

# EMBEDDED VALUE REPORT

## 2015

redefining / standards



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## CAUTIONARY STATEMENTS CONCERNING FORWARD-LOOKING STATEMENTS

This report includes terms used by AXA for the analysis of its business operations and therefore might not be comparable with terms used by other companies; these terms are defined in the glossary provided at the end of this document.

This report includes non-GAAP financial measures. Embedded value is not based on IFRS, which are used to prepare and report AXA's financial statements and should not be viewed as a substitute for IFRS financial measures. AXA believes the non-GAAP measure shown herein, together with the IFRS information, provides a meaningful measure for the investing public to evaluate AXA's business relative to the businesses of peers.

In the attached report, the Group Embedded Value and Available Financial Resources are reconciled to IFRS shareholders' equity as reported in AXA's 2015 financial statements. AXA's 2015 financial statements have been examined by the Board of Directors on February 24, 2016 and, as of the date of this report, are subject to completion of audit procedures by AXA's statutory auditors. The Solvency II information reported herein also requires the completion of management's validation process.

## KEY PRINCIPLES

The Embedded Value is an estimate of the economic value of a life insurance business, comprised of the adjusted net asset value (ANAV) and the value of the inforce business (VIF), including future profits on existing business but excluding any profits on future new business. It corresponds to the total net amount distributable to the shareholders, after sufficient allowance for the aggregated risks in the covered business, in a market-consistent environment.

From the end of 2004, AXA's methodology for Life & Savings EV has been compliant with the CFO Forum's European Embedded Value (EEV) Principles and guidance and has adopted a market-consistent approach. In particular, it:

- Provides for the cost of all significant options and guarantees (O&G) of Life & Savings businesses.
- Includes a charge for cost of capital and non-financial risks (CoC/NFR).
- Does not include the margins earned by our affiliated investment management companies reported outside the Life & Savings segment, and with that respect is not compliant with the CFO Forum EEV Guidance 9.11.

In June 2008, the CFO Forum released the new MCEV Principles<sup>©</sup>. AXA uses a market consistent methodology when making allowance for the aggregate risks in its Life & Savings business but has remained formally under the EEV principles. While the CFO Forum remains committed to the value in supplementary information, including embedded value, the mandatory implementation date of MCEV principles was withdrawn, reflecting the ongoing developments of insurance reporting under Solvency II and IFRS. In October 2015, the European Insurance CFO Forum announced additional guidance for embedded value reporting in advance of the effective date of Solvency II.

## **NOTE ON TRANSITION TO SOLVENCY II REQUIRED CAPITAL**

In the context of the implementation of Solvency II, the required capital of Life & Savings entities in the European Economic Area (EEA entities) was transitioned from Solvency I basis in 2014 closing to Solvency II basis in 2015 opening. The impact of this transition on Life & Savings European Embedded Value (EEV) and its components is presented in the “EEV analysis of change”, separately from other modeling changes and opening adjustments.

The transition to Solvency II required capital for EEA entities has been reflected for consistency in 2015 indicators, including Free Cash Flows, Life & Savings Internal Rate of Return and Life & Savings New Business Value.

# HIGHLIGHTS

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## KEY FIGURES

**2015 Life & Savings European Embedded Value (EEV) increased by Euro 4.6 billion to Euro 54.2 billion with a strong operating return of Euro 6.2 billion.** The end of year EEV also included:

- Euro 0.5 billion impact from the decrease in CoC/NFR following the transition to Solvency II required capital in EEA entities;
- Euro -1.7 billion impact of modeling changes and opening adjustments mainly reflecting the alignment of AXA's reference yield curves to Solvency II methodology, with liquidity premia being replaced by volatility adjustments less credit risk adjustments (see Appendices, section "Financial Assumptions");
- Euro -1.6 billion economic and other non-operating variances mainly reflecting lower than expected interest rates in Switzerland and in the United States;
- Euro 2.8 billion impact from the appreciation of main foreign currencies versus Euro;
- Euro -2.2 billion impact of net dividend payments to other segments of the Group from Life & Savings entities;
- Euro 0.4 billion mainly from the acquisition of Genworth. This was fully offset by the consideration paid, presented in other than Life & Savings segments in the Group Embedded Value. The Life & Savings business of Genworth was reported in AXA France in 2015.

**2015 operating return on Life & Savings European Embedded Value was 13% or Euro 6.2 billion** (13% or Euro 6.1 billion in 2014) driven by a strong expected contribution of existing business, new business value growth, favorable current year operating variance and operating assumption update.

The expected existing business contribution, calculated based on the previous year's implied discount rate (IDR), decreased from Euro 3.1 billion to Euro 2.7 billion. This was mainly due a lower IDR in 2014 as compared to 2013.

The current year operating variance amounted to Euro 0.8 billion mainly driven by the United States with an increase in insurance charges for a number of Universal Life products, higher than expected realized capital gains and tax settlement. The impact of change in operating assumptions amounted to Euro 0.2 billion mainly driven by lower projected expenses in France.

**2015 total return on Life & Savings European Embedded Value was 10% or Euro 4.7 billion** (5% or Euro 2.5 billion in 2014) driven by a strong operating return, partly offset by unfavorable economic and other non-operating variances.

**2015 Life & Savings Implied Discount Rate increased by 0.9pt to 7.5%** mainly driven by the decrease in required capital following the transition to Solvency II required capital in EEA entities.

**2015 Life & Savings New Business Value (NBV) increased by 2% on a comparable basis from Euro 2.2 billion to Euro 2.5 billion.** The increase in NBV was mainly driven by higher volumes in France, Japan, China and Indonesia; partly offset by the impact of lower interest rates in Switzerland and the United States. The 2015 NBV also included Euro 0.2 billion impact from the appreciation of main foreign currencies versus Euro.

**2015 Life & Savings NBV margin decreased by 1pt on a comparable basis to 34%,** mainly driven by lower interest rates in Switzerland and the United States, less favorable country mix and unfavorable regulatory changes in Hong Kong. This was partly offset by lower unit costs in France and Japan, and an overall improved business mix.

**2015 Life & Savings Internal Rate of Return (IRR) increased by 3.3pts to 17.5% on a reported basis, and remained stable on a comparable basis.** The strong increase in IRR on a reported basis was mainly driven by the transition to Solvency II required capital in EEA entities. Under Solvency II, the present value of future profits is recognized as available capital, reducing significantly the required capital for profitable new business.

**2015 Group Embedded Value (Group EV) increased by Euro 4.1 billion to Euro 51.2 billion.** The Group EV is the sum of Life & Savings EEV and the IFRS Tangible Net Asset Value (TNAV) of other segments less the marked-to-market adjustment of financing debts. The improvement in Group EV was mainly driven by a strong operating return of Euro 6.2 billion in Life & Savings and Euro 2.0 billion in other segments. The end of year Group EV also included the impact of unfavorable economic and other non-operating variances (Euro -2.2 billion), the dividends paid to shareholders (Euro -2.3 billion), and the impact from the appreciation of main foreign currencies versus Euro (Euro 2.4 billion).

**2015 operating return on Group EV was 18% or Euro 8.2 billion in 2015** (19% in or Euro 8.0 billion in 2014) driven by a strong operating return on Life & Savings EEV and strong earnings in other segments.

**2015 total return on Group Embedded Value was 13% or Euro 6.0 billion** (12% or Euro 5.3 billion in 2014), reflecting strong operating return in all segments, partly offset by unfavorable economic and other non-operating variances.

**2015 Solvency II Group Free Cash Flows (FCF) were Euro 6.3 billion** (Euro 5.8 billion under Solvency I basis) with Euro 3.1 billion contribution from Life & Savings and Euro 3.2 billion contribution from other than Life & Savings segments. 2015 Solvency II Group FCF was calculated with Solvency II required capital for EEA entities and benefited from Euro 0.5 billion uplift compared to the previous Solvency I basis. This is mainly attributable to the present value of future profits generated by new business in EEA entities being more than sufficient to cover the associated solvency capital requirement. On a comparable solvency capital basis, the Group FCF increased by Euro 0.3 billion mainly driven by higher earnings.

## LIFE & SAVINGS EEV AND NEW BUSINESS INDICATORS

**2015 Life & Savings EEV increased by Euro 4,635 million to Euro 54,169 million**, mainly driven by strong operating return, the appreciation of other currencies versus Euro, the acquisition of Genworth (fully offset in other than Life & Savings segments presented in the Group Embedded Value), and the transition from Solvency I to Solvency II required capital in EEV entities; partly offset by the alignment of AXA's reference yield curves to Solvency II methodology, unfavorable economic and other non-operating variances and net dividends paid to other segments.

<b>LIFE &amp; SAVINGS EEV ANALYSIS OF CHANGE</b> <i>Euro million, Group share</i>	<b>Free Surplus</b>	<b>Required capital</b>	<b>ANAV</b>	<b>VIF</b>	<b>EEV 2015</b>	<b>EEV 2014</b>
<b>PREVIOUS CLOSING</b>	<b>7,922</b>	<b>16,352</b>	<b>24,274</b>	<b>25,261</b>	<b>49,535</b>	<b>47,873</b>
Transition to Solvency II in EEA <sup>1</sup>	1,976	(1,976)	-	479	479	-
Modeling changes & opening adjustments	1,334	(1,049)	285	(2,011)	(1,726)	(653)
<b>OPENING</b>	<b>11,232</b>	<b>13,326</b>	<b>24,559</b>	<b>23,728</b>	<b>48,287</b>	<b>47,221</b>
Expected existing business contribution	4,877	(299)	4,579	(1,845)	2,733	3,087
New business value	(1,777)	367	(1,410)	3,900	2,490	2,220
Current year operating variance	297	(898)	(602)	1,390	788	288
Change in operating assumptions	(343)	(67)	(410)	622	212	538
<b>OPERATING RETURN</b>	<b>3,055</b>	<b>(898)</b>	<b>2,157</b>	<b>4,067</b>	<b>6,224</b>	<b>6,133</b>
Economic & other non-operating variances	(1,177)	698	(479)	(1,090)	(1,569)	(3,657)
<b>TOTAL RETURN</b>	<b>1,878</b>	<b>(199)</b>	<b>1,678</b>	<b>2,977</b>	<b>4,655</b>	<b>2,475</b>
Exchange rate impact	761	794	1,555	1,278	2,833	1,830
Dividends paid/received	(2,206)	-	(2,206)	-	(2,206)	(2,190)
Capital injection	224	-	224	-	224	213
Acquisitions & others	128	247	376	-	376	(14)
<b>CLOSING</b>	<b>12,017</b>	<b>14,168</b>	<b>26,185</b>	<b>27,983</b>	<b>54,169</b>	<b>49,535</b>
<b>OPERATING RETURN ON EEV</b>					<b>13%</b>	<b>13%</b>
<b>TOTAL RETURN ON EEV</b>					<b>10%</b>	<b>5%</b>
Closing VIF					<b>27,983</b>	<b>25,261</b>
o/w CE PVFP					35,040	32,573
o/w TVoG					(5,639)	(5,321)
o/w CoC/NFR					(1,418)	(1,990)

<sup>1</sup> the opening 2015 EEV of entities in European Economic Area was calculated with required capital under Solvency II

<b>LIFE &amp; SAVINGS EEV ANALYSIS OF CHANGE</b> <i>Euro million, Group share</i>	France	United States	United Kingdom	Japan	Germany	Switzerland	Belgium	MedLA	HK	CEE	SEA, India & China	Total <sup>1</sup>
<b>PREVIOUS CLOSING</b>	<b>10,536</b>	<b>7,145</b>	<b>1,379</b>	<b>4,831</b>	<b>4,887</b>	<b>9,163</b>	<b>2,738</b>	<b>1,906</b>	<b>4,546</b>	<b>766</b>	<b>1,495</b>	<b>49,535</b>
Moving to Solvency II in EEA <sup>1</sup>	210	-	3	(8)	224	-	55	(5)	-	(0)	-	479
Modeling changes & opening adjustments	(480)	(751)	(22)	(346)	36	205	(217)	(59)	(53)	0	(39)	(1,726)
<b>OPENING</b>	<b>10,265</b>	<b>6,394</b>	<b>1,361</b>	<b>4,476</b>	<b>5,146</b>	<b>9,368</b>	<b>2,576</b>	<b>1,842</b>	<b>4,493</b>	<b>766</b>	<b>1,456</b>	<b>48,287</b>
Expected existing business contribution	513	590	54	170	175	367	274	129	300	23	139	2,733
New business value	463	423	13	434	131	124	40	203	413	26	219	2,490
Current year operating variance	31	669	(12)	141	140	(79)	(59)	(23)	53	(25)	(45)	788
Change in operating assumptions	469	(452)	(16)	(182)	183	46	53	20	65	16	12	212
<b>OPERATING RETURN</b>	<b>1,476</b>	<b>1,231</b>	<b>39</b>	<b>562</b>	<b>629</b>	<b>458</b>	<b>307</b>	<b>328</b>	<b>831</b>	<b>41</b>	<b>324</b>	<b>6,224</b>
Economic & other non-operating variances	369	(1,238)	(49)	(302)	(74)	(537)	391	107	(218)	(6)	39	(1,569)
<b>TOTAL RETURN</b>	<b>1,844</b>	<b>(8)</b>	<b>(10)</b>	<b>259</b>	<b>555</b>	<b>(80)</b>	<b>698</b>	<b>435</b>	<b>613</b>	<b>34</b>	<b>362</b>	<b>4,655</b>
Exchange rate impact	-	708	72	488	-	992	-	-	526	10	44	2,833
Dividends paid/received	(283)	(664)	(46)	(379)	(165)	(93)	(15)	(169)	(259)	(15)	(117)	(2,206)
Capital injection	-	-	72	-	(55)	-	70	109	-	(24)	52	224
Acquisitions & others	463	-	-	(32)	-	-	-	2	-	(20)	(34)	376
<b>CLOSING</b>	<b>12,289</b>	<b>6,430</b>	<b>1,448</b>	<b>4,813</b>	<b>5,483</b>	<b>10,187</b>	<b>3,329</b>	<b>2,213</b>	<b>5,373</b>	<b>751</b>	<b>1,764</b>	<b>54,169</b>
<b>OPERATING RETURN ON EEV</b>	<b>14%</b>	<b>19%</b>	<b>3%</b>	<b>13%</b>	<b>12%</b>	<b>5%</b>	<b>12%</b>	<b>18%</b>	<b>18%</b>	<b>5%</b>	<b>22%</b>	<b>13%</b>
<b>TOTAL RETURN ON EEV</b>	<b>18%</b>	<b>(0%)</b>	<b>(1%)</b>	<b>6%</b>	<b>11%</b>	<b>(1%)</b>	<b>27%</b>	<b>24%</b>	<b>14%</b>	<b>4%</b>	<b>25%</b>	<b>10%</b>
<b>CLOSING 2015 ANAV</b>	<b>5,528</b>	<b>4,496</b>	<b>366</b>	<b>3,496</b>	<b>1,242</b>	<b>5,640</b>	<b>1,519</b>	<b>1,557</b>	<b>1,170</b>	<b>191</b>	<b>891</b>	<b>26,185</b>
<b>CLOSING 2015 VIF</b>	<b>6,762</b>	<b>1,934</b>	<b>1,082</b>	<b>1,317</b>	<b>4,241</b>	<b>4,548</b>	<b>1,809</b>	<b>654</b>	<b>4,203</b>	<b>560</b>	<b>873</b>	<b>27,983</b>
o/w CE PVFP	8,884	3,235	1,093	1,603	5,366	5,123	2,142	856	5,148	590	1,000	35,040
o/w TVoG	(1,963)	(890)	-	(164)	(1,051)	(275)	(329)	(155)	(696)	(24)	(93)	(5,639)
o/w CoC/NFR	(160)	(411)	(11)	(121)	(75)	(300)	(4)	(46)	(250)	(6)	(34)	(1,418)

<sup>1</sup> including non-modelled business (more details in section "Covered Business & Valuation Date" in the Appendices)

## LIFE & SAVINGS EEV – ANALYSIS OF CHANGE

This section presents the evolution of the Life & Savings EEV by key drivers of the analysis of change.

**The transition to Solvency II required capital in EEA entities had an impact of Euro 479 million on Life & Savings EEV**, mainly driven the decrease in CoC/NFR in Germany (Euro +224 million), France (Euro +210 million) and Belgium (Euro +55 million).

**Modeling changes and opening adjustments had an impact of Euro -1,726 million in 2015**, mainly driven by:

- The replacement of liquidity premia by volatility adjustments less credit risk adjustments in the determination of reference yield curves, aligned with Solvency II methodology (Euro -2,286 million);
- Modeling refinements in Switzerland (Euro +205 million) mainly due to the modeling of annuity conversion rate in line with economic conditions, to better reflect the expected regulatory changes and the current low interest rate environment.

**The expected existing business contribution on Life & Savings EEV**, calculated based on previous year's implied discount rate (IDR), decreased from Euro 3,087 million to Euro 2,733 million. This was mainly due to a lower IDR in 2014 as compared to 2013.

**2015 Life & Savings New Business Value (NBV) increased by 12% on a reported basis, from Euro 2,220 million to Euro 2,490 billion.** The increase in NBV was mainly driven by the appreciation of main foreign currencies versus Euro, higher volumes in France, Japan, China and Indonesia; partly offset by the impact of lower interest rates in Switzerland and the United States. The detailed evolution of NBV over the year is covered in the section "Life & Savings New Business Indicator" of this report.

**Current year operating variance had an impact of Euro 788 million on Life & Savings EEV**, mainly driven by:

- **United States** (Euro +669 million) mainly reflecting the increase in insurance charges for a number of Universal Life products, the positive impact of lump sum option offering initiated in 2015 for GMIB<sup>1</sup> policyholders, the higher than expected tax settlement, and higher than expected realized capital gains and net investment margin;
- **Japan** (Euro +141 million) mainly driven by higher than expected income from equity investment;
- **Germany** (Euro +140 million) mainly driven by the positive impact of new hedging program initiated in 2015 for Accumulator business;
- **Hong Kong** (Euro +53 million) mainly driven by the re-pricing of Health products in 2015; and
- **Switzerland** (Euro -79 million) mainly reflecting higher than expected volumes on annuities;

**Changes in operating assumptions amounted to Euro 212 million**, mainly driven by:

- **France** (Euro +469 million) reflecting lower projected expenses and lower lapse assumptions in Individual Savings business;
- **Germany** (Euro +183 million) mainly reflecting lower lapse assumptions in both Life and Health businesses, and lower bonus assumption for the year 2016;
- **United States** (Euro -452 million) mainly reflecting the unfavorable update of lapse assumptions in GMxB<sup>2</sup> and Universal Life businesses, partly offset by lower assumptions of GMIB<sup>3</sup> election; and
- **Japan** (Euro -182 million) mainly reflecting higher surgery rate in Health business, and unfavorable update of lapse and annuitization assumptions in Life business;

**Operating return on Life & Savings European Embedded Value was 13% or Euro 6.224 million in 2015** (13% or Euro 6,133 million in 2014) driven by a strong expected contribution of existing business, new business value growth, favorable current year operating experience and operating assumption update.

**Economic and other non-operating variances had an impact of Euro -1,569 million on Life & Savings EEV.** The negative impact was mainly due to lower than expected interest rates in Switzerland and the United States.

**Total marked-to-market investment return on the 2015 Life & Savings EEV was Euro 1,090 million,** reflecting the sum of expected existing business contribution (Euro 2,733 million), the operating investment variance (Euro -74 million), the economic and other non-operating variances (Euro -1,569 million). This was mainly driven by:

- Euro 2.1 billion due to the unwind of interest rates, the release of time value of options and guarantees, and the excess return of fixed income assets (net of defaults) over risk free rate;
- Euro 0.8 billion impact from the performance of equity, real estate and alternative assets over risk free rate, mainly reflecting higher equity market in 2015;
- Euro -1.3 billion impact from the decrease in swap rates mainly in Switzerland, the United States and Japan;
- Euro -0.4 billion impact from overall widening corporate spreads, higher sovereign spread in the United States, mostly offset by an increase in volatility adjustments; and
- Euro -0.2 billion impact from higher equity volatilities.

**Total return on Life & Savings European Embedded Value was 10% or Euro 4,655 million in 2015** (5% or Euro 2,475 million in 2014) driven by a strong operating return, partly offset by unfavorable economic and other non-operating variances.

**The end of year EEV also included:**

- Euro 2,833 million impact from the appreciation of the main foreign currencies versus Euro;

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<sup>1 2 3</sup> *the total impact of current year operating variance and change in operating assumptions on the EEV of the GMxB business in the United States amounted to Euro -75 million in 2015.*

- Euro -2,206 million of dividend payments (net of received dividends) from Life & Savings entities to other segments of the Group;
- Euro 224 million of capital injection mainly in Mediterranean and Latin American Region (Euro +109 million) and Belgium (Euro +70 million);
- Euro 376 million mainly from the acquisition of Genworth (Euro +463 million) fully offset by the consideration paid presented in other than Life & Savings segments in the Group Embedded Value.

**2015 Life & Savings EEV amounted to Euro 54,169 million**, and was composed of Euro 26,185 million of ANAV and Euro 27,983 million of VIF. The evolution of Life & Savings EEV's components is commented on in detail in the next section.

## LIFE & SAVINGS EEV – ANALYSIS OF CHANGE BY COMPONENT

This section presents the evolution of the Life & Savings EEV by its components: required capital, free surplus, ANAV and VIF. The evolution of ANAV is mechanically derived from the evolution in required capital and free surplus.

### The transition to Solvency II required capital in EEA entities had an impact of Euro 479 million on Life & Savings EEV:

- **Required capital** decreased by Euro 1,976 million reflecting overall lower capital requirement under Solvency II than under Solvency I in EEA entities. The solvency capital requirement (SCR) under Solvency I was calculated using a factor based approach whereas the Solvency II SCR is based on a consideration of comprehensive sets of risks. In addition, Solvency II recognizes the present value of value of future profits as available capital. As a result, a change in present value of future profits due to new business sales, approved updates in technical assumptions or in modeling, or changes in market conditions can impact the required capital under Solvency II. The changes in required capital by main EEA entities due to the transition from Solvency I to Solvency II are in France (Euro -2,157 million), Germany (Euro -1,279 million), Belgium (Euro +687 million), Mediterranean & Latin American Region (Euro +488 million), and AXA Life Invest Reinsurance (Euro +365 million).
- **Free surplus** increased by Euro 1,976 million as a result of the change in required capital.
- **ANAV** was not impacted.
- **VIF** increased by Euro 479 million due to lower CoC/NFR following the decrease in required capital in EEA entities.

### Modeling changes and opening adjustments had an impact of Euro -1,726 million on Life & Savings EEV:

- **Required capital** decreased by Euro 1,049 million, mainly driven by model enhancements in Switzerland. These model enhancements mainly included the cash flow matching strategy for future annuities to better reflect the current risk management strategy of AXA Switzerland, the modeling of annuity conversion rate to better reflect the expected regulatory changes and the current low interest rate environment, and the modeling refinement of solvency management rules.
- **Free surplus** increased by Euro 1,334 million mainly driven by the decrease in required capital (Euro 1,049 million) and by Hong Kong (Euro 250 million) mainly reflecting the consideration received from the disposal of Mandatory Provident Fund (MPF) and Occupational Retirement Schemes Ordinance (ORSO) business.
- **ANAV** increased by Euro 285 million.
- **VIF** decreased by Euro 2,011 million, mainly driven by:
  - the replacement of liquidity premia by volatility adjustments less credit risk adjustments in the determination of reference yield curves, aligned with Solvency II methodology (Euro -2,286 million).
  - the sale of MPF and ORSO business in Hong Kong (Euro -235 million); partly offset by

- model refinements in Switzerland mainly due to the modeling of annuity conversion rate to better reflect the expected regulatory changes and the current low interest rate environment (Euro +253 million).

**Expected existing business contribution on Life & Savings EEV was Euro 2,733 million.** This was estimated based on management's expectations for future economic conditions as of previous closing.

- **Required capital** was expected to decrease by Euro 299 million. This was calculated consistently with the transition to Solvency II required capital in EEA entities. Compared to 2014 expected release in required capital (Euro 602 million) based on Solvency I basis, the expected release in required capital in 2015 decreased by Euro 303 million, mainly driven by EEA entities (Euro -247 million) reflecting the negative impact of lower expected interest rates on Solvency II required capital, and Switzerland (Euro -91 million) reflecting the impact of lower expected interest rates.
- **Free surplus** was expected to increase by Euro 4,877 million reflecting the expected release in required capital and the expected statutory earnings. This increase in free surplus reflects the recurring cash flow generation capacity of the existing business.
- **ANAV** increased by Euro 4,579.
- **VIF** decreased by Euro 1,845 million mainly driven by the statutory earnings release, partly offset by the unwind of implied discount rate.

**New business contribution (NBV) was Euro 2,490 million on Life & Savings EEV.** As compared to 2014, 2015 NBV increased by 12% or Euro 270 million on a reported basis, mainly driven by the appreciation of main foreign currencies versus Euro, higher volumes and the related lower unit costs in France, Japan, China and Indonesia; partly offset by the impact of lower interest rates in Switzerland and the United States. The detailed evolution of NBV over the year is covered in the section "Life & Savings new business indicator" of this report. The contribution of new business to Life & Savings EEV is split as follows:

- **Required capital** increased by Euro 367 million, reflecting the locked-in required capital for new business underwritten during the year 2015. Despite the depreciation of Euro, 2015 new business required capital was Euro 381 million lower as compared to Euro 748 million in 2014, driven by following evolutions:
  - EEA entities' new business required capital decreased by Euro 414 million, reflecting the transition to Solvency II required capital in 2015. Under Solvency II, the present value of future profits is recognized as available capital, reducing significantly the required capital for profitable new business.
  - The new business required capital of South-East Asia, India & China and of Japan increased respectively by Euro 22 million and Euro 12 million to support volume growth.
- **Free surplus** decreased by Euro 1,777 million, representing the total investment in Life & Savings new business in 2015, including Euro 367 million in required capital and Euro 1,410 in new business strain. New business strain corresponds to the acquisition expenses of new business net of its investment margin and technical margin in the first year. 2015 new business strain increased by Euro 194 million compared to Euro 1,216 million in 2014. In addition to the depreciation of Euro, this increase was mainly driven by volume growth in France, Japan,

South-East Asia & China; the United Kingdom; and higher strain in the United States. This was partly offset by change in product mix in Hong Kong; and the introduction of new Unit-Linked products with upfront loadings in Central & Eastern Europe.

- **ANAV** decreased by Euro 1,410 million.
- **VIF** increased by Euro 3,900 million, reflecting the present value of future profits from the business underwritten during the year, after allowance for TVOG and CoC/NFR. This was 12% or Euro 465 million higher as compared to 2014, in line with the evolution of the NBV.

**Impact of current year operating variance was Euro 788 million on Life & Savings EEV.** The current year operating variance corresponds to the difference between the actual experience, and the expected evolution included in the *expected existing business contribution*. The actual experience reflects technical experiences such as lapse, mortality, expenses, policyholders' behaviors; and investment experiences including realized investment income, and realized gains or losses. By component of Life & Savings EEV, the impact of current year operating variance was as follows:

- **Required capital** decreased by Euro 898 million mainly in Europe. This was driven by an increase in the present value of future profits (details below), recognized by both Solvency II and Swiss Solvency Test frameworks as soft capital. The decrease in required capital was mainly in Belgium (Euro -452 million), Germany (Euro -238 million), Switzerland (Euro -188 million) and France (Euro -98 million),
- **Free surplus** increased by Euro 297 million, mainly due to:
  - **Germany** (Euro +213 million) mainly reflecting the decrease in required capital.
  - **United States** (Euro +174 million) mainly driven by higher than expected tax settlement, higher than expected realized capital gains and net investment margin, and the positive impact of the lump sum option offering initiated in 2015 for GMIB policyholders with low account value.
  - **South-East Asia, India and China:** (Euro -52 million) mainly reflecting lower than expected realized investment return in equity and expense overruns.
- **ANAV** decreased by Euro 602 million.
- **VIF** increased by Euro 1,390 driven by:
  - **United States** (Euro +471 million) mainly reflecting the increase in insurance charges for a number of Universal Life products, and the positive impact of the lump sum option offering for GMIB policyholders with low account value.
  - **Belgium** (Euro +427 million) reflecting the offsetting impact to the strengthening of low interest rate statutory reserve.
  - **Germany** (Euro +165 million) mainly driven by the positive impact of new hedging program initiated in 2015 for Accumulator business;
  - **Switzerland** (Euro +148 million) mainly reflecting the offsetting impact to the strengthening of statutory reserves following lower technical interest rates; partly offset by higher than expected volumes on annuities;
  - **France** (Euro +104 million) mainly due to lower than expected lapses and mortality, higher than expected premiums in Protection business and an increase in transfer from

General Account to Unit-Linked in Individual Savings, partly offset by a change in strategic asset allocation.

**Impact of change in operating assumptions on Life & Savings EEV was Euro 212 million:**

- **Required capital** slightly decreased by Euro 67 million;
- **Free surplus** decreased by Euro 343 million mainly reflecting unfavorable update of lapse and other policyholders' behavior assumptions in GMxB business in the United States.
- **ANAV** decreased by Euro 410 million.
- **VIF** increased by Euro 622 million mainly driven by:
  - **France** (Euro +469 million) with lower projected expenses, lower lapse in Individual Savings business;
  - **Germany** (Euro +183 million) reflecting lower lapses in both Life and Health businesses, and lower bonus assumptions for the year 2016;
  - **Hong Kong** (Euro +65 million) mainly driven by update of assumptions to reflect lower lapse experience in Protection & Health business, and lower mortality in National Life business;
  - **Belgium** (Euro +53 million) mainly due to lower projected expenses in Individual Savings business and lower general expense assumptions, partly offset by update to higher mortality assumption in Individual Savings business;
  - **Switzerland** (Euro +46 million) mainly due to a decrease in investment expense assumption;
  - **Japan** (Euro -182 million) mainly reflecting higher surgery rate in Health business, unfavorable assumption update of lapse and annuitization in Life business.
  - **United States** (Euro -42 million) mainly driven by higher lapse assumptions in Universal Life business, partly offset by lower GMIB election rate assumptions.

**Operating return on Life & Savings European Embedded Value was 13% or Euro 6,224 million in 2015** (13% or Euro 6.133 million in 2014) driven by a strong expected contribution of existing business, new business value growth, favorable current year operating experience and operating assumption update.

**Impact of economic and other non-operating variance on Life & Savings European Embedded Value was Euro -1,569 million:**

- **Required capital** increased by Euro 698 million mainly driven by:
  - **Switzerland** (Euro +1,580 million) as a result of deteriorated economic conditions which increased solvency capital requirement and reduced soft available capital under the Swiss Solvency Test framework; partly offset by
  - **Belgium** (Euro -741 million) following both the decrease in solvency capital requirement and the increase in VIF (recognized as available capital) following narrowing Belgium government bonds' spreads.
- **Free surplus** decreased by Euro 1,177 million as a result of the increase in required capital, and the decrease in fair value of shareholders' asset mainly due to credit spread widening,

partly offset by a decrease in statutory reserve in the United States following non-operating adjustments.

- **ANAV** decreased by Euro 479 million.
- **VIF** decreased by Euro 1,090 million mainly driven by:
  - **United States** (Euro -1,332 million) mainly driven by less favorable than expected economic variance (Euro -838 million) lower than expected interest rate, widening corporate and sovereign spreads, mostly offset by an increase in volatility adjustments; and the offsetting impact to non-operating adjustments of statutory reserves (Euro -494 million);
  - **Switzerland** (Euro -462 million) mainly driven by lower than expected interest rates, partly offset by higher than expected value of real estate, and equity investments.
  - **Belgium** (Euro +428 million) mainly due to a decrease in Belgian government bonds spread; and
  - **France** (Euro +416 million) mainly driven by higher than expected interest rates and lower than expected volatilities.

**Total return on Life & Savings European Embedded Value was 10% or Euro 4,655 million in 2015** (5% or Euro 2,475 million in 2014) driven by a strong operating return, partly offset by unfavorable economic and other non-operating variances.

**The end of year EEV also a Euro 1,227 million impact of exchange rate, net dividend paid, capital flows and acquisitions:**

- **Required capital** increased by Euro 1,041 million driven by the appreciation of main foreign currencies versus Euro (Euro +794 million), and the reimbursement of a surplus note recognized as soft capital in the United State (Euro +189 million).
- **Free surplus** decreased by Euro 1,093 million mainly driven by the increase in required capital and the dividends paid to other than Life & Savings segments, partly offset by the appreciation of main foreign currencies versus Euro and the acquisition of Genworth.
- **ANAV** decreased by Euro 51 million.
- **VIF** increased by Euro 1,278 million due to the appreciation of main foreign currencies versus Euro.

**2015 closing VIF increased by Euro 2,722 million to Euro 27,983 million with the evolution by components as follows:**

- **CE PVFP** increased by Euro 2,466 million to Euro 35,040 million, in line with the evolution of the VIF during the year.
- **TVOG** increased by Euro 318 million to Euro 5,639 million mainly driven by France following a change in dynamic lapse modeling and a change in asset allocation, partly offset by Switzerland following the new modeling of annuity conversion rate in line with expected regulatory changes and with economic conditions.
- **CoC/NFR** increased by Euro 572 million from Euro -1,990 million to Euro -1,418 million mainly driven by the transition to Solvency II required capital in EEA entities.

## LIFE & SAVINGS NEW BUSINESS INDICATORS

The following table presents the key Life & Savings new business indicators and the evolution of the new business value over the indicated periods.

NEW BUSINESS METRICS <i>Euro million, Group share</i>	2014	2015	Change <sup>1</sup>	LIFE & SAVINGS NBV ANALYSIS OF CHANGE <i>Euro million, Group share</i>	Total
Regular premiums	3,378	3,612	0%	<b>2014 LIFE &amp; SAVINGS NBV</b>	<b>2,220</b>
Single premiums	30,991	37,639	11%	Transition to Solvency II in EEA entities	35
<b>APE</b>	<b>6,477</b>	<b>7,376</b>	<b>5%</b>	Foreign exchange impact	199
<b>PVEP</b>	<b>65,935</b>	<b>74,752</b>	<b>5%</b>	Modeling changes & other adjustments	(3)
<b>NBV</b>	<b>2,220</b>	<b>2,490</b>	<b>2%</b>	Business-driven evolution:	36
<i>o/w CE PVFP less strain</i>	<i>2,616</i>	<i>2,956</i>	<i>3%</i>	<i>o/w Volume</i>	<i>44</i>
<i>o/w Time Value of O&amp;G</i>	<i>(309)</i>	<i>(410)</i>	<i>16%</i>	<i>o/w Business mix</i>	<i>38</i>
<i>o/w CoC/NFR</i>	<i>(86)</i>	<i>(55)</i>	<i>-7%</i>	<i>o/w Expenses</i>	<i>29</i>
<b>NBV/APE</b>	<b>34.3%</b>	<b>33.8%</b>	<b>(1.0pt)</b>	<i>o/w Investment assumptions</i>	<i>(122)</i>
<b>NBV/PVEP</b>	<b>3.4%</b>	<b>3.3%</b>	<b>(0.1pt)</b>	<i>o/w Actuarial assumptions &amp; others</i>	<i>49</i>
<b>NEW BUSINESS IRR</b>	<b>14.2%</b>	<b>17.5%</b>	<b>0.0pt</b>	<b>2015 LIFE &amp; SAVINGS NBV</b>	<b>2,490</b>

<sup>1</sup> comparable basis: constant methodology & scope for IRR, and constant Forex, scope & methodology for other indicators

**2015 Life & Savings new business APE** increased by 14% on a reported basis and 5% on a comparable basis. This was mainly driven by France with a significant increase in sales in Group Protection business, the commercial success of hybrid products and of new structured funds offer in Individual Savings; Japan mainly reflecting strong sales of Unit-Linked Protection products, and the successful launch of new Single Premium Saving product in second half of 2015, continued strong sales in South-East Asia, India and China; and the United Kingdom with high sales of Corporate Pension Investment business. This was partly offset by Hong Kong as a result of unfavorable regulation changes and Switzerland following the continued repositioning in Group Life product mix. The evolution of APE by country is commented on in detail in the 2015 Activity Report.

**2015 Life & Savings single premiums** increased by 21% on a reported basis and 11% on a comparable basis. This was mainly driven by France with the commercial success of hybrid products in Individual Savings; Japan with a successful launch of a Single Premium Saving product; China with growing volumes in Protection & Health business; and the United Kingdom with high sales of Corporate Pension Investment business.

**2015 Life & Savings regular premiums** increased by 7% on a reported basis and were stable on a comparable basis.

**2015 Life & Savings present value of expected premiums (PVEP)** increased by 13% on a reported basis and 5% on a comparable basis, in line with APE evolution.

<b>LIFE &amp; SAVINGS NBV ANALYSIS OF CHANGE</b> <i>Euro million, Group share</i>	France	United States	United Kingdom	Japan	Germany	Switzerland	Belgium	MedLA	Hong Kong	CEE	SEA, India & China	Total <sup>1</sup>	
<b>2014 LIFE &amp; SAVINGS NBV</b>	392	378	32	369	115	172	25	182	352	26	176	2,220	
Transition to Solvency II in EEA entities	24	-	0	-	7	-	1	4	-	0	-	35	
Foreign exchange impact	-	72	3	14	-	22	-	(0)	67	0	21	199	
Modeling changes & other adjustments	(3)	9	(4)	(8)	3	3	1	10	(4)	(0)	(9)	(3)	
Business-driven evolution:	50	(35)	(18)	59	6	(73)	13	4	(2)	0	30	36	
<i>o/w Volume</i>	45	6	8	42	(0)	(31)	(6)	4	(59)	(2)	36	44	
<i>o/w Business mix</i>	(35)	(9)	(14)	9	23	(8)	16	7	36	1	11	38	
<i>o/w Expenses</i>	41	(17)	(3)	9	(5)	6	1	(25)	28	3	(8)	29	
<i>o/w Investment assumptions</i>	1	(24)	(7)	(7)	(17)	(48)	(1)	6	(0)	(0)	(25)	(122)	
<i>o/w Actuarial assumptions &amp; others</i>	(2)	9	(2)	7	5	8	3	12	(7)	(1)	16	49	
<b>2015 LIFE &amp; SAVINGS NBV</b>	463	423	13	434	131	124	40	203	413	26	219	2,490	
<i>o/w CE PVFP less strain</i>	544	488	14	435	202	175	51	223	558	26	237	2,956	
<i>o/w TVoG</i>	(81)	(49)	-	-	(66)	(45)	(9)	(17)	(135)	(0)	(8)	(410)	
<i>o/w CoC/NFR</i>	(0)	(15)	(1)	(2)	(5)	(6)	(2)	(4)	(10)	(0)	(10)	(55)	
<b>LIFE &amp; SAVINGS APE</b> <i>Euro million, Group share</i>	2015	1,767	1,656	935	418	373	313	100	560	525	78	646	7,376
	2014	1,584	1,355	704	361	373	329	125	570	515	82	466	6,477
	Change <sup>2</sup>	12%	3%	20%	12%	0%	-16%	-20%	-2%	-12%	-6%	21%	5%
<b>LIFE &amp; SAVINGS NBV MARGIN</b>	2015	26.2%	25.6%	1.4%	103.6%	35.1%	39.6%	39.8%	36.3%	78.5%	33.5%	33.8%	33.8%
	2014	24.7%	27.9%	4.5%	102.2%	30.8%	52.3%	19.9%	32.0%	68.3%	31.8%	37.7%	34.3%
	Change <sup>3</sup>	0.1pts	(2.3pts)	(3.1pts)	1.4pts	1.6pts	(12.8pts)	19.9pts	1.7pts	9.0pts	1.6pts	(1.6pts)	(1.0pts)
<b>LIFE &amp; SAVINGS IRR</b>	2015	18.4%	17.3%	4.7%	12.9%	20.0%	14.5%	19.1%	33.2%	22.8%	15.7%	34.3%	17.5%
	2014	9.7%	24.2%	6.3%	11.9%	10.5%	11.8%	12.9%	16.7%	17.0%	10.6%	48.0%	14.2%
	Change <sup>4</sup>	0.8pts	(6.9pts)	(1.6pts)	0.9pts	2.0pts	0.9pts	(0.5pts)	(0.7pts)	5.8pts	1.6pts	(13.7pts)	0.0pts

<sup>1</sup> including Family Protect; <sup>2,3</sup> constant Forex, scope & methodology; <sup>4</sup> constant scope and methodology

**2015 Life & Savings NBV** increased by 12% on a reported basis and by 2% on a comparable basis..

**Business-driven evolution** had an impact of Euro 38 million on the NBV:

- **Volume growth** had an impact of Euro 44 million on NBV, mainly driven by:
  - **France** (Euro +45 million) reflecting a significant increase in sales in Group Protection business, the commercial success of hybrid products and of a new structured funds offer;
  - **Japan** (Euro +42 million) mainly reflecting strong sales of Unit-Linked Protection products and successful launch of new Single Premium Saving product in second half of 2015;
  - **South-East Asia, India & China** (Euro +36 million) mainly driven by strong sales of General Account Protection & Health products in China, and higher volumes of Unit-Linked in Indonesia and Singapore;
  - **Hong Kong** (Euro -59 million) following unfavorable regulation changes impacting mainly Unit-Linked investment products; and
  - **Switzerland** (Euro -31 million) mainly due the repositioning in Group Life product mix.
- **Business mix improvement** increased the Life & Savings NBV by Euro 38 million, mainly driven by:
  - **Hong Kong** (Euro +36 million) as a result of a higher volume share of Protection & Health products with a higher than average profitability, and a lower volume share of Unit-Linked with lower than average profitability.
  - **Germany** (Euro +23 million) reflecting sale increase in hybrid savings and Life products, and lower volumes in General Account Savings business;
  - **Belgium** (Euro +16 million) reflecting a higher volume share of General Account Protection & Health and Unit-Linked products;  
**South-East Asia, India & China** (Euro +11 million) mainly reflecting a focus on profitable products in Thailand;
  - **Japan** (+9 million) mainly reflecting higher sales of Cancer Therapy, and Unit-Linked Protection products.
  - **Mediterranean and Latin American Region** (Euro +7 million) reflecting a shift from Pure General Account Savings to Pure Unit-Linked business at MPS; partly offset by
  - **France** (Euro -35 million) reflecting an higher volume in International Health business lower than average profitability, partly offset by increase of Unit-Linked contribution in savings products;
  - **United Kingdom** (Euro -14 million) reflecting large sales of Corporate Pension Investment business;
  - **United States** (Euro -9 million) reflecting a lower contribution of Retirement Cornerstone products; and
  - **Switzerland** (Euro -8 million) mainly driven by an increase in additional premium contribution from existing policies with lower profitability than products of current new business.
- **Expenses' reduction** had an impact of Euro 29 million Life & Savings NBV, mainly driven by:

- **France** (Euro +41 million) mainly due to volume growth and a decrease in general expenses;
  - **Hong Kong** (Euro +28 million) mainly driven by lower volumes in Unit-Linked with higher acquisition expenses than other products;
  - **Japan** (Euro +9 million) following the increase in volume; partly offset by
  - **Mediterranean and Latin American Region** (Euro -25 million) following higher commission at MPS, and an increase in projected expenses allocated to new business in Spain to reflect the increasing focus on new business development; and
  - **United States** (Euro -17 million) mainly due to higher unit costs as a result of a change in product mix.
- **Investment assumptions' unfavorable update** had an impact of Euro -120 million on Life & Savings NBV:
    - **Switzerland** (Euro -48 million) following the sharp decrease in interest rates in 2015;
    - **South-East Asia, India & China** (Euro -25 million) reflecting the decrease in interest rates in China and Thailand;
    - **United States** (Euro -24 million) mainly reflecting lower average interest rates during the year compared to 2014; and
    - **Germany** (Euro -17 million) mainly reflecting the negative impact of credit spread widening, and the negative impact of the interest rate increase on premiums' indexation and through discounting.
  - **Actuarial assumptions & other update** had an impact of Euro 47 million on Life & Savings NBV:
    - **Mediterranean and Latin American Region** (Euro 12 million) mainly reflecting lower mortality at MPS;
    - **United States** (Euro 9 million) mainly driven by lower projected guarantees for General Account products and an increase in Separate Accounts fees;
    - **Switzerland** (Euro 8 million) with an update of guarantees duration for some Group Life products; and
    - **Japan** (Euro 7 million) mainly due to the decrease in corporate tax rate.

**2015 Life & Savings NBV** was also impacted by non-business elements:

- **Transition to Solvency II required capital for EEA entities** had an impact of Euro 35 million, mainly in France (Euro 24 million), and in Germany (Euro 7 million), following the decrease in CoC/NFR. Under Solvency II, the present value of future statutory profits is recognized as available capital, reducing significantly the required capital and hence CoC/NFR for profitable new business.
- **Foreign exchange impact** was Euro 199 million, reflecting the appreciation of main foreign currencies versus Euro. The impact was mainly in the United States (Euro 72 million); Hong Kong (Euro 67 million); Switzerland (Euro 22 million); South-East Asia, India & China (Euro 21 million) and Japan (Euro 14 million).

**Life & Savings NBV margin** decreased by 1pt to 33.8%, as a result of the evolution of NBV and APE. In addition to the key drivers in the NBV analysis of change, the NBV margin was impacted by a less favorable country mix mainly reflecting higher volume contribution from the United Kingdom with high sales of Corporate Pension Investment business and lower volume contribution from Hong Kong following the unfavorable regulation changes in Unit-Linked business.

**Life & Savings Internal Rate of Return** increased by 3.3 pts on a reported basis, largely driven by the transition to Solvency II required capital in EEA entities. Under Solvency II, the present value of future statutory profits is recognized as available capital, reducing significantly the required capital for profitable new business.

**Life & Savings Internal Rate of Return (IRR)** remained stable on a comparable required capital methodology basis, mainly driven by:

- **France** (+0.8pt) mainly driven by lower unit costs;
- **Japan** (+0.9pt) mainly driven by improved business mix and lower unit costs;
- **Germany** (+2.0pts) mainly due to growing hybrid products' volume;
- **Switzerland** (+0.9pt) mainly due to lower required capital as a result of the continued repositioning in Group Life product mix. On a reported basis, the IRR of Switzerland benefited from +1.8pts impact of the modeling of annuity conversion rate to better reflect the expected regulatory changes and the current low interest rate environment;
- **Hong Kong** (+5.8pts) mainly driven by lower volume in Unit-Linked (higher new business strain than other products), and by a focus on Protection & Health products;
- **CEE** (+1.6pts) mainly reflecting improved business mix driven by new products with low strain, and a decrease in expenses.
- **United States** (-6.9pts) mainly driven by higher strain and by lower contribution from Retirement Cornerstone;
- **United Kingdom** (-1.6pts) mainly reflecting high sales of Corporate Pension Investment business.
- **South-East Asia, India and China** (-13.7pts) mainly driven by high growth of China with higher single premium contribution to new business than other regional entities.

## LIFE & SAVINGS EEV AND NBV SENSITIVITIES

The following table presents the sensitivities to various financial and technical shocks of the Life & Savings EEV by main regions of AXA.

LIFE & SAVINGS EEV & NBV SENSITIVITIES	2015 EEV in Euro million	2015 EEV in percentage	2015 NBV in Euro million	2015 NBV in percentage
<b>CLOSING AMOUNT</b>	<b>54,169</b>	<b>100%</b>	<b>2,490</b>	<b>100%</b>
Interest rates +100bps	1,776	+3%	67	+3%
Interest rates -100bps	(4,554)	-8%	(249)	-10%
Equity markets +10%	1,842	+3%	112	+5%
Equity markets -10%	(1,895)	-3%	(107)	-4%
Real estate +10%	727	+1%	12	+0%
Real estate -10%	(726)	-1%	(13)	-1%
Policyholder lapse -10%	970	+2%	159	+6%
Expenses -10%	1,843	+3%	146	+6%
Annuity business mortality -5%	(488)	-1%	(9)	-0%
Life business mortality -5%	1,043	+2%	46	+2%
Equity volatility +25%	(680)	-1%	(38)	-2%
Interest rate volatility +25%	(2,041)	-4%	(158)	-6%
Credit spreads +50bps <sup>1</sup>	(1,945)	-4%	(38)	-2%
Credit spreads -50bps <sup>1</sup>	1,967	+4%	44	+2%
Volatility adjustment = 0bps	(5,147)	-9%	(122)	-5%
Volatility adjustment +10bps	1,323	+2%	32	+1%

<sup>1</sup> Assuming volatility adjustment remains constant

**Life & Savings EEV & NBV sensitivities** remained stable with 2014 sensitivities.

EEV was positively sensitive to the increase in interest rates as investment margin improves when policyholders' financial guarantees are less in the money. This gross positive sensitivity is partly offset by profit sharing and dynamic lapse mechanisms, thereby causing asymmetry with regards to the sensitivity to the decrease in interest rates.

## RISK NEUTRAL PROFILE AND IMPLIED DISCOUNT RATE

VIF PROFILE	2015		2014	
	<i>in Euro million</i>	<i>in percentage</i>	<i>in Euro million</i>	<i>in percentage</i>
1 to 5 years	11,811	42%	11,034	44%
6 to 10 years	5,173	18%	4,190	17%
11 to 15 years	3,184	11%	3,682	15%
16 to 20 years	1,630	6%	1,500	6%
more than 20 years	6,184	22%	4,855	19%
<b>TOTAL</b>	<b>27,983</b>	<b>100%</b>	<b>25,261</b>	<b>100%</b>

The table above shows how the modeled discounted risk-neutral cash flows to be generated by the end of year existing business are expected to emerge into free surplus over future years. To show the profile of the VIF emergence, the VIF has been split into five maturity ranges representing time span in which profits are expected to flow.

The VIF risk-neutral maturity profile presented above shows that 42% of the VIF should emerge in the first five years and 60% during the first ten years.

Note that such projections do not represent a view of future free cash flows available for distribution to shareholders which would be based on the free cash flows under management expectation for future economic conditions (or real world free cash flows) rather than risk-neutral cash flows.

The gap between the real world free cash flows and risk-neutral valuation is reflected by the difference between reference rate and implied discount rate (IDR). The reference rate reflects the average yield used for the certainty equivalent valuation, estimated over the whole projection. The implied rate is the discount rate on which the present value of real world free cash flows equal VIF plus required capital.

Compared to 2014, the reference rate slightly increased by 0.2pt, and the IDR increased by 0.9pt mainly reflecting the impact of the transition to Solvency II required capital, overall higher reference rate and credit spread widening:

- **The transition to Solvency II required capital in EEA** resulted in an overall decrease in required capital. This contributed to an increase in IDR, as the proportion of the VIF relative to required capital increased.
- **Credit spread widening** decreased the market value of assets, causing the VIF to decrease. Under the real world cash flows projection, higher spreads imply higher re-investment yields and usually had a positive impact on future profits. Therefore, credit spread widening increases the gap between the risk neutral and real world projections which results in higher IDR.

IMPLIED DISCOUNT RATE (IDR)	2015 IDR	2015 Reference rate	2014 IDR	2014 Reference rate
France	7.3%	2.0%	5.7%	1.6%
United States	16.8%	3.0%	14.3%	2.5%
United Kingdom	5.4%	2.9%	4.8%	2.2%
Japan	7.5%	0.4%	5.8%	0.4%
Germany	4.9%	2.1%	3.7%	2.0%
Switzerland	3.9%	1.7%	3.9%	1.7%
Belgium	9.5%	1.8%	9.7%	1.2%
MedLA	8.3%	2.5%	9.5%	3.2%
Hong Kong	6.5%	2.9%	6.5%	2.8%
CEE	4.9%	2.3%	4.4%	2.0%
<b>TOTAL</b>	<b>7.5%</b>	<b>2.1%</b>	<b>6.6%</b>	<b>1.9%</b>

By country the evolution of IDR is as follow:

- **France** (+1.6pts), **Germany** (+1.2pt), **United Kingdom** (+0.6pts), and **Central & Eastern Europe** (+0.5pts) mainly driven by an increase proportion of the VIF relative to required capital following the transition to Solvency II required capital, overall higher reference rate and credit spread widening;
- **United States** (+2.5. pts) mainly driven by credit spread widening;
- **Japan** (+1.7pts) mainly reflecting the decrease in interest rates in 2015, causing the financial guarantees to be more in the money;
- **Mediterranean and Latin American Region** (-1.2pt) mainly driven by the lower average reference rate following a change in country mix;
- **Switzerland** and **Hong Kong** remained stable.

## GROUP EMBEDDED VALUE

### GROUP EV ANALYSIS OF CHANGE

The following table presents the evolution of the Group embedded value over the indicated period.

<b>GROUP EMBEDDED VALUE ROLLFORWARD</b> <i>Euro billion, Group share</i>	<b>Life &amp; Savings</b>	<b>Other Segments</b>	<b>Group 2015</b>	<b>Group 2014</b>
<b>PREVIOUS CLOSING</b>	<b>49.5</b>	<b>(2.4)</b>	<b>47.2</b>	<b>43.0</b>
Transition to Solvency II in EEA <sup>1</sup>	0.5	-	0.5	-
Modeling changes & opening adjustments	(1.7)	-	(1.7)	(0.7)
<b>OPENING</b>	<b>48.3</b>	<b>(2.4)</b>	<b>45.9</b>	<b>42.4</b>
<b>OPERATING RETURN</b>	<b>6.2</b>	<b>2.0</b>	<b>8.2</b>	<b>8.0</b>
Economic & other non-operating variances	(1.6)	(0.6)	(2.2)	(2.7)
<b>TOTAL RETURN</b>	<b>4.7</b>	<b>1.4</b>	<b>6.0</b>	<b>5.3</b>
Exchange rate impact	2.8	(0.4)	2.4	1.5
Dividend paid by the Group	-	(2.3)	(2.3)	(2.0)
Internal dividends	(2.2)	2.2	-	-
Capital flows	0.2	(0.2)	-	-
Change in shares issued & treasury shares	-	(0.5)	(0.5)	0.4
Acquisitions & others	0.4	(0.7)	(0.3)	(0.4)
<b>CLOSING</b>	<b>54.2</b>	<b>(2.9)</b>	<b>51.2</b>	<b>47.2</b>
<b>OPERATING RETURN ON GROUP EV</b>	<b>13%</b>		<b>18%</b>	<b>19%</b>
<b>TOTAL RETURN ON GROUP EV</b>	<b>10%</b>		<b>13%</b>	<b>12%</b>

Life & Savings is only one of the business segments of the AXA Group, which also has Property & Casualty insurance, International Insurance, Asset Management, Bank and Holdings segments. AXA's Group Embedded Value (Group EV) is calculated as the sum of the Life & Savings European Embedded Value for the Life & Savings segment, and the IFRS TNAV of other segments with a marked-to-market adjustment for financing liabilities. Group EV is an estimation of the value of the current business of AXA Group, without taking into account the value of future new business.

**2015 Group embedded value (EV) increased by Euro 4.1 billion to Euro 51.2 billion**, driven by a strong operating return in all segments partly offset by unfavorable economic variance.

**2015 operating return on Group EV was 18% or Euro 8.2 billion**, with Euro 6.2 billion from Life & Savings and Euro 2.0 billion from other segments. The 2015 operating return of other than Life & Savings segments mainly consisted of their IFRS underlying earnings (Euro 2.1 billion), net realized capital gains (Euro 0.3 billion), partly offset by interest rate payment on undated subordinated debts (Euro -0.3 billion), and restructuring costs (Euro -0.1 billion).

**Economic and non-operating variance** amounted to Euro -2.2 billion with Euro -1.6 billion from Life & Savings and Euro -0.6 billion from other segments mainly reflecting the decrease in fair value of assets recorded in IFRS other comprehensive income due to credit spread widening, partly offset by higher unrealized capital gains not included in IFRS shareholders equity following an expected sale of a building in the United States.

**2015 total return on Group EV was 13% or Euro 6.0 billion** (12% or Euro 5.3 billion in 2014) mainly driven by a strong operating return in all segments partly offset by unfavorable economic and other non-operating variances.

**2015 end of year Group embedded value also included:**

- Euro 2.4 billion impact from the appreciation of the main foreign currencies versus Euro, partly offset by lower value of foreign exchange hedging assets at holdings.
- Euro -2.3 billion of dividends paid to shareholders in May, 2015.
- Euro -0.5 billion linked to the cancelation of treasury shares following the share buyback completed in 2015 to offset the dilution effect from shares issued in connection with equity compensation arrangements and employee share plan offerings in 2014 and 2015.
- Euro -0.3 billion impact of acquisitions & others. The acquisition of Genworth increased Life & Savings EEV by Euro 0.5 billion, with a full offset in other than Life & Savings segments reflecting the consideration paid. As a result, the impact of the acquisition of Genworth was neutral on the Group EV.

## RECONCILIATION IFRS EQUITY TO GROUP EV TO GROUP AFR

The following table shows the reconciliation between IFRS shareholders' equity, IFRS tangible net asset value (IFRS TNAV), Group embedded value (EV), and Group available financial resources (AFR).

RECONCILIATIONS <i>Euro billion</i>	Life & Savings	Other Segments	Group 2015	Group 2014
<b>IFRS SHAREHOLDERS' EQUITY<sup>1</sup></b>	<b>54.2</b>	<b>14.3</b>	<b>68.5</b>	<b>65.2</b>
Net URCG not included in SHE	1.8	3.5	5.3	4.2
Excluded TSS/TSDI	-	(9.5)	(9.5)	(9.1)
Excluded Intangibles	(21.3)	(10.6)	(31.9)	(28.8)
<i>Goodwill</i>	(6.7)	(9.1)	(15.8)	(14.9)
<i>DAC</i>	(12.1)	0.0	(12.1)	(10.0)
<i>VBI</i>	(1.9)	-	(1.9)	(1.8)
<i>others</i>	(0.6)	(1.5)	(2.2)	(2.0)
<b>IFRS TANGIBLE NET ASSET VALUE<sup>1</sup></b>	<b>34.7</b>	<b>(2.4)</b>	<b>32.3</b>	<b>31.5</b>
Life & Savings VIF	28.0	-	28.0	25.3
Elimination of UCG projected in VIF	(6.9)	-	(6.9)	(8.6)
Mark to market debts & others	(1.6)	(0.5)	(2.1)	(1.0)
<b>GROUP EV<sup>1</sup></b>	<b>54.2</b>	<b>(2.9)</b>	<b>51.2</b>	<b>47.2</b>
Dividends to be paid			(2.7)	(2.3)
TSS/TSDI & subordinated debts			16.4	15.6
Technical provision adjustments			(5.9)	(4.3)
Other valuation discrepancies			0.0	(1.9)
<b>GROUP AFR<sup>2</sup></b>			<b>59.2</b>	<b>54.2</b>

<sup>1</sup> Group share; <sup>2</sup> Including minority interest

The main elements of the reconciliation from the Euro 68.5 billion of IFRS shareholders' equity to the Euro 32.4 billion of IFRS TNAV are as follows:

- Addition of Euro 5.3 billion net unrealized gains/losses not reflected in IFRS shareholders' equity;
- Deduction of Euro 9.5 billion of undated deeply subordinated notes (TSS) and undated subordinated notes (TSDI) included in IFRS shareholders' equity.
- Elimination of Euro 31.9 billion intangible assets net of unearned revenues and fees reserves (URR & URF), taxes and policyholder bonus.

The main elements of the reconciliation from the IFRS TNAV to Group EV are as follows:

- Addition of Euro 28.0 billion Life & Savings VIF;
- Elimination of Euro 6.9 billion unrealized capital gains included in the projection of future cash-flows to compute Life & Savings VIF;

- Inclusion of Euro -2.1 billion of other adjustments mainly reflecting the mark to market of financing debts; and other statutory to IFRS adjustments.

The main elements of the reconciliation from the Group EV to Group AFR are as follows:

- Deduction of Euro 2.7 billion of expected dividends to be paid to shareholders in 2016;
- Inclusion of Euro 9.5 billion of undated deeply subordinated notes (TSS), undated subordinated notes (TSDI); and Euro 6.9 billion of dated subordinated debts<sup>2</sup>;
- Deduction of Euro 5.9 billion of Solvency II technical provisions adjustments corresponding to Solvency II market value margin (Euro -12.6 billion), adding back for CoC/NFR deducted from VIF (Euro +1.4 billion), and the adjustment from IFRS reserve to best estimate liability in other than Life & Savings segments (Euro +5.3 billion);
- Inclusion of other differences between Group EV valuation and Solvency II frameworks which was lower than in 2014 (-1.9 billion), mainly reflecting the alignment of reference yield curves in Life & Savings EEV with Solvency II methodology.

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<sup>2</sup> Including Euro -0.6 billion of reversal of mark-to-market on interest rates derivatives in FY15

# APPENDICES

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## METHODOLOGY

### COVERED BUSINESS & VALUATION DATE

AXA's Life & Savings segment offers a broad range of life insurance products including retirement and health products, for both group and individuals. This segment accounted for 60%, or Euro 59 billion of AXA's consolidated IFRS gross revenues for the year ended December 31, 2015.

Cash flows projected in the VIF are from the following entities, which represented 99% of the total Life & Savings technical reserves and nearly 99% of total Life & Savings revenues as of December 31, 2015:

- United States
- France
- United Kingdom
- Northern and Central Eastern Europe (Germany, Belgium, Switzerland, and Central & Eastern Europe : Hungary, Czech Republic and Poland)
- Mediterranean and Latin American Region (Italy, Spain, Portugal, Greece, Turkey and Mexico)
- Japan
- Hong Kong
- Southeast Asia, India & China (China, Indonesia, Thailand, Philippines, India and Singapore)

Some entities are not taken into account for the VIF and NBV calculations, but have their Life & Savings business operations included in the Life ANAV. Their ANAV represented Euro 89 million, or 0.3% of the total ANAV as of December 31, 2015.

2015 Life & Savings EEV was determined using data and assumptions as of December 31, 2015 for all covered business with foreign exchange rates consistent with IFRS accounts.

### ANAV CALCULATION

The Life & Savings ANAV can be reconciled to the IFRS shareholders' equity based on the following main adjustments:

- Addition of unrealized capital gains/losses on asset classes for which the IFRS balance sheet does not reflect current market values
- Elimination of the value of intangibles (*Goodwill, VBI, DAC, DOC ...*), conceptually to be replaced by VIF for business inforce, thereby excluding any value for future business.
- Adjustment for differences between local regulatory and IFRS values of assets and liabilities

- Subtraction of unrealized capital gains included in the projection of future cash-flows (VIF)

AXA's IFRS Shareholders' Equity already includes the full impact of any actuarial gains or losses on employee benefit plans, so no adjustment is needed in the EEV for employee benefits.

The ANAV for each entity includes the book value of any shares it holds in other AXA Group entities that are outside the Life & Savings segment, although any crossholdings within the Life & Savings segment are eliminated locally. The book value of crossholdings outside the Life & Savings segment is eliminated in Other Segments for Group EV purposes.

AXA has chosen to exclude the profits earned by its investment management companies on managed assets for Life & Savings operations from Life & Savings EEV, and in that respect is not compliant with the CFO Forum EEV Guidance 9.11. This choice is linked to the commercially sensitive nature of disclosing margins for companies that also manage third-party assets, and because AB units are publicly-traded. It is also noteworthy that the units of AB held by US Life entities in the Group are not valued at their December 31, 2015 market value of Euro 1.8 billion (gross of tax) in the Life & Savings EEV; instead, these units are carried at their cost basis of Euro 0.4 billion. This treatment is consistent with other cross-shareholdings of entities within the AXA Group.

## REQUIRED CAPITAL DEFINITION

The required capital represents the part of ANAV whose distribution to shareholders is restricted due to local regulatory requirement. It is obtained from the capital requirement net of allowance for any other than ANAV capital called soft capital. The allowance for soft capital varies according to jurisdictions. As an example, the present value of future profits net of market value margin can be recognized as part of available capital under Solvency II.

In the context of Solvency II's implementation, AXA revised its methodology for required capital of insurance units operating in EEA in place since 2012. For these units, the required capital is at least sufficient to obtain 130% solo solvency ratio. There is no change for insurance units operating outside EEA with minimum target solvency ratio of at least 130% for Switzerland, and of 150% for other entities with limitations on soft capital to half of the target solvency capital.

## VIF CALCULATION

The Life & Savings VIF is valued in the following three step process:

- the base value is a **certainty equivalent present value of future profits (PVFP)**, which is the value of the business without credit for any future investment risk premia (which are the expected excess returns of equities, corporate bonds, etc. over the reference interest rate). This value includes the intrinsic value of the options and guarantees embedded in the contract (O&G) but not their time value nor the value of non-financial risks, except for Accumulator-type products where the full value of policyholder charges less hedging costs for guarantees are reflected here rather than a portion in Time Value of O&G;

- the base value is then reduced by an allowance for the **Time Value of O&G**, which is determined in a manner consistent with the approach used in financial markets to value O&G: the net value is therefore a **risk neutral value**, it is the value of the business adjusted for all financial risks;
- a final reduction is made for the **CoC/NFR**, which is the tax frictional cost of locked-in required capital, the cost of holding this required capital being the difference between the amount of required capital and the present value of future releases, allowing for future taxed investment return.

The Life & Savings VIF is derived for most business from a 30 to 60 years projection of statutory earnings, and includes a provision for the remaining shareholder profits (non-material amount) beyond that term.

## RISK NEUTRAL VALUE AND TIME VALUE OF OPTIONS AND GUARANTEES (O&G)

The O&G valued in the EEV cover all material O&G embedded in AXA's Life and Savings business - consistent with the requirements of the European Embedded Value Principles. The key O&G considered are:

- the interest rate guarantees on traditional products (such as guaranteed cash values, guaranteed annuity options (GAOs), etc.)
- the profit sharing rules (bonus rates, credited interest rates, policyholder dividends, etc), which combined with guarantees can create asymmetric returns for shareholders
- the guaranteed benefits (GMDB, GMIB and similar) on Unit-Linked annuity products and no lapse guarantees<sup>3</sup> in life insurance contracts (although note that as mentioned above the hedging costs for guarantees on Accumulator-type business are reflected in the Certainty Equivalent PVFP rather than in the Time Value of O&G)
- the dynamic policyholder behavior, that is, the options (such as full or partial surrender, premium discontinuance, annuitization, etc.) that policyholders can elect in a manner that disadvantages the company.

The risk neutral value includes (i.e. is net of) the required allowance for all such financial O&G. The calculation of the base certainty equivalent value of the businesses enables us to separate the Time Value of O&G from the intrinsic value:

$$\text{Time Value of O\&G} = \text{Risk neutral value} - \text{Certainty Equivalent PVFP}$$

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<sup>3</sup> No lapse guarantees' are guarantees on insurance contracts that the contract will remain in force so long as the contract holder pays a predetermined level of premiums, even if the investment performance is lower than expected and insufficient funds are present to keep the contract in force in the absence of the guarantee.

## **METHODOLOGY FOR CALCULATING THE RISK NEUTRAL VALUE**

The risk neutral value is evaluated using a set of specific stochastic models (entirely designed for the purpose of valuation under a risk neutral framework), based on a set of economic and financial conditions, which are run over at least 1,000 economic risk neutral scenarios using the assumptions described below. The value allows for the behavior of clients (lapse, etc.) and for some management actions (dynamic investment strategy, varying credited rate, etc.).

The economic scenarios are constructed using a proprietary economic scenario generator developed by Barrie & Hibbert. A number of asset classes and economic assumptions are modeled stochastically. This includes equities, bond yields, credit spreads, credit defaults, property, foreign exchange and inflation.

The interest rates diffusion model is the Libor Market Model (LMM+) and allows for negative interest rates scenarios. The interest rate and equity volatility model used is the Stochastic Volatility Jump Diffusion Model.

The construction of market consistent risk neutral economic scenarios requires a careful calibration to underlying market parameters to ensure that the valuation replicates the prices of market assets. Three key areas of calibration are the initial yield curves, the implied market consistent volatility, and the correlations between asset classes and economies. The model calibration is described further under Economic Assumptions. The interest rate model considers both parallel shifts and twists to the yield curve.

## **METHODOLOGY FOR CALCULATING THE COC/NFR**

Cost of Capital and Non-Financial Risks (CoC/NFR) can be considered as provisions to reflect respectively a cost of locked-in minimum required hard capital and for other non-financial risks reflected by the excess target local capital over the minimum requirement respectively.

The cost of capital is the economic cost incurred through the payment of investment expenses and taxes on investment income earned from assets held in excess of the policyholder reserves. Mechanically, this can be viewed as the difference between investment earnings which are the reference rate after-tax and after investment expenses, compared to a discount rate which is the reference rate before tax and expenses. The amount of such assets is equal to the required capital and is considered to be locked-in.

The provision for non-financial risks is calculated in a similar manner, but the cost is applied to the excess between the target local hard capital and the minimum local hard capital.

One of the Hong Kong entities is an exception to this treatment: because tax is paid on premium rather than income, there would be no non-financial risk provision under this methodology. A provision has been made, applying the Group average tax rate to an estimated capital level for this entity.

## NEW BUSINESS METHODOLOGY

The value of new business sold during the calendar year is determined consistently with the methodology outlined for the VIF. The new business value includes both the initial cost (or “strain”) of selling the business and the future earnings and return of capital to the shareholder.

It should also be noted that the value of the inforce includes all business as at the year-end date. This includes the business written during the year.

No value is placed on future new business sales. Inforce cash flows may include certain renewals flows from existing contracts as well as some future flexible premium receipts when consistent with pricing, commercial and Asset/Liability Management practices.

The assumptions for valuing the new business VIF are consistent with overall inforce VIF, and economic assumptions are set to reflect year-end conditions. Unit-linked products are a special case in NBV, with year-end conditions used for future asset returns but fund performance from point of sale to year-end based on beginning-of-year expectations in order to avoid distortion by market performance relative to potential future profitability.

New business includes new contracts written in the current year. If future flexible premiums and expected renewal flows from new contracts written in the year are reasonably predictable, for example they are included in pricing the contract and/or there is stable historical experience, then they and the benefits associated with them are included in the projection of future cash flows, i.e., they are included in the calculation of VIF, and to the extent they are related to contracts sold in the current year, they are part of NBV. If policy additions are the result of significant new marketing activity, and were not anticipated at the time of original contract sale, then such additions are reflected as new business. This treatment of future flexible premiums and renewals is required by the EEV Principles and Guidance, but some areas of judgment remain. Due to different practices across the market, AXA looks to better align its treatment in each country with that of its peer companies.

Full consistency of scope is ensured between the computation of NBV and new business volume indicators (APE or PVEP).

## SENSITIVITIES

Sensitivities are applied one at a time, rather than in combination. Combined effects are likely to be different than implied by adding the effects from separate sensitivities.

For purposes of the NBV sensitivity, shocks to financial market conditions (such as change in reference interest rates or equity market levels) are assumed to occur after the point of sale, rather than just before the point of sale. Therefore, the NBV sensitivity gives an indication of how the VIF of the new business written during the year would have been affected by an economic shock occurring after the year-end. It also indicates what the NBV might have been if sales occurred at the same volume, mix and pricing as those in 2015 but in a new market environment.

Sensitivities do not include the impact on ANAV from employee benefits plans, and do not include South East Asia and China, where the full market consistent methodology is not applied.

**Upward shift of 100 basis points in reference rates** simulates a sudden shock to the initial conditions. This means changes to: 1) the current market values of fixed-interest assets, with related possible changes to projected capital gains/losses and/or fee revenues, 2) future reinvestment rates for all asset classes, and 3) risk-discount rates. The change is applied to the reference interest rates including the liquidity premium, where applied in the base case. Inflation rates, the volatility on interest rates and the Ultimate Forward rates are not changed.

**Downward shift of 100 basis points in reference rates** is the same as above but with a shift downward. Where the shift of 100 basis points would drop rates below 0%, they are floored at zero.

**10% higher value of equity markets** simulates a shock to the initial conditions just for equities. Listed equities and private equities including the impact of equity hedges are shocked. This means changes to current market values of all these equities excluding hedge funds, with related possible changes to projected capital gains/losses and/or fee revenues.

**10% lower value of equity markets** same as above but a decrease.

**10% higher value of real estate** simulates a shock to the initial conditions just for real estate. This means changes to current market values of real estate, with related possible changes to projected capital gains/losses and/or fee revenues.

**10% lower value of real estate** same as above but a decrease.

The sensitivities to initial values of equity and real estate only change the initial values of assets, and so new scenarios are not needed. However, stochastic runs are needed for business subject to stochastic modeling.

**Upward parallel shift of 25% of the volatility on equity markets** simulates a shock to the initial conditions, representing the base volatility times 1.25 for the key duration and then applying a parallel shift for the other durations.

**Upward parallel shift of 25% of the volatility on interest rates** simulates a shock to the initial conditions, representing the base volatility times 1.25 for the key duration and a parallel shift for other durations.

**50 basis points instantaneous increase in credit spreads** is immediately applied at the valuation date and is applicable to all corporate credit asset classes and associated derivatives. This should be calibrated as a sudden shock of plus 50bps on the single A credit spread. This means changes to the current market value of credit assets, with related possible changes to projected capital gains/losses and/or fee revenues.

**50 basis points instantaneous decrease in credit spreads** is the same as above but a decrease.

**Overall 10% decrease in the lapse rates** means that base lapse rates are multiplied by 0.9. Decreased lapse can have a positive or negative effect on embedded value depending on policy design and at which duration the lapse occurs.

**Overall and permanent decrease of 10% in expenses** applies to all future expenses other than commission and commission-related (for example, agency manager payments that are a percentage

of agent commissions) expenses and investment expenses (as they are managed separately from Life companies general expenses).

**5% lower mortality rate for annuity business** reflects the impact on annuity business profits from assuming 5% lower mortality rate. The base assumption in VIF for annuity business may already reflect expected mortality improvement (note that mortality improvement hurts annuity profits).

**5% lower mortality rate for life business** reflects the impact on life insurance business profits from assuming 5% lower mortality rate.

**Reference rate without volatility adjustments** reflects what would be the value if no volatility adjustment had been considered in the reference interest rates.

**Reference rate with volatility adjustments 10bps higher** reflects the impact, for economies where a volatility adjustment is already considered, of using a 10bps higher volatility adjustment in the projections (before considering any varying allowance by product).

## IMPLIED DISCOUNT RATES

In a market consistent EEV, the value of the projected earnings, allowing for financial risks (Time Value of O&G) and non-financial risks is the result of a stochastic valuation technique. As a consequence, the equivalent implied risk discount rate (IDR) can be derived from a bottom up assessment of the risk. It is the discount rate that would reproduce the amount of VIF plus Required Capital from a deterministic projection of statutory distributable cash flows (earnings plus movement in required capital) in the scenario reflecting management's expectations of economic conditions in future periods. In no circumstances, it is an assumption used to determine the value.

The IDR represents a useful measure of the risk reflected in the overall value estimate given a set of assumptions about future asset returns. The IDR will vary depending on the economic assumptions but it does not affect the market consistent value.

IDRs are disclosed on the basis of discounted distributable cash flows including the impacts of required capital which is roughly comparable to the deterministic discount rates used in Traditional EV.

In particular it allows comparison across countries of the components of EEV. The total implied risk discount rate therefore reflects the reference interest rate of the local economy, a margin for financial risks, an allowance for the Time Value of O&G, an allowance for the cost of capital and non-financial risks, and the required capital flows.

IDR is used to determine the expected existing business contribution for the following year.

The IDRs differ for each country. The scenario that reflects management's expectations of economic conditions in future periods used in calculating IDRs are presented in the section "Management's expectations for future economic conditions".

## FINANCIAL ASSUMPTIONS

### INVESTMENT MARKET CONDITIONS

The projection of cash flows considers economic scenarios designed to reflect current market conditions. Any such projection necessarily has a limited number of inputs, and will not perfectly reproduce all of the current conditions. Described below are the target conditions for the modeling. The fit of the model to these defined targets is tested by assuring that Euro 1 of initial asset value is reproduced when projected and discounted and by tests that confirm the model stays close to the targets (the models and the present values they produce are therefore called 'market consistent'). The process of refining the model so that it reproduces market conditions is referred to as 'calibration'.

For the Life & Savings EEV calculation, AXA generates market consistent economic scenarios based on reference interest yield curves. For 2015 reporting, AXA aligned the determination of reference yield curves to Solvency II methodology with the liquidity premiums being replaced the volatility adjustment less credit risk adjustment (VA-CRA). As a result, the FY15 EEV and Solvency II Available Financial Resources (AFR) were computed using the same reference yield curves. This had a total impact of Euro -2.3 billion on the Life & Savings EEV included in the Opening 2015 Life & Savings EEV.

The application at AXA, consistent with Solvency II methodology, can be summarized as follows:

- Application of VA-CRA until the last liquid point. The application of volatility adjustment is conditional on the type of business. For General Account business, 100% of the volatility adjustments is applied while 0% is used for Unit-Linked business;
- Interpolation based on the Smith-Wilson technique from the forward rate at the last liquid point to ultimate forward rate with predefined numbers of years of convergence.

For AXA's main currencies, the main parameters necessary for the construction of the reference yield curves are available for 2015 and 2014 (restated with VA-CRA) are summarized in the table below:

REFERENCE YIELD CURVE PARAMETERS		EUR	USD	GBP	JPY	CHF	HKD
Volatility adjustment basis points	2015	22	78	31	3	9	78
	2014	15	40	19	0	1	40
Credit risk adjustment basis points	2015	10	10	12	10	10	10
	2014	10	10	10	10	10	10
Ultimate forward rate percentage	2015	4.20	4.20	4.20	3.20	3.20	4.20
	2014	4.20	4.20	4.20	3.20	3.20	4.20
Last liquid point years	2015	20	50	50	30	25	15
	2014	20	50	50	30	25	15
Convergence period to UFR years	2015	40	40	40	40	40	40
	2014	40	40	40	40	40	40

The following tables show the reference yield curves as of December 31, 2015 and December 31, 2014 (used for the restatement of EEV with VA-CRA replacing liquidity premium). Below, the first table corresponds to application of 0% of volatility adjustment, used for Unit-Linked business and the second 100% of volatility adjustment for General Account business.

0% VA*	EUR		USD		GBP		JPY		CHF		HKD	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
Maturity												
1	-0.2%	0.1%	0.8%	0.3%	0.7%	0.6%	0.0%	0.0%	-0.8%	-0.2%	0.6%	0.4%
2	-0.1%	0.1%	1.1%	0.8%	1.0%	0.8%	0.0%	0.0%	-0.7%	-0.2%	0.9%	0.9%
3	0.0%	0.1%	1.3%	1.2%	1.2%	1.0%	0.0%	0.1%	-0.7%	-0.2%	1.1%	1.2%
5	0.2%	0.3%	1.7%	1.7%	1.5%	1.4%	0.1%	0.1%	-0.4%	0.0%	1.5%	1.7%
7	0.5%	0.4%	1.9%	2.0%	1.7%	1.6%	0.2%	0.2%	-0.1%	0.1%	1.7%	2.0%
10	0.9%	0.7%	2.2%	2.2%	1.9%	1.8%	0.3%	0.4%	0.2%	0.4%	1.9%	2.2%
15	1.3%	1.1%	2.4%	2.5%	2.1%	2.0%	0.7%	0.8%	0.5%	0.7%	2.1%	2.4%
20	1.5%	1.3%	2.5%	2.6%	2.1%	2.2%	0.9%	1.1%	0.7%	0.9%	2.4%	2.7%
25	1.8%	1.5%	2.6%	2.7%	2.1%	2.2%	1.1%	1.2%	0.8%	1.0%	2.7%	2.9%
30	2.1%	1.9%	2.6%	2.7%	2.0%	2.2%	1.2%	1.3%	1.0%	1.2%	2.9%	3.0%

100% VA*	EUR		USD		GBP		JPY		CHF		HKD	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
Maturity												
1	0.1%	0.2%	1.6%	0.9%	1.0%	0.9%	0.0%	0.1%	-0.7%	-0.2%	1.4%	0.9%
2	0.1%	0.3%	1.9%	1.3%	1.3%	1.1%	0.0%	0.1%	-0.7%	-0.2%	1.7%	1.4%
3	0.2%	0.3%	2.1%	1.7%	1.5%	1.3%	0.0%	0.1%	-0.6%	-0.1%	1.9%	1.7%
5	0.5%	0.4%	2.4%	2.2%	1.8%	1.6%	0.1%	0.1%	-0.3%	0.0%	2.2%	2.3%
7	0.7%	0.6%	2.7%	2.5%	2.0%	1.8%	0.2%	0.2%	-0.1%	0.2%	2.4%	2.5%
10	1.1%	0.9%	2.9%	2.7%	2.2%	2.0%	0.4%	0.4%	0.2%	0.5%	2.6%	2.7%
15	1.6%	1.3%	3.2%	3.0%	2.4%	2.3%	0.7%	0.8%	0.6%	0.8%	2.9%	3.0%
20	1.7%	1.4%	3.3%	3.1%	2.4%	2.4%	1.0%	1.1%	0.8%	1.0%	3.1%	3.1%
25	2.0%	1.7%	3.4%	3.2%	2.4%	2.4%	1.1%	1.2%	0.9%	1.1%	3.3%	3.3%
30	2.3%	2.0%	3.4%	3.2%	2.4%	2.4%	1.2%	1.3%	1.1%	1.3%	3.4%	3.4%

\*Volatility adjuster

The approach to setting **market consistent volatility** targets in a risk neutral calculation focuses on the implied volatility of market prices for different asset classes. These implied volatilities are derived from pricing formulas and the observed market prices of various derivative instruments. The diffusion models allow for the modeling of interest rates and equity volatility surfaces with a significant granularity. The tables below show the targets used for 10 year swaptions and at-the-money equity options at year 5, 10, and 15 for each of the major areas and the target equity volatilities respectively.

TARGET INTEREST RATE VOLATILITIES (10y swaptions)	2015			2014		
	year 5	year 10	year 15	year 5	year 10	year 15
EUR	38%	34%	37%	44%	38%	37%
USD	31%	26%	23%	29%	25%	22%
GBP	32%	30%	30%	32%	27%	25%
JPY	39%	26%	24%	35%	28%	25%
CHF	91%	76%	71%	57%	49%	46%
HKD	34%	29%	n/a	28%	26%	n/a

TARGET EQUITY VOLATILITIES	2015			2014		
	year 5	year 10	year 15	year 5	year 10	year 15
EUR	21%	22%	22%	21%	21%	21%
USD	22%	27%	30%	22%	26%	29%
GBP	20%	22%	23%	20%	22%	23%
JPY	20%	21%	22%	21%	22%	24%
CHF	17%	17%	n/a	17%	18%	n/a
HKD	20%	21%	n/a	21%	21%	n/a

**Correlations** measure the extent to which various asset classes and economies move together over time. The correlation of equity returns, inflation, bond yields, and economies, has been set with reference to historical market data. It is not possible to estimate an “implied correlation”, as there are almost no financial instruments available with sufficient liquidity to derive market consistent implied correlations. AXA’s modeling ensures that correlations between equities and 10 year bond interest rates are between 10% and 20%.

**Inflation rates** targets in a risk neutral calculation are based on market implied inflation. For economies where data is not available management’s expectations of inflation in future periods are considered. Inflation mainly impacts the EEV through expenses, premiums and some benefits indexations. The table below shows the average implied inflation rate for economies where information is available.

INFLATION RATE	2015	2014
EUR	0.4%	0.0%
USD	1.1%	0.8%
GBP	2.0%	1.6%

## ASSET MIX ASSUMPTIONS

The assumptions described above are used in local models in conjunction with the asset mix to derive the assumed projected fund volatility, a key driver of the risk neutral values.

**Asset mixes** used are shown in the table below at the country level, although generally calculations are done using the applicable asset mix at a line of business level. The asset mixes describe the intended investment strategy of each operating company rather than the position at the start of the projection. They show the proportion of asset classes including fixed-income, equity and other assets in the portfolio. The sum of these proportions is hence 100, barring the rounding errors.

ASSET MIX <i>Percentage of fixed-income/equity/others at ultimate</i>	2015	2014
United States	91/0/9	94/0/6
France	85/8/7	88/6/6
United Kingdom	26/60/14	27/57/16
Switzerland	79/6/15	76/5/19
Japan	91/8/1	86/8/6
Belgium	74/5/21	80/3/17
Hong Kong	76/18/6	77/15/8
Germany	92/5/3	91/3/6
MedLA	96/4/1	93/3/4
CEE	55/37/8	54/38/9

## EXCHANGE RATES

ANAV and VIF are calculated using end of year exchange rates. New business metrics as well as all the variations impacting the returns on EEV are calculated using average exchange rates over the year.

EXCHANGE RATES <i>vs. Euro</i>	2015		2014	
	Year-end	Average	Year-end	Average
USD	1.086	1.119	1.210	1.332
GBP	0.737	0.731	0.776	0.809
CHF	1.087	1.078	1.202	1.215
JPY	130.7	135.4	145.1	140.5
HKD	8.419	8.679	9.384	10.328
CZK	27.02	27.31	27.72	27.53
HUN	316.0	310.1	315.7	308.0
POL	4.290	4.187	4.298	4.185
SGD	1.541	1.533	1.603	1.686
PHP	51.12	50.87	54.13	59.09
THB	39.09	38.21	39.81	43.25
IDR	14975	14892	14986	15812
CNY	7.054	7.025	7.507	8.197
INR	71.87	71.68	76.38	81.35
TRY	3.171	3.007	2.829	2.898

## TECHNICAL ASSUMPTIONS

### ACTUARIAL ASSUMPTIONS

All cash flows (premiums, expenses, commissions, death and surrender claims, etc...) are included on a best estimate basis up until the termination of AXA's obligations towards the policyholder and beneficiaries. AXA's embedded value uses an active basis where the assumptions are adjusted to reflect historical experience. The assumptions are reviewed at least on an annual basis.

The historical trend of past mortality improvements for life insurance business has generally been assumed to continue for part of the future projection at a more conservative level than historical experience. However, Annuity business in all markets generally reflects an expected continuation of past mortality improvement trends into the future; this combination of partially reflecting improvement trends for life insurance business while fully reflecting it for annuities is on balance prudent.

### TAX ASSUMPTIONS

The following table shows the nominal tax rates applied.

TAX RATES	2015	2014
United States	35%	35%
France	34%	34%
United Kingdom	16%	16%
Switzerland	21%	21%
Japan	29%	31%
Belgium	34%	34%
Hong Kong	0.825% of premia	0.825% of premia
Germany	32%	32%
MedLA	30%	32%
CEE	19%	19%

In most jurisdictions different tax rates apply to different types of income and expense, so effective tax rates vary. Generally, stochastic projections also reflect the impact of economic scenarios on the sources of taxable income and the related taxes. The tax recoverability of any resulting deferred tax asset is evaluated in accordance with current IFRS principles at the level of each tax group using the best estimate of future taxable profits and the assumptions reflecting management's expectations. Moreover, the impact of the 3% French tax to be paid on cash dividends distributed to shareholders is reflected in the Group EV.

## EXPENSES

The EEV methodology makes full provision for all expenses. Consistently with IFRS reporting, operating entities are recharged with most holding companies' expenses, which are included in local unit costs. The VIF includes the present value of future projected expenses related to Life & Savings business. No productivity gains are built into the projected future expenses, and a provision is made for future inflation. Base inflation rates may be increased for some specific areas such as health care costs or salaries.

The expense basis used to estimate projected unit costs does not include productivity-oriented and one-off expenses, although they are naturally considered in the current year's result impacting the movement in ANAV. Productivity oriented expenses relate to incurred investing in and developing projects that are expected to give rise to future benefits. As those benefits are excluded from projections in accordance with CFO Forum EEV Principles and Guidance, the related expense is also excluded. One-off expenses might not lead to future benefits, but are not expected to be repeated in future years, hence also are excluded from the expense basis for VIF.

<b>EXCLUDED EXPENSES</b> <i>Euro million, Group share, pre-tax</i>	<b>2015</b>	<b>2014</b>
United Kingdom	32	39
Germany	36	32
United States	81	55
France	21	37
Hong Kong	31	25
Belgium	17	17
MedLA	9	4
CEE	3	3
<i>Other countries</i>	-	7
<b>TOTAL EXCLUDED EXPENSES</b>	<b>230</b>	<b>219</b>

The level of excluded expenses increased in 2015 compared to 2014, mainly driven by the depreciation of Euro, the United States mainly from the investment in Employee Benefits business, partly offset by lower one-off expense in France and cost savings in the United Kingdom.

## MODELING OF PARTICIPATING AND ADJUSTABLE CREDITED RATES BUSINESS

Participating business is generally characterized by the following key features:

- a minimum interest rate or level of bonus is guaranteed on the contract. At least the guaranteed rate or bonus is credited under all circumstances. Hence, whenever fund return does not achieve the minimum performance, the shareholders bear the cost of maintaining the guaranteed level;

- generally bonuses and crediting rates will exceed minimum guaranteed levels. The amount credited is based on profit sharing rules as well as the performance of the investment markets and involves a degree of management discretion;
- given the above, it is essential that the value reflects how bonuses and crediting rates are determined, when future expected performance varies, that the value reflects how bonuses and crediting rates are determined. This will impact the value in the following manner;
- the guaranteed interest rate and any further policyholder participation in profits which is not linked to the actual investment results above the reference interest rate impacts the certainty equivalent value;
- the profit sharing rule impacts the Time Value of O&G depending on the market performance. In cases where the market performs well the policyholder participates in the investment profits while in case of negative market performance the shareholder bears a higher portion if not all of the loss. The level of the Time Value of O&G reflects the likelihood of these additional payments being made, net of the amount reflected as intrinsic value in the certainty equivalent value.

The participating features of businesses are usually a combination of contractual / legal, and management discretion based on competitors' pressure or market practice (where management actually chooses the level of credited rate, over and above the guaranteed rate).

In all operations where this is relevant, the participating business has been modeled to reflect contractual and regulatory constraints, in addition to how AXA manages the business.

The limited residual funds at the end of the projection are apportioned between shareholders and policyholders according to applicable profit sharing rules.

## **MANAGEMENT'S EXPECTATIONS FOR FUTURE ECONOMIC CONDITIONS**

As explained previously in the report, the risk-neutral valuation method applied in AXA's EEV means that future returns of different asset classes are directly derived from the reference rate and market implied volatility assumptions. The methodology is equivalent mechanically to assuming that the expected return on all asset classes is on average the reference forward rate. However, to facilitate comparisons with other companies (especially those not following a market consistent basis), and to Traditional EV, we have made calculations with future investment returns based on management's expectations of economic conditions in future periods, and derived implied discount rates (IDRs) and internal rates of return (IRR) for new business. It is important to always view IDRs in the context of their expected scenario, because a change in assumptions will change IDR.

The pre-tax management's expectations for future economic conditions in 2014 and 2015 are shown in the table on next page. Fixed income returns correspond to the average reinvestment rates on the fixed income asset class (mainly sovereign and corporate bonds) that generally depend by economy on the duration of the business and on the average quality of the target credit allocation (except for the United Kingdom for which it corresponds to the fixed income total return).

REAL WORLD ASSUMPTIONS <i>Euro million, Group share</i>			France	United States	United Kingdom	Japan	Germany	Switzerland	Belgium	MedLA	Hong Kong	CEE	Total <sup>1</sup>
FIXED INCOME RETURN <i>Percentage</i>	First year	2015	1.3	4.0	1.5	0.7	1.8	0.3	1.4	1.9	4.2	1.1	1.8
		2014	1.0	3.1	-0.3	0.5	1.2	0.2	0.9	1.5	2.8	1.8	1.3
	Ultimate	2015	3.8	6.3	2.1	2.8	3.8	2.8	3.6	4.2	6.5	4.3	4.1
		2014	3.8	6.1	4.9	2.8	3.8	2.8	3.9	4.5	6.2	4.3	4.1
EQUITY RETURN <i>Percentage, including dividends</i>	First year	2015	8.5	2.0	0.6	6.5	8.5	4.9	8.5	7.6	4.0	7.8	6.1
		2014	13.7	7.0	9.8	8.5	13.7	-7.0	13.7	13.4	7.6	9.3	7.4
	Ultimate	2015	6.7	7.3	6.8	4.3	6.7	5.2	6.7	6.7	8.5	8.3	6.5
		2014	6.7	7.3	6.8	4.3	6.7	5.8	6.7	6.7	8.2	9.1	6.5
CASH RETURN <i>Percentage</i>	First year	2015	-0.1	0.1	0.5	0.0	-0.1	0.0	0.0	-0.2	1.3	1.0	0.1
		2014	0.1	0.1	0.5	0.0	0.2	0.0	0.0	0.0	0.3	2.0	0.1
	Ultimate	2015	3.0	3.5	3.5	0.0	3.0	2.3	2.9	2.8	3.5	2.8	2.7
		2014	3.0	3.5	3.5	0.0	3.0	2.3	3.1	2.9	3.5	2.0	2.7
REAL ESTATE <i>Percentage</i>	First year	2015	9.5	N/A	9.5	N/A	9.5	3.7	9.5	6.6	13.5	6.4	6.6
		2014	7.2	N/A	11.0	N/A	7.2	4.3	7.2	7.2	5.5	6.4	4.8
	Ultimate	2015	6.0	N/A	7.0	N/A	6.0	4.0	6.0	6.0	7.0	6.4	4.5
		2014	5.0	N/A	6.0	N/A	5.0	4.0	5.0	5.0	6.0	6.4	3.7
OTHER RETURN <i>Percentage</i>	First year	2015	N/A	6.2	0.0	2.2	6.0	5.0	3.6	0.6	4.0	N/A	3.2
		2014	N/A	7.3	0.0	2.2	8.0	-7.0	3.5	0.6	2.9	N/A	1.3
	Ultimate	2015	N/A	7.2	0.0	2.2	6.0	7.0	4.8	1.7	7.6	N/A	4.2
		2014	N/A	7.6	0.0	2.2	8.0	5.8	8.0	1.6	7.6	N/A	4.5
INFLATION RATE <i>Percentage</i>	First year	2015	0.7	0.5	2.0	1.3	0.7	0.1	0.7	1.0	2.4	1.2	0.8
		2014	0.0	0.8	1.6	0.5	0.0	0.2	0.0	0.0	3.5	1.0	0.6
	Ultimate	2015	2.0	2.5	3.2	2.0	2.0	1.5	2.0	2.0	3.0	2.3	2.1
		2014	2.0	2.5	3.3	2.0	2.0	1.5	2.0	2.0	3.0	2.3	2.1

## GLOSSARY

**Adjusted opening Life & Savings EEV:** the balance published for previous year closing, adjusted by modeling and opening adjustments. It serves as the basis for calculating the Operating return and Total return on Life & Savings EEV.

**ANAV (Adjusted Net Asset Value):** the tangible net assets on a mark to market-value basis derived equivalently either from the consolidating statutory (local regulatory) balance sheet or adjusting the consolidated IFRS balance sheet. It excludes a portion of unrealized capital gains and losses which is projected in the VIF.

**APE (Annual Premium Equivalent):** a measure of new business volume which is equal to 100% of regular premiums plus 10% of single premiums on newly issued contracts.

**Capitalization factor:** the multiple of regular premium verifying single premium plus capitalization factor times regular premium equals PVEP; it is an estimate of the duration of regular premium business.

**Certainty Equivalent PVFP:** the present value of future statutory after-tax profits, projected over the remaining duration of liabilities in a scenario (certainty equivalent scenario) where all investments are assumed to earn the reference interest rate.

**Change in operating assumptions:** the impact on the VIF of changes in future assumptions for items such as mortality, expenses, lapse rates, as well as the impact of actual versus expected experience.

**CoC/NFR (Cost of Capital/Non-Financial Risks):** the cost of holding capital in excess of the policyholder reserves. Please refer to required capital definition.

**Comparable basis:** a change on a comparable basis is calculated at constant FX, scope and accounting period.

**Credit risk adjustment:** an adjustment to the swap curve in the reference yield curve's determination. It aims at capturing the credit risk embedded in the floating rate leg of the swap deal. It's calculated as 50% of the average over 1 year of the difference between the floating rate of interest rate swaps and overnight indexed swap rates. It's floored by 10bps and capped at 35bps.

**Current year operating variance:** an element of the EEV rollforward which reflects the variation of year-end EEV versus the expected one due to the difference between the realization and the expectation of technical factors such as mortality or surrender, investment incomes, gains and losses or due to management initiatives during the year.

**Economic variance & other non-operating variances:** an element of the EEV rollforward reflecting including the variance in experience during the year from that expected in the management case scenario at the end of the previous year, and the change in value created by reflecting the current market conditions in the VIF rather than those of last year, the impact of change in regulatory environment or tax variation.

**Expected existing business contribution:** the movements in EEV related to the business in force at the beginning of the year in the management case scenario and operational assumptions used in the previous year.

**Free Cash Flows:** a measure of dividend capacity calculated as the sum of statutory earnings and required capital change.

**Free surplus:** the assets not supporting policyholders' liabilities and required capital.

**Group EV (Group Embedded Value):** the Life & Savings EEV plus IFRS Tangible Net Asset Value for other segments.

**IDR (Implied Discount Rate):** discount rate at which the market consistent VIF is equal to the present value of future statutory distributable earnings in the management case scenario.

**Implicit items:** amounts allowed as capital by local regulators that is deducted from the required capital while determining the hard capital.

**NBV (New Business Value):** the value of newly issued contracts during the current year. It consists of the VIF of new business at the end of the year plus the statutory profit result of the business during the year. Usually the first year statutory profit is negative due to the costs of acquiring business; this negative profit at the point of sale is commonly referred to as "new business strain." AXA calculates this value net of tax.

**NBV margin:** NBV divided by APE.

**NBV/PVEP Margin:** Equals NBV divided by PVEP.

**Management case scenario:** a deterministic economic scenario which reflects the management's expectations for future market conditions. Unlike risk-neutral scenarios where all assets earn in average the reference interest rate, assets in the management case scenario earn additional risk premium. In the EEV framework, the management case scenario is used to establish the expected part of the EEV rollforward.

**Operating return on EEV:** the change in the EEV from the beginning to the end of the year, including the impact of expected return on VIF or unwind of previous year implied discount rate of VIF plus required capital; expected return on free surplus assets; new business value; operating variance and change in operating assumptions. The operating return on EEV excludes the impact of modeling change and opening adjustments, economic and other non-operating variance, exchange rate movement, acquisitions and capital flows into or out of Life & Savings segment.

**PVEP (Present value of expected premiums):** a measure of new business volume, equal to the present value at time of issue of the total premiums expected to be received over the policy term. The present value is discount at the reference interest rate. While the measure is not as closely linked to cash received in the current period as APE, the ratio of NBV/PVEP is a more economical indicator of profit margin than is the ratio of NBV/APE.

**Required capital:** the amount of assets, over and above the value placed on liabilities in respect of covered business, whose distribution to shareholders is restricted.

**Reference interest rate:** the risk free rate proxy used as the basis for the market-consistent valuation. It is the sum of swap rates adjusted for volatility adjustments less credit risk adjustments.

**Risk neutral value:** the sum of Certainty Equivalent PVFP and Time Value of O&G.

**Time value of O&G (Time Value of Options & Guarantees):** the difference between the value of business determined across a range of scenarios and the value determined in a single scenario. The single scenario contains some intrinsic value of O&G that are “in the money” in that scenario and the stochastic projection allow the total value of the O&G to be determined. The difference represents the Time Value.

**Total return on EEV:** the Operating Return on EEV, plus the impact of economic and non-operating variance during the year. Total return on Life & Savings European Embedded Value (EEV) excludes the impact of capital transfers, modeling changes, EEV of acquired business and foreign exchange effect.

**VIF (Value of inforce):** The discounted value of after-tax statutory profits projected over the future duration of existing liabilities. This is equal to the sum of Certainty Equivalent PVFP, Time Value of O&G and CoC/NFR.

**Volatility adjustments:** an adjustment to the risk-free yield curve. The volatility adjustments are based on 65% of the risk-corrected spread between the interest rate that could be earned from bonds, loans and securitizations included in a reference portfolio, and the basic risk-free interest rates.

## REPORT ON AXA 2015 EMBEDDED VALUE REPORT

To AXA Chief Financial Officer

As statutory auditors of AXA Group and in accordance with your request, we have examined the Life & Savings European Embedded Value (EEV) information regarding the EEV and its components, the new business value, the analysis of movement in EEV and the sensitivities (hereinafter referred to as “the EEV Information”) at December 31, 2015 of the AXA Group contained in the attached document (“Embedded Value 2015 Report” hereinafter referred to as “the EV Report”).

The EEV Information and significant underlying assumptions, upon which the information relies, have been established under the responsibility of management. The methods and significant assumptions adopted are detailed in the EV Report.

We are responsible for expressing a conclusion on the compliance of the results of the EEV Information with the methodology and assumptions adopted by management and on the consistency with accounting information used in the AXA Group consolidated financial statements at December 31, 2015.

Our work, which does not constitute an audit, has been performed in accordance with the professional standards applicable in France, and aims at forming a conclusion based on appropriate procedures.

Our work included the following procedures:

- Understanding the procedures adopted by management to prepare the EEV Information.
- A review of the “market consistent” approach adopted by management, and described in the EV Report for consistency with the European Embedded Value Principles and Guidance defined by the European Insurance CFO Forum.
- A review of the consistency of the methodology used and implemented by management with that described in the EV Report.
- A review of the internal consistency of the economic assumptions and of their consistency with observable market data.
- A review of the consistency of the operational assumptions with regard to past, current and expected future experience.
- A review of the testing performed by management on the underlying models used to calculate the EEV Information.
- Checking by review and reconciliation the consistency of the EEV Information with the methodology and assumptions in the EV Report.
- Checking the consistency of the solvency capital data used in preparing the EEV Information with the risk capital information available as at December 31, 2015.
- Checking the consistency of the accounting information and other relevant underlying data used in preparing the EEV Information with the annual financial statements and underlying accounting records at December 31, 2015.

- Obtaining the information and explanations as deemed necessary to deliver our conclusion.

We note that, due to the uncertain nature of estimation, actual outcomes can differ, perhaps significantly, from those underlying the EEV Information. We express no conclusion relating to the possibility of such outcomes.

Based on our work, we have no observations, regarding:

- The compliance of the results of the EEV Information at December 31, 2015 that AXA Group presented in the EV Report with the AXA Group's market consistent methodology and assumptions adopted by management and described in the EV Report which are consistent with the European Insurance CFO Forum EEV Principles and Guidance.
- The consistency of accounting information used with the AXA Group consolidated financial statements at December 31, 2015, on which we expect to issue our audit report on the 23 March 2016.

Neuilly-sur-Seine and Courbevoie, 25 February, 2016

**PricewaterhouseCoopers**

**Mazars**

Michel Laforce    David Rogers

Jean-Claude Pauly    Maxime Simoen