B.1. 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 in-force business. In Germany and France for example due to regulatory profit sharing rules initial expenses can be shared with all policyholders of the in-force 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.

## A.6 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 in-force value.

### A.7 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.

# Appendix B: Assumptions

## **B.1** Economic assumptions

The MCEV results for 2015 are based on economic market conditions as of 31 December 2015. 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 inhouse model.

As actual EIOPA curves are typically published too late for the inhouse process of scenario generation, Allianz SE has used their own processes to generate the calibration yield curves. The methodology to derive these curves is fully aligned with EIOPA specification. Allianz SE 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 have been used. Material deviations were not observed.

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 Reuters, Bloomberg and Tullett Prebon data. Market data used for calibration of volatilities have been taken from Reuters, 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 at 31 December 2015 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 from 13<sup>th</sup> January 2016. Credit risk adjustments are shown in Table 1.

Currency	Credit Risk Adjustment
EUR	-10bps
USD	-10bps
GBP	-13bps
CHF	-10bps
KRW	-31bps
CZK	-10bps
HUF	-10bps
PLN	-10bps
TWD	-10bps
THB	-35bps

The application ratio for the volatility adjustment is 65%. Table 3 shows the term structure of the volatility adjustment for each currency. A country-specific exception is applied for Greece.

For application to products we apply a simplified bucketing approach. We apply no volatility adjustment to variable annuities and 65% of the volatility adjustment to all participating, unit linked and other businesses, including USA fixed and fixed indexed annuities.

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. The entry points and ultimate forward rates for each currency are shown below in table 4.

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 introduction of the new 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's. This would not be feasible if the stochastic scenarios used to value O&G's were based on swap curves and calibrated to meet market prices while the deterministic runs used the reference rate that incorporated the new methodology.

For currencies where EIOPA requires valuation based on government bonds, government rates are used. The MCEV of these entities is less than 1% of the total MCEV.

Table 2 shows the swap rates used in the market consistent valuation. These already include the deduction for the credit risk adjustment.

#### SWAP RATES | TABLE 2

		1 year	2 year	5 year	10 year	20 year
Currency	as of dd.mm.yyyy	%	%	%	%	%
EUR	31.12.2014	0.06%	0.09%	0.26%	0.73%	1.27%
	31.03.2015	0.01%	0.01%	0.16%	0.46%	0.69%
	30.06.2015	0.01%	0.06%	0.42%	1.09%	1.61%
	30.09.2015	0.01%	0.01%	0.28%	0.88%	1.43%
	31.12.2015	0.01%	0.01%	0.23%	0.91%	1.52%
CHF	31.12.2014	0.01%	0.01%	0.08%	0.48%	1.05%
	31.03.2015	0.01%	0.01%	0.04%	0.30%	0.75%
	30.06.2015	0.01%	0.01%	0.08%	0.54%	1.03%
	30.09.2015	0.01%	0.01%	0.02%	0.37%	0.92%
	31.12.2015	0.01%	0.01%	0.01%	0.16%	0.66%
USD	31.12.2014	0.36%	0.77%	1.67%	2.21%	2.56%
	31.03.2015	0.40%	0.69%	1.43%	1.93%	2.24%
	30.06.2015	0.45%	0.77%	1.67%	2.38%	2.79%
	30.09.2015	0.45%	0.63%	1.28%	1.92%	2.37%
	31.12.2015	0.78%	1.09%	1.66%	2.15%	2.51%
KRW	31.12.2014	1.95%	1.98%	2.22%	2.53%	2.77%
	31.03.2015	1.61%	1.59%	1.78%	2.08%	2.34%
	30.06.2015	1.51%	1.63%	2.03%	2.41%	2.65%
	30.09.2015	1.40%	1.44%	1.69%	1.98%	2.19%
	31.12.2015	1.30%	1.29%	1.42%	1.63%	1.74%
CZK	31.12.2014	0.21%	0.30%	0.45%	0.79%	1.57%
	31.03.2015	0.14%	0.18%	0.31%	0.56%	1.27%
	30.06.2015	0.33%	0.36%	0.70%	1.22%	1.67%
	30.09.2015	0.41%	0.31%	0.42%	0.93%	1.56%
	31.12.2015	0.18%	0.31%	0.55%	0.91%	1.65%
HUF	31.12.2014	1.97%	2.00%	2.39%	3.15%	3.30%
	31.03.2015	1.65%	1.65%	1.97%	2.61%	2.80%
	30.06.2015	1.35%	1.55%	2.37%	3.37%	3.49%
	30.09.2015	1.24%	1.29%	1.85%	2.85%	3.24%
	31.12.2015	1.03%	1.75%	2.57%	3.36%	4.26%

#### SWAP RATES | TABLE 2

		1 year	2 year	5 year	10 year	20 year
Currency	as of dd.mm.yyyy	%	%	%	%	%
PLN	31.12.2014	1.67%	1.66%	1.83%	2.10%	2.38%
	31.03.2015	1.47%	1.51%	1.74%	1.99%	2.24%
	30.06.2015	1.66%	1.87%	2.41%	2.89%	3.06%
	30.09.2015	1.51%	1.53%	1.89%	2.39%	2.60%
	31.12.2015	1.40%	1.54%	2.16%	2.95%	3.62%
TWD	31.12.2014	0.81%	0.88%	1.20%	1.54%	2.06%
	31.03.2015	0.79%	0.84%	1.14%	1.51%	2.12%
	30.06.2015	0.79%	0.85%	1.15%	1.50%	2.06%
	30.09.2015	0.70%	0.71%	0.94%	1.23%	1.81%
	31.12.2015	0.26%	0.34%	0.61%	1.03%	1.91%
JPY	31.12.2014	0.04%	0.03%	0.10%	0.40%	1.04%
	31.03.2015	0.05%	0.06%	0.17%	0.47%	1.08%
	30.06.2015	0.08%	0.07%	0.20%	0.54%	1.21%
	30.09.2015	0.07%	0.04%	0.11%	0.42%	1.08%
	31.12.2015	0.01%	0.01%	0.07%	0.33%	0.94%

Table 3 shows the development of Long-Term Guarantee Measures. The volatility adjustment uses the application ratio of 65%.

	31.12.2014	31.03.2015	30.06.2015	30.09.2015	31.12.2015	Term
Currency	bps	bps	bps	bps	bps	
EUR	13 bps	11 bps	27 bps	29bps	22bps	20
EUR (Greece)	13 bps	11 bps	27 bps	29bps	55bps	20
CHF	28 bps	4 bps	6 bps	12bps	9bps	25
USD	50 bps	47 bps	54 bps	81bps	78bps	50
CZK	4 bps	4 bps	7 bps	8bps	8bps	15
HUF	28 bps	15 bps	17 bps	56bps	19bps	15
PLN	18 bps	4 bps	7 bps	8bps	8bps	10
THB	17 bps	n/c bps	n/c bps	n/c bps	n/c bps	15

Table 4 shows the ultimate forward rate and entry point parameters used when applying yield-curve extrapolations.

YIELD-CURVE EXTRAPOLATION		Table 4
		Ultimate forward
	Entry point	rate
Currency		
EUR	20	4.20%
CHF	25	3.20%
USD	50	4.20%
CZK	15	4.20%
HUF	15	4.20%
PLN	10	4.20%
THB	15	4.20%
TWD	10	4.20%
JPY	30	3.20%

Table 5 shows the development of swaption implied volatilities.

DEVELOPME	<b>DEVELOPMENT OF SWAPTION IMPLIED VOLATILITIES</b> Table 5						
					31.12.201		
	31.12.2014	31.03.2015	30.06.2015	30.09.2015	5		
Currency	%	%	%	%	%		
EUR	32.48%	92.47%	32.74%	37.00%	34.54%		
CHF	48.50%	126.87%	65.85%	75.21%	71.27%		
USD	22.33%	27.27%	20.35%	23.96%	22.88%		
KRW	15.11%	16.39%	15.29%	17.84%	16.63%		
Market implie and KRW).	Market implied volatilities - 10 year options on 20 year swaps at the money (10 year swaps for CHF and KRW).						

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 2015 MCEV calculations were therefore based on 31 December 2015.

For similar reasons that yield-curve extrapolations were applied, for durations where no deep and liquid swaption markets exist, volatility anchoring is applied. For each currency the last liquid option maturities are determined. Market volatility quotes are used until the last liquid tenor. The historical volatility of the last liquid term node of the yield-curve is used as the long term target level for the swaption volatility surface. The volatility surface is then extrapolated from the last liquid option maturity terms to the long term target level.

Table 6 shows the swaption implied volatilities at various terms for four main currencies.

		1 year	2 year	5 year	10 year	20 year
	Option term	%	%	%	%	9
EUR	31.12.2014	43.47%	41.22%	36.03%	32.48%	21.59%
	31.12.2015	42.69%	40.55%	36.11%	34.54%	24.57%
CHF	31.12.2014	60.80%	58.30%	56.80%	48.50%	30.87%
	31.12.2015	150.67%	120.75%	89.94%	71.27%	47.62%
USD	31.12.2014	27.11%	26.27%	25.20%	22.33%	17.909
	31.12.2015	28.98%	28.35%	26.43%	22.88%	18.319
KRW	31.12.2014	17.30%	17.00%	17.50%	15.11%	12.78%
	31.12.2015	22.95%	21.70%	20.00%	16.63%	13.34%

Table 7 shows the starting points of the volatility extrapolation and long term target levels for each currency:

SWAPTION VOLATILITY ANCHORING		Table 7
	Start of swaption volatility anchoring	Long term target level
Currency	Year	%
EUR	15	7.83%
CHF	15	8.32%
USD	15	15.25%
CZK	10	7.43%
HUF	10	11.54%
PLN	10	8.10%
THB	10	13.46%
KRW	5	11.43%

For modelling fixed income stochastic scenarios, the Constant Elasticity Volatility Model, which is an extension of the Libor Market Model, is used.

For fixed income instruments, parameters are fitted to at-themoney 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).

Table 8 shows the equity option implied volatility for the main equity indices.

EQUITY OPTIO	ON IMPLIED VOLATILITIES					Table 8
		31.12.2014	31.03.2015	30.06.2015	30.09.2015	31.12.2015
	Index	%	%	%	%	%
EUR	Eurostoxx 50	21.78%	21.73%	19.53%	20.02%	24.85%
	CAC	19.38%	21.98%	21.07%	19.85%	21.94%
	DAX	21.24%	22.68%	22.06%	21.72%	22.23%
CHF	SMI	17.90%	16.74%	14.42%	15.07%	16.74%
USD	S&P 500	23.60%	23.47%	22.46%	20.09%	26.45%
KRW	KOSPI	20.64%	19.72%	27.40%	20.34%	16.66%
Volatilities im	pplied in 10 year equity option at the r	noney.				

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.

Table 9 shows the real estate volatility for the main currencies:

REAL ESTATE VOLATILITIES		Table 9
	31.12.2015	31.12.2014
Currency	%	%
EUR	15.00%	15.00%
CHF	8.00%	8.00%
USD	15.00%	15.00%
KRW	15.00%	15.00%

To show the impact of asset mixes and inter-economy relations, correlation assumptions were estimated from historic market data. Table 10 shows the correlation assumptions for 2015, the return period is on a quarterly basis.

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.

CORRELATION ASSUMPTIONS Table 10 Fixed income 1 year bond rate **Equity Indices** S&P500 EUR CHF USD KRW CAC HDAX KOSPI Eurotoxx50 Fixed income 1 year bond rate EUR 0.49 0.42 0.42 0.17 0.17 0.14 0.18 0.14 0.25 CHF 0.47 0.35 0.45 0.39 0.42 0.42 0.40 0.41 0.08 USD 0.38 0.08 0.16 0.06 0.12 0.18 1 KRW 0.32 0.3 0.19 0.39 0.33 0.35 **Equity Indices** CAC 0.94 0.74 0.91 0.98 0.88 HDAX 0.79 0.88 0.95 0.9 KOSPI 0.70 0.75 0.73 SPI 0.88 0.86 Eurotoxx50 0.87 1 S&P500 1

# B.2 Capital charge for risk margin

For 2015, 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.3 Foreign currency exchange rates

EV 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 11 below.

MAIN EXCHANGE RATES AGAIN	NST EUR	Table 11
FX against 1.00 EUR		
	2015	2014
CHF	1.09	1.20
USD	1.09	1.21
KRW	1,273.74	1,330.03
CZK	27.02	27.72
HUF	316.01	315.75
PLN	4.29	4.30
THB	39.09	39.81
TWD	35.68	38.24

# B.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 the 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.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. Tax impact of future new business is not allowed for. Table 12 shows the nominal tax rates applied for the VNB calculation.

TAX ASSUMPTIONS		Table 12
	2015	2014
	%	%
Germany	31%	31%
France	34%	34%
Italy	33%	33%
USA	35%	35%
Korea	22%	22%
Switzerland	21%	21%

# B.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 13.

2015	2014
5.00%	5.00%
20%×10 year swap rate	

# Appendix C: Glossary and Abbreviations

#### BEL.

Best estimate liabilities. Market value of the obligations of a life company to policyholders and beneficiaries.

#### **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.

#### 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.

#### **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).

#### IRR

Internal rate of return. The discount rate which gives a zero value of new business under real-world projections after allowing for any acquisition expense overrun or underrun.

#### 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.

#### NAV

Net asset value. Market value of assets after tax, which are not backing liabilities, calculated from statutory equity.

#### **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.

#### 0&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.

#### Payback period

Payback period is the period from the point of sale of new business to the first point in time when the undiscounted sum of distributable earnings, under real world assumptions, is positive.

#### **PVFP**

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

#### **PVNBP**

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

#### Reference rate

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

#### RM

Risk Margin. The cost of providing an amount of available financial resources (AFR) 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.

#### 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.

#### Ultimate forward rate

The estimate of the ultimate forward rate (UFR) is defined in line with the EIOPA methodology and guidelines. An extrapolation is needed past last available market data points. The UFR is determined for each currency using macro-economic methods, the most important factors being long term expected inflation and real interest rates. Although the UFR is subject to revision, it should be stable and only change when there are fundamental changes to long term expectations.

#### VIF

Value of in-force. It is defined as the difference between the MCEV and the NAV.

#### **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.

# Disclaimer

# Cautionary note regarding forward-looking statements

The statements contained herein may include prospects, statements of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties. Actual results, performance or events may differ materially from those expressed or implied in such forward-looking statements.

Such deviations may arise due to, without limitation, (i) changes of the general economic conditions and competitive situation, particularly in the Allianz Group's core business and core markets, (ii) performance of financial markets (particularly market volatility, liquidity and credit events) (iii) frequency and severity of insured loss events, including from natural catastrophes, and the development of loss expenses, (iv) mortality and morbidity levels and trends, (v) persistency levels, (vi) particularly in the banking business, the extent of credit defaults, (vii) interest rate levels, (viii) currency exchange rates including the Euro/U.S. Dollar exchange rate, (ix) changes in laws and regulations, including tax regulations, (x) the impact of acquisitions, including related integration issues, and reorganization measures, and (xi) general competitive factors, in each case on a local, regional, national and/or global basis. Many of these factors may be more likely to occur, or more pronounced, as a result of terrorist activities and their consequences.

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