

# Embedded Value & AFR report

2016



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# INTRODUCTION & KEY FIGURES

## INTRODUCTION

AXA has reviewed its Embedded Value disclosure following the entry into force of Solvency II in January 2016 and the changes brought by the CFO Forum to EEV disclosure requirements.

The report presents the link between Embedded Value, Available Financial Resources (AFR)<sup>1</sup> and IFRS shareholders' equity, the movements in AFR and new business indicators over 2016, as well as the sensitivities of AFR and NBV to a range of financial and technical shocks. In addition, a section is devoted to operating Free Cash Flows by line of business, and includes reconciliation between the expected change in AFR and operating Free Cash Flows.

From a methodology stand-point, for Life & Savings, the disclosures are aligned with the EEV principles© from the CFO Forum, which allow the use of the valuation principles applied in the Solvency II balance sheet. For other segments, including "Property and Casualty", "Banking and Asset Managers" and the "Holdings", the disclosures are consistent with the Solvency II valuation principles and are reflective of the Solvency II balance sheet. A detailed methodology is included in the appendices.

## KEY FIGURES

<b>GROUP KEY FIGURES</b>	<b>2016</b>	<b>2015</b>	<b>Change</b>
<i>Euro billion unless otherwise noted</i>		<b>Restated<sup>1</sup></b>	
Group embedded value (EV)	<b>52.5</b>	51.5	1.0
Group Solvency II available financial resources (AFR)	<b>57.9</b>	56.8	1.1
Group free cash flows (FCF)	<b>6.2</b>	6.2	0.0
Life & Savings new business value (NBV)	<b>2.6</b>	2.5	0.1
Life & Savings new business value margin (NBV margin)	<b>39.7%</b>	38.2%	1.1pts
Life & Savings internal rate of return (IRR)	<b>17.8%</b>	18.9%	(1.1pts)

<sup>1</sup> 2015 figures are restated to reflect the disposal of UK Life & Savings, the application of the boundaries of contract limitation to AXA Switzerland Life & Savings (excluding EV and NBV calculations), and other opening adjustments.

<sup>1</sup> AFR (Available Financial Resources) correspond to the surplus derived from the Solvency II balance sheet. It is defined as the excess of market value of assets over market value of liabilities as of valuation date.

# GROUP AVAILABLE FINANCIAL RESOURCES (AFR)

## LINKING GROUP EMBEDDED VALUE TO GROUP AFR

RECONCILIATION GROUP EV TO GROUP AFR <i>Euro billion</i>	L&S	Other than L&S <sup>3</sup>	Total 2016	Total 2015 Restated <sup>4</sup>
<b>GROUP EMBEDDED VALUE<sup>1</sup></b>	<b>55.7</b>	<b>(3.1)</b>	<b>52.5</b>	<b>51.5</b>
Dividends to be paid	-	(2.8)	(2.8)	(2.7)
TSS/TSDI & subordinated debts	0.1	17.0	17.1	16.4
Technical provision adjustments	(5.9)	2.7	(3.2)	(3.0)
<i>o/w MVM</i>	(7.5)	(2.4)	(9.9)	(9.4)
<i>o/w CoC/NFR</i>	1.6	-	1.6	1.4
<i>o/w Adjustment from IFRS reserve to best estimate liability in P&amp;C</i>	-	5.1	5.1	5.0
Other framework differences	(4.7)	(1.0)	(5.7)	(5.4)
<b>GROUP AVAILABLE FINANCIAL RESOURCES<sup>2</sup></b>	<b>45.1</b>	<b>12.8</b>	<b>57.9</b>	<b>56.8</b>

<sup>1</sup>Group Share; <sup>2</sup>Including minority interests; <sup>3</sup>Including P&C, B&AM and holdings; <sup>4</sup>Including opening adjustments.

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

- Deduction of Euro -2.8 billion of proposed 2016 dividend to be paid in 2017;
- Inclusion of Euro 8.1 billion of undated deeply subordinated notes (TSS) and undated subordinated notes (TSDI), as well as Euro 9.0 billion of dated subordinated debt;
- Deduction of Euro -3.2 billion of Solvency II technical provision adjustments corresponding to (i) the inclusion of the Solvency II market value margin (Euro -9.9 billion), (ii) the deduction of the Cost of Capital and Non-Financial Risks applied under EEV framework (Euro 1.6 billion), and (iii) the inclusion of the adjustment from IFRS reserve to best estimate liability relating to the P&C segment (Euro 5.1 billion); and
- Inclusion of other differences between Group EV valuation and Solvency II framework (Euro -5.7 billion), such as the effect of contract boundaries, inclusion of surplus funds in Germany, the treatment of US insurance operations under the equivalence regime and the application of sectoral rules to Banking and Asset Management businesses.

Restated 2015 AFR amounts to Euro 56.8 billion. The difference with 2015 reported AFR reflects a different application of the boundaries of contract to AXA Switzerland's Life and Savings business: cash flows relative to future renewals of group life business are not projected anymore, reducing the AFR by Euro -2.4 billion.

The breakdown of the Life and Savings EEV by country is provided on page 18.

For Life & Savings operations, the difference between AFR and EEV is mostly linked to some prudential margins included in Solvency II available capital, namely market value margin and the contract boundaries limitation. On an economic basis, these prudential margins are expected to be released over time in the form of additional operating performance.

## GROUP AFR – ANALYSIS OF CHANGE

Throughout this section, US operations are considered under the equivalence regime<sup>2</sup> and banking and asset management operations under the sectoral rules<sup>3</sup>.

The following table presents the evolution of the Group Available Financial Resources over the indicated period.

<b>GROUP AFR ROLLFORWARD</b> <i>Euro billion</i>	<b>L&amp;S</b> <b>2016</b>	<b>Group AFR</b> <b>2016</b>	<b>Group AFR</b> <b>2015</b>
<b>PREVIOUS CLOSING</b>	<b>47.4</b>	<b>59.2</b>	<b>54.5</b>
Modeling changes and opening adjustments	(2.7)	(2.4)	0.1
<b>OPENING</b>	<b>44.7</b>	<b>56.8</b>	<b>54.6</b>
Expected existing business contribution	2.9	3.9	3.8
Value of new premiums	2.2	3.0	3.1
Operating variance and change in assumptions	1.4	1.8	0.5
<b>OPERATING RETURN</b>	<b>6.5</b>	<b>8.7</b>	<b>7.4</b>
Economic variance	(4.2)	(4.4)	(2.1)
Change in market value margin	(0.9)	(0.9)	(0.8)
<b>TOTAL RETURN</b>	<b>1.5</b>	<b>3.4</b>	<b>4.6</b>
Exchange rate impact	0.6	(0.4)	2.8
Dividend to be paid in year N+1		(2.8)	(2.7)
Subordinated debts and others <sup>1</sup>	(1.7)	0.9	(0.1)
<b>CLOSING</b>	<b>45.1</b>	<b>57.9</b>	<b>59.2</b>
<i>o/w Life &amp; Savings</i>		45.1	47.4
<i>o/w Property &amp; Casualty</i>		23.9	24.6
<i>o/w Banks &amp; Asset Managers</i>		1.5	1.5
<i>o/w Holdings</i>		(12.6)	(14.4)

<sup>1</sup> Including subordinated debts, capital movements, internal dividends paid in 2016 and others.

**2016 Group Available Financial Resources increased by Euro 1.1 billion compared to the opening AFR to Euro 57.9 billion**, mainly driven by the expected business contribution and the value of new premiums, partly offset by unfavorable economic conditions, with a decrease in interest rates, the depreciation of the British Pound versus the Euro and the proposed 2016 dividend to be paid in 2017.

**2016 modeling changes and opening adjustments had a negative impact of Euro -2.4 billion**, mainly reflecting the following effects:

- **Scope adjustment** (Euro -0.9 billion) mainly driven by the disposal of UK Life and Bluefin Insurance Group Ltd;
- **Modeling changes** (Euro -1.5 billion) as a consequence of:

<sup>2</sup> See appendix A.6 "Treatment of insurance subsidiaries in the US"

<sup>3</sup> See appendix A.7 "Sectoral rules".

- **Switzerland L&S** (Euro -2.4 billion) due to a change in the application of contract boundaries, under which cash flows relative to future renewals of group life business are not projected anymore;
- **Germany L&S** (Euro 0.7 billion) due to (i) a change in legislation on the calculation of interest rate reserve (“ZinsZusatzReserve”) leading to lower projected ZZR and, consequently, lower profit sharing for the policyholders; and (ii) some other model refinements; and
- **Italy L&S** (Euro 0.2 billion) mainly reflecting the implementation of a dynamic target yield approach in the modelled investment strategy for G/A Savings business.

**2016 Expected existing business contribution was Euro 3.9 billion**, of which Euro 2.9 billion of Life & Savings and Euro 1.0 billion from other segments reflecting the unwind at reference rates, the release of time value of options and guarantees and the financial over-performance expected under management case assumptions at the end of 2015.

**2016 Value of new premiums amounted to Euro 3.0 billion**, of which Euro 2.2<sup>4</sup> billion from Life & Savings and Euro 0.8 billion from Property & Casualty.

**2016 Operating variance and assumption changes had an impact of Euro 1.8 billion**, mainly driven by:

- **Japan** (Euro 0.9 billion) reflecting an update of mortality, morbidity and lapse assumptions;
- **Belgium L&S** (Euro 0.3 billion) reflecting a decrease in guaranteed rates on G/A Savings flexible premiums, as well as the impact of a buyout operation on traditional G/A Savings;
- **France P&C** (Euro 0.3 billion) reflecting more favorable best estimate claims reserves assumptions; and
- **Switzerland P&C** (Euro 0.2 billion) reflecting a favorable claims reserves development in motor and general liability.

**2016 operating return was 15% of opening AFR or Euro 8.7 billion** (14% or Euro 7.4 billion in 2015), driven by a strong expected contribution of existing business, value of new premiums, favorable operating variance and assumption changes.

**2016 Economic variance on 2016 was Euro -4.4 billion, mainly due to:**

- Euro -3.1 billion from the decrease in swap rates, mainly affecting Japan and Europe;
- Euro -1.1 billion from higher interest rate volatility; and
- Euro -0.4 billion from a decrease in the volatility adjustment, partly offset by an overall tightening of corporate spreads and sovereign spreads in Japan, Belgium and Germany.

**2016 change in market value margin had an impact of Euro -0.9 billion** as a result of a decrease in interest rates, translating into (i) an increase in Life insurance risks and (ii) a less favorable

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<sup>4</sup> Differences between Life & Savings value of new premiums and Life and Savings New Business Value are: application of contract boundaries, the cost of capital and non-financial risks and equivalence treatment for US operations.

discount effect. The increase in Life insurance risks was driven by higher longevity and lapse risks as lower interest rates conditions imply higher annuity reserves and higher persistency on guaranteed savings business. The less favorable discount effect reflects the fact that lower interest rates lead to higher present value of the cost of the future risk margin for non-hedgeable risks.

**2016 total return was 6% or Euro 3.4 billion** (8% or Euro 4.6 billion in 2015) driven by a strong operating return, partly offset by unfavorable economic variance and change in market value margin.

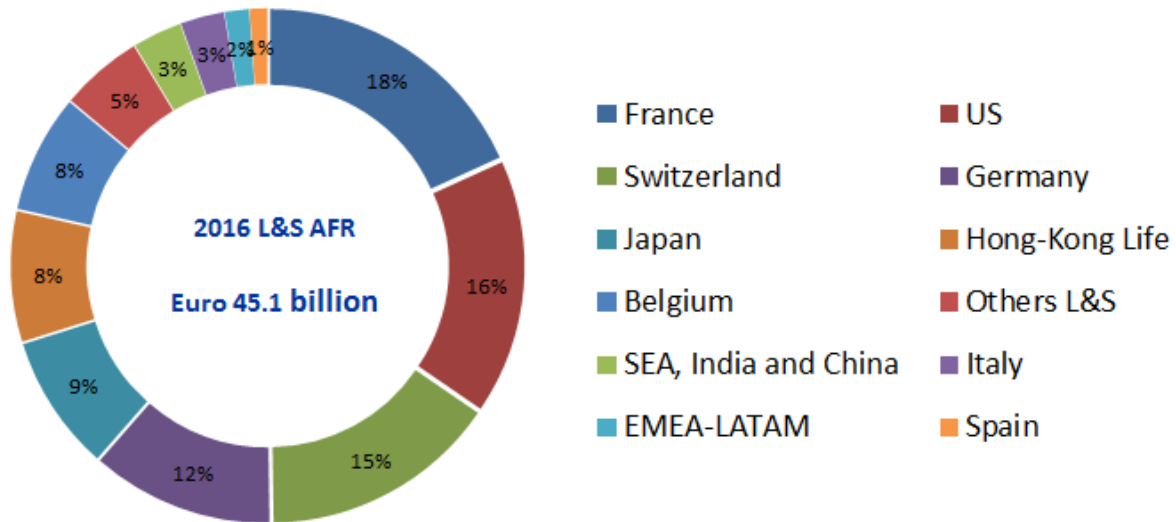
**2016 changes in exchange rate had an impact of Euro -0.4 billion**, from the depreciation of the British Pound against the Euro, partly offset by the appreciation of the Japanese Yen and the US Dollar.

**2016 proposed dividend to be paid in 2017 amounts to Euro -2.8 billion.**

**2016 subordinated debt and others increased by Euro +0.9 billion**, mainly driven by dated subordinated debt issuances (Euro +2.3 billion), partly offset by undated subordinated debt redemptions (Euro -1.3 billion).

## LIFE & SAVINGS AFR BY COUNTRY

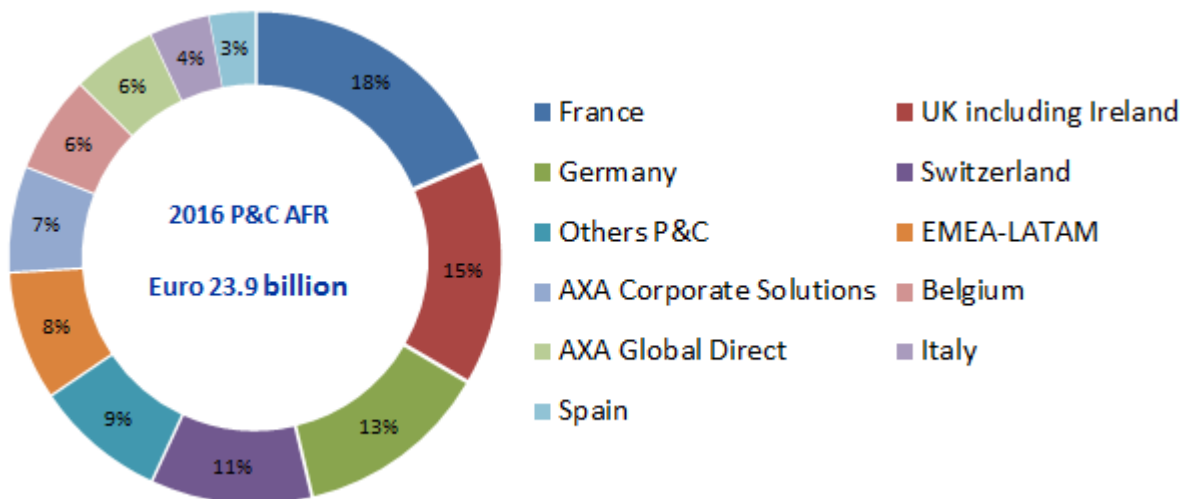
The following chart provides with the breakdown of the Life & Savings AFR by country.



Total Life & Savings AFR amounted to Euro 45.1 billion.

## PROPERTY & CASUALTY AFR BY COUNTRY

The following chart provides with the breakdown of the Property & Casualty AFR by country.



Total Property & Casualty AFR amounted to Euro 23.9 billion.



## GROUP AFR – SENSITIVITIES

The following table presents the sensitivities of the L&S AFR of AXA to various financial and technical shocks.

L&S AFR SENSITIVITIES	2016 AFR in Euro million	2016 AFR in percentage
<b>CLOSING AMOUNT</b>	<b>45,103</b>	<b>100%</b>
Interest rates +50bps	224	0%
Interest rates -50bps	(911)	(2%)
Equity markets +10%	865	2%
Equity markets -10%	(1,303)	(3%)
Real estate +10%	741	2%
Real estate -10%	(790)	(2%)
Policyholder lapse -10%	10	0%
Expenses -10%	1,199	3%
Annuity business mortality -5%	(397)	(1%)
Life business mortality -5%	277	1%
Equity volatility +25%	(526)	(1%)
Interest rate volatility +25%	(1,160)	(3%)
Credit spreads +50bps <sup>1</sup>	(1,452)	(3%)
Credit spreads -50bps <sup>1</sup>	1,348	3%
Volatility adjustment = 0bps	(1,608)	(4%)
Volatility adjustment +10bps	1,232	3%

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

Life & Savings AFR is positively sensitive to an increase in interest rates as investment margins improve when policyholder's guarantees are less in the money. This gross positive sensitivity is partly offset by profit sharing and dynamic lapses mechanisms, which are causing asymmetry with regards to sensitivity to a decrease in interest rates.

In these L&S AFR sensitivities, US operations are reflected under the equivalence regime and Solvency II contract boundaries are applied. This leads to reduced interest rates sensitivities compared to the EEV framework.

The following table presents the sensitivities of the P&C AFR of AXA to various financial shocks.

<b>P&amp;C AFR SENSITIVITIES</b>	<b>2016 AFR in Euro million</b>	<b>2016 AFR in percentage</b>
<b>CLOSING AMOUNT</b>	<b>23,899</b>	<b>100%</b>
Interest rates +50bps	(133)	-1%
Interest rates -50bps	144	1%
Equity markets +10%	335	1%
Equity markets -10%	(331)	-1%
Real estate +10%	494	2%
Real estate -10%	(493)	-2%
Credit spreads +50bps	(686)	-3%
Credit spreads -50bps	829	3%
Volatility adjustment = 0bps	(268)	-1%
Volatility adjustment +10bps	188	1%

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

Property & Casualty AFR have a slightly negative sensitivity to interest rates movements.

## GROUP AFR – TIERING

The following table presents the structure of tiering of the Group AFR.

AFR TIERING	2016 AFR <i>in Euro billion</i>	2016 AFR <i>in percentage</i>
<b>AFR</b>	<b>57.9</b>	<b>100%</b>
Tier 1	45.5	79%
Tier 2	9.0	15%
Tier 3	3.5	6%

The Group AFR was made of:

- Tier 1 capital net of foreseeable dividend, representing 79% of the total AFR, mainly made of ordinary shares, a reconciliation reserve, and Euro 8.1 billion of undated subordinated debt;
- Tier 2 capital, representing 15% of the total AFR, made of dated subordinated debt;
- Tier 3 capital, amounting to 6% of the total AFR, composed of net deferred tax assets.

## LINKING IFRS SHAREHOLDERS' EQUITY TO GROUP AFR

The following table presents the reconciliation between IFRS Shareholders' equity to Group AFR.

RECONCILIATION IFRS SHAREHOLDERS' EQUITY TO GROUP AFR <i>Euro billion</i>	L&S	Other than L&S	2016	2015 Restated <sup>3</sup>
<b>IFRS SHAREHOLDERS' EQUITY<sup>1</sup></b>	<b>58.7</b>	<b>11.9</b>	<b>70.6</b>	<b>68.5</b>
Net URCG not included in Shareholders' Equity	1.8	2.4	4.2	5.3
Elimination TSS/TSDI	-	(8.1)	(8.1)	(9.5)
Elimination Intangibles	(20.8)	(12.2)	(33.0)	(33.5)
<i>Goodwill</i>	(6.2)	(9.2)	(15.4)	(15.8)
<i>DAC</i>	(12.2)	(1.4)	(13.7)	(13.7)
<i>VBI</i>	(1.8)	-	(1.8)	(1.9)
<i>others</i>	(0.6)	(1.5)	(2.2)	(2.2)
<b>IFRS TANGIBLE NET ASSET VALUE<sup>1</sup></b>	<b>39.7</b>	<b>(6.0)</b>	<b>33.7</b>	<b>30.7</b>
Dividends to be paid	-	(2.8)	(2.8)	(2.7)
Addition TSS/TSDI and subordinated debt	0.1	17.0	17.1	16.4
Technical provision adjustments	3.8	2.7	6.5	9.8
Other adjustments	1.6	1.9	3.5	2.5
<b>GROUP AVAILABLE FINANCIAL RESOURCES<sup>2</sup></b>	<b>45.1</b>	<b>12.8</b>	<b>57.9</b>	<b>56.8</b>

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

<sup>3</sup> Restated so as to include P&C DAC in TNAV which were in 2015 allocated to "Other adjustments".

The main elements of the reconciliation from the Euro 70.6 billion of IFRS shareholders' equity to the Euro 33.7 billion of IFRS TNAV are as follows:

- Addition of Euro 4.2 billion of net unrealized gains and losses on assets not reflected in IFRS shareholders' equity;
- Deduction of Euro -8.1 billion of undated deeply subordinated notes (TSS) and of undated subordinated notes (TSDI) included in IFRS shareholders' equity;
- Elimination of Euro -33 billion of intangible assets net of unearned revenues and fee reserves, taxes and policyholder bonuses.

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

- Deduction of Euro -2.8 billion of foreseeable dividends to be paid to shareholders in 2017;
- Inclusion of Euro 8.1 billion of undated deeply subordinated notes (TSS) and undated subordinated notes (TSDI), as well as Euro 9.0 billion of dated subordinated debts;
- Addition of Euro 6.5 billion reflecting the Solvency II technical provision adjustments corresponding to the adjustment from IFRS reserves to best estimate liabilities (Euro +16.4 billion) and the market value margin (Euro -9.9 billion) and;
- Other adjustments between IFRS TNAV and Group AFR valuation (Euro 3.5 billion), mainly reflecting the inclusion of minority interests and the treatment of US insurance subsidiaries under the equivalence regime.

The decrease of the technical provision adjustments in 2016 compared to 2015 is mainly driven by the decrease in interest rates reducing the BEL adjustment and increasing the MVM.

## LIFE & SAVINGS NEW BUSINESS AND EEV BY COUNTRY

### LIFE & SAVINGS NEW BUSINESS – KEY FIGURES

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>	2015 Restated <sup>1</sup>	2016	Change <sup>2</sup>	LIFE & SAVINGS NBV ANALYSIS OF CHANGE <i>Euro million, Group share</i>	Total
Regular premiums	3,486	3,678	6%	<b>2015 LIFE &amp; SAVINGS NBV<sup>1</sup></b>	<b>2,471</b>
Single premiums	29,776	29,221	-2%	Modeling changes & other adjustments	12
<b>APE</b>	<b>6,464</b>	<b>6,600</b>	<b>2%</b>	Change in scope and acquisitions	(2)
<b>PVEP</b>	<b>65,667</b>	<b>67,256</b>	<b>1%</b>	Foreign exchange impact	55
<b>NBV</b>	<b>2,471</b>	<b>2,623</b>	<b>5%</b>	Business-driven evolution:	88
o/w CE PVFP less strain	2,936	3,181	7%	o/w Volume	39
o/w Time Value of O&G	(410)	(493)	20%	o/w Business mix	85
o/w CoC/NFR	(54)	(64)	19%	o/w Expenses	53
<b>NBV/APE</b>	<b>38.2%</b>	<b>39.7%</b>	<b>1.1pts</b>	o/w Investment assumptions	(123)
<b>NBV/PVEP</b>	<b>3.8%</b>	<b>3.9%</b>	<b>0.1pt</b>	o/w Actuarial assumptions & others	33
<b>NEW BUSINESS IRR</b>	<b>18.9%</b>	<b>17.8%</b>	<b>(1.1pts)</b>	<b>2016 LIFE &amp; SAVINGS NBV</b>	<b>2,623</b>

<sup>1</sup> 2015 figures are restated to reflect the disposal of UK Life & Savings ; <sup>2</sup> comparable basis: constant methodology & scope for IRR, and constant Forex, scope & methodology for other indicators.

**2016 Life & Savings new business APE** increased by 2% on a comparable basis. The increase in G/A Savings was primarily driven by higher sales in South-East Asia, India & China, as well as Hong Kong and Japan, mainly resulting from the launch of new G/A capital light products, partly offset by Continental Europe. The growth in Protection & Health was primarily driven by Switzerland, as well as Hong Kong and Spain. Funds & Other increased mainly following the underwriting of a large contract in France. This was partly offset by the decrease in Unit-Linked sales, primarily driven by AXA MPS in a context of higher regulatory constraints and adverse market conditions. The evolution of the APE by country is commented in details in the 2016 Activity Report.

**2016 Life & Savings single premiums** decreased by -2% on a comparable basis.

**2016 Life & Savings regular premiums** increased by +6% on a comparable basis.

**2016 Life & Savings present value of expected premiums (PVEP)** increased by +1% on a comparable basis.

**2016 Time value of Options and Guarantees (TVOG)** increased by 20%, driven by higher interest rates volatilities as well as by an increase in volume of G/A Savings products with profit sharing mechanism in Hong Kong (strong sales momentum for "Wealth Advance" newly launched in 2016).

<b>LIFE &amp; SAVINGS NBV ANALYSIS OF CHANGE</b> <i>Euro million, Group share</i>	France	United States	Japan	Germany	Switzerland	Belgium	Italy	Spain	EMEA-LATAM	Hong Kong	SEA, India & China	Total
<b>2015 LIFE &amp; SAVINGS NBV<sup>1</sup></b>	<b>463</b>	<b>423</b>	<b>434</b>	<b>131</b>	<b>124</b>	<b>40</b>	<b>127</b>	<b>63</b>	<b>39</b>	<b>413</b>	<b>219</b>	<b>2,471</b>
Modeling changes & other adjustments	(0)	(7)	(11)	6	(0)	(4)	30	1	(0)	-	(2)	12
Change in scope and acquisitions	(0)	-	1	(0)	-	-	0	0	(6)	-	0	(2)
Foreign exchange impact	-	5	51	-	(1)	-	-	-	(1)	4	(4)	55
Business-driven evolution:	103	(45)	16	28	52	(3)	(50)	0	(0)	(15)	2	88
<i>o/w Volume</i>	8	22	26	4	2	(17)	(24)	3	(3)	4	14	39
<i>o/w Business mix</i>	49	(66)	(31)	14	48	13	(7)	(2)	7	49	11	85
<i>o/w Expenses</i>	69	36	(2)	(3)	(5)	(5)	(6)	2	(4)	(17)	(12)	53
<i>o/w Investment assumptions</i>	(16)	(37)	(17)	6	6	(2)	(10)	(3)	1	(42)	(8)	(123)
<i>o/w Actuarial assumptions &amp; others</i>	(6)	-	39	8	1	9	(3)	(1)	(1)	(9)	(3)	33
<b>2016 LIFE &amp; SAVINGS NBV</b>	<b>565</b>	<b>378</b>	<b>490</b>	<b>164</b>	<b>174</b>	<b>32</b>	<b>107</b>	<b>64</b>	<b>32</b>	<b>402</b>	<b>216</b>	<b>2,623</b>
<i>o/w CE PVFP less strain</i>	673	463	499	238	243	34	115	64	33	586	234	3,181
<i>o/w TVoG</i>	(108)	(65)	(7)	(65)	(64)	(1)	(8)	(0)	-	(172)	(4)	(493)
<i>o/w CoC/NFR</i>	(0)	(20)	(2)	(8)	(5)	(1)	-	(0)	(1)	(13)	(14)	(64)
<b>LIFE &amp; SAVINGS APE</b> <i>Euro million, Group share</i>	<b>2016</b> 1,827	1,732	499	382	301	55	300	86	118	536	754	6,600
	<b>2015</b> 1,767	1,656	418	373	313	100	405	84	148	525	646	6,464
	<i>Change<sup>2</sup></i> 1%	3%	7%	2%	1%	-45%	-26%	2%	-6%	12%	19%	2%
<b>LIFE &amp; SAVINGS NBV MARGIN</b>	<b>2016</b> 30.9%	21.8%	98.2%	43.0%	57.9%	57.9%	35.7%	75.0%	26.9%	74.9%	28.6%	39.7%
	<b>2015</b> 26.2%	25.6%	103.6%	35.1%	39.6%	39.8%	31.3%	75.4%	26.4%	78.5%	33.8%	38.2%
	<i>Change<sup>3</sup></i> 5.4pts	(3.8pts)	(5.5pts)	7.9pts	16.5pts	18.0pts	4.7pts	(0.4pts)	1.0pts	(9.6pts)	(5.3pts)	1.1pts
<b>LIFE &amp; SAVINGS IRR</b>	<b>2016</b> 20.2%	15.7%	13.4%	20.4%	10.7%	14.0%	34.0%	31.9%	14.9%	23.0%	18.7%	17.8%
	<b>2015</b> 18.4%	17.3%	12.9%	20.0%	14.5%	19.1%	26.0%	36.0%	14.8%	22.8%	34.3%	18.9%
	<i>Change<sup>4</sup></i> 1.8pts	(1.5pts)	0.6pts	0.4pts	(3.8pts)	(5.1pts)	8.0pts	(4.0pts)	0.1pts	0.2pts	(15.6pts)	(1.1pts)

<sup>1</sup> 2015 figures are restated to reflect the disposal of UK Life & Savings; <sup>2,3</sup> constant Forex, scope & methodology; <sup>4</sup> constant scope and methodology.

**2016 Life & Savings NBV** increased by 5% to Euro 2,623 million on a comparable basis.

**Business-driven evolution** had an impact of Euro +88 million on the NBV:

- **Volume growth** had an impact of Euro +39 million on the NBV, mainly driven by:
  - **Japan** (Euro +26 million) reflecting strong sales of G/A Savings capital light products, partly offset by the discontinuation of the variable annuities offer;
  - **US** (Euro +22 million) reflecting stronger sales in non GMxB variable annuities retirement plan services products;
  - **South-East Asia, India & China** (Euro +14 million) reflecting strong sales of G/A Savings in China;
  - **Belgium** (Euro -17 million) reflecting lower sales of G/A Savings and Unit-Linked, partly offset by Protection, in line with the strategy to focus on Protection and exit Individual G/A Savings; and
  - **Italy** (Euro -24 million) reflecting lower sales in Unit-Linked, in the context of adverse market conditions and higher regulatory constraints.
  
- **Business mix** improvement increased the Life & Savings NBV by Euro +85 million, mainly driven by:
  - **France** (Euro +49 million) reflecting (i) an increase of the share of international Group Protection business, (ii) higher volumes in Group Health, in a context of change in regulation following the “Accord National Interprofessionnel” effective since January 1, 2016 and (iii) a better mix in Mutual Funds, driven by a large international transaction;
  - **Hong Kong** (Euro +49 million) as a result of higher sales in profitable Health products and lower sales of certain Unit-Linked products;
  - **Switzerland** (Euro +48 million) mainly driven by (i) a favorable evolution in Protection, with a higher share in Group Life compared to Individual Life, (ii) a positive impact within Group Life, due to a higher share of pure risk contracts, and (iii) higher profitability in Individual Life, as a consequence of re-pricing measures;
  - **Japan** (Euro -31 million) mainly reflecting higher sales of G/A Savings and a lower share of Health; and
  - **United States** (Euro -66 million) driven by a lower share of GMxB business and a higher share of Unit-Linked retirement product Structured Capital Strategies.
  
- **Expenses reduction** had an impact of Euro +53 million on Life & Savings NBV, mainly driven by:
  - **France** (Euro +69 million) and **United States** (Euro +36 million) due to an improvement in projected unit costs;
  - **Hong Kong** (Euro -17 million) mainly due to higher costs in the agency distribution channel and higher expenses.

- **Investment assumptions' unfavorable update** had an impact of Euro -123 million on Life & Savings NBV, due to:
  - **Hong Kong** (Euro -42 million) mainly driven by higher interest rate volatilities, leading to a higher time value of Options and Guarantees;
  - **United States** (Euro -37 million) as a consequence of (i) lower interest rate levels, leading to lower locked-in margins from hedging strategies for GMxB products, (ii) a lower level of volatility adjuster (50 bps in 2016 versus 78 bps in 2015), (iii) slightly higher interest rate volatility compared to 2015, partly offset by lower equity volatility;
  - **Euro-area countries** (Euro -25 million) mainly reflecting lower interest rates and higher interest rate volatilities (from 34% in 2015 to 45% in 2016 for IV swaptions 10y 10y) compared to 2015; and
  - **Japan** (Euro -17 million) mainly due to lower interest rates compared to 2015.
  
- **Actuarial assumptions & other updates** had an impact of Euro +33 million on Life & Savings NBV, mainly driven by:
  - **Japan** (Euro +39 million) mainly reflecting lower mortality assumptions in Protection and improved morbidity and lapses in Health.
  
- **2016 Life & Savings NBV** was also impacted by a favorable **foreign exchange effect of Euro 55 million**, reflecting the appreciation of the Japanese Yen versus the Euro.

**Life & Savings NBV margin** increased by +1.1pts on a comparable basis to 39.7%. This increase in NBV margin was mainly driven by a more favorable business mix and lower expenses, partly offset by less favorable interest rates.

**Life & Savings Internal Rate of Return (IRR)** decreased from 18.9% to 17.8% on a comparable basis, with the following main variations:

- **France** (+1.8pts) mainly driven by a favorable business mix;
- **Japan** (+0.6pt) as a result of lower mortality, morbidity and lapse assumptions, partly offset by lower interest rates;
- **Hong Kong** (+0.2pt) mainly driven by a favorable product mix (lower sales of Protection with savings products), combined with a strong sales momentum of newly launched Protection and General Account Savings products with high IRR;
- **United States** (-1.5pts) mainly due to a shift from GMxB Variable Annuities to non-GMxB Variable Annuities, and Employee Sponsored products;
- **South-East Asia, India and China** (-15.6pts) mainly driven by (i) unfavorable changes in lapse assumptions in Thailand and Indonesia and (ii) an adverse country mix resulting from higher sales in China which has a lower IRR;



- **Switzerland** (-3.8pts) as a result of (i) a lower interest rates environment and (ii) a higher strain compared to 2015, partly offset by a better mix; and
- **Germany** (+0.4pt) mainly driven by an improved business mix and partly offset by lower interest rates.

## LIFE & SAVINGS NEW BUSINESS – SENSITIVITIES

The following table presents the sensitivities to various financial and technical shocks of the Life & Savings NBV of AXA.

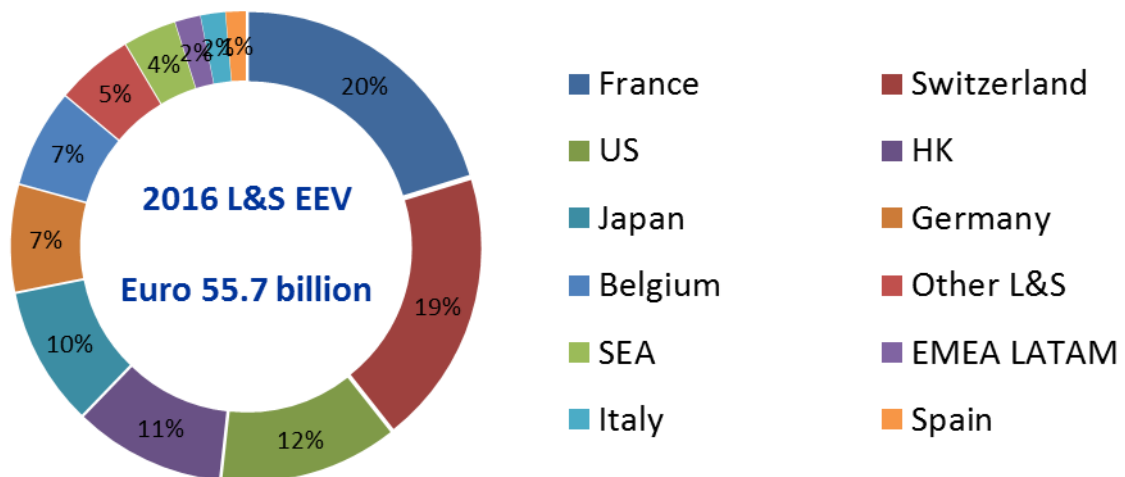
LIFE & SAVINGS NBV SENSITIVITIES	2016 NBV in Euro million	2016 NBV in percentage
<b>CLOSING AMOUNT</b>	<b>2,623</b>	<b>100%</b>
Interest rates +50bps	41	+2%
Interest rates -50bps	(133)	-5%
Equity markets +10%	86	+3%
Equity markets -10%	(78)	-3%
Real estate +10%	8	+0%
Real estate -10%	(15)	-1%
Policyholder lapse -10%	166	+6%
Expenses -10%	128	+5%
Annuity business mortality -5%	(14)	-1%
Life business mortality -5%	35	+1%
Equity volatility +25%	(48)	-2%
Interest rate volatility +25%	(140)	-5%
Credit spreads +50bps <sup>1</sup>	(46)	-2%
Credit spreads -50bps <sup>1</sup>	44	+2%
Volatility adjustment = 0bps	(117)	-4%
Volatility adjustment +10bps	41	+2%

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

NBV sensitivities remained stable compared to 2015. NBV is positively sensitive to an increase in interest rates as investment margins improve when policyholder's guarantees are less in the money. This gross positive sensitivity is partly offset by profit sharing and dynamic lapses mechanisms, which are causing asymmetry with regards to sensitivity to a decrease in interest rates.

## LIFE & SAVINGS EEV BY COUNTRY

The following chart provides with the breakdown of the Life & Savings EEV by country.



Total Life & Savings EEV amounted to Euro 55.7 billion (of which Euro 26.6 billion of Life & Savings value of in-force).

The geographical breakdown applied above is described in appendix A.1 “*Covered Business and Valuation Date*”.

## GROUP OPERATING FREE CASH FLOWS

### GROUP OPERATING FREE CASH FLOWS

2016 Group Operating Free Cash Flows remained stable at Euro 6,174 million.

<b>OPERATING FREE CASH FLOWS</b> <i>Euro million, Group share</i>	<b>2016</b>	<b>2015</b> <b>Restated<sup>1</sup></b>
Life & Savings	2,945	3,060
Property & Casualty	2,734	2,598
Bank & Asset Management	494	555
<b>GROUP OPERATING FREE CASH FLOWS</b>	<b>6,174</b>	<b>6,213</b>

<sup>1</sup> 2015 figures are restated to reflect the disposal of UK Life & Savings.

2016 Life & Savings Operating Free Cash Flows decreased by Euro -115 million to Euro 2,945 million.

2016 Property & Casualty Operating Free Cash Flows increased by Euro +136 million to Euro 2,734 million.

2016 Banking & Asset Management Operating Free Cash Flows decreased by Euro -60 million to Euro 494 million.

### LIFE & SAVINGS OPERATING FREE CASH FLOWS

This section presents the Life & Savings Operating Free Cash Flows by country and by component (expected statutory earnings and expected change in required capital).

<b>OPERATING FREE CASH FLOWS L&amp;S</b> <i>Euro million, Group share</i>	<b>2016</b>	<b>2015</b> <b>Restated<sup>1</sup></b>
<b>L&amp;S EXPECTED STATUTORY EARNINGS</b>	<b>2,956</b>	<b>3,125</b>
o/w L&S Expected existing business earnings	4,227	4,369
o/w L&S New business strain	-1,271	-1,244
<b>L&amp;S EXPECTED CHANGE IN REQUIRED CAPITAL</b>	<b>-11</b>	<b>-65</b>
o/w L&S Expected existing business change in required capital	416	299
o/w L&S New business required capital	-427	-364
<b>TOTAL L&amp;S OPERATING FREE CASH FLOWS</b>	<b>2,945</b>	<b>3,060</b>

<sup>1</sup> 2015 figures are restated to reflect the disposal of UK Life & Savings; 2015 published L&S FCF amounted to Euro 3100 million.

2016 Life & Savings Operating Free Cash Flow decreased by Euro -115 million to Euro 2,945 million on a comparable basis. These cash flows were estimated based on management's

expectations on future economic conditions as of the previous closing date as detailed in the appendices of the 2015 EEV report.

- **Expected Statutory earnings** were assumed to decrease by Euro -169 million to Euro 2,956 million, mainly driven by:
  - **Switzerland** (Euro -99 million), as a result of lower assumed interest rates compared to 2015, leading to lower financial margins and increased statutory reserves;
  - **Hong Kong** (Euro -81 million), as a result of (i) lower statutory reserving rate following lower interest rate environment, (ii) lower expected equity return, and (iii) a decrease in Protection with Savings sales in 2015, driven by new Unit-Linked regulations, reducing the release of in-force earnings; and
  - **Germany** (Euro -60 million), mainly due to the expected negative impact of lower interest rate levels, resulting in an allowance to “ZinsZusatzReserve” (reserve relating to guaranteed products).

Partly offset by:

- **United States** (Euro +229 million), mainly driven by more favorable actuarial assumptions.
- 
- **Expected change in required capital** was assumed to decrease by Euro +55 million, to Euro -11 million, mainly driven by:
    - **Switzerland** (Euro -134 million), due to higher release of in-force required capital in SST<sup>5</sup> and lower capital needs from new business, due to a better product mix in Group business;
    - **France** (Euro -73 million), reflecting an increase in present value of future profits due to more favorable expense assumptions;
    - **Spain** (Euro -62 million), as a result of an improved new business mix and higher in-force capital requirement release due to higher expected lapses on annuities; and
    - **Italy** (Euro -61 million), mainly driven by lower capital requirement needs from the new business, with lower volumes and a higher share in Protection and higher in-force capital release due to higher conversion from General Account to multiline products.

Partly offset by:

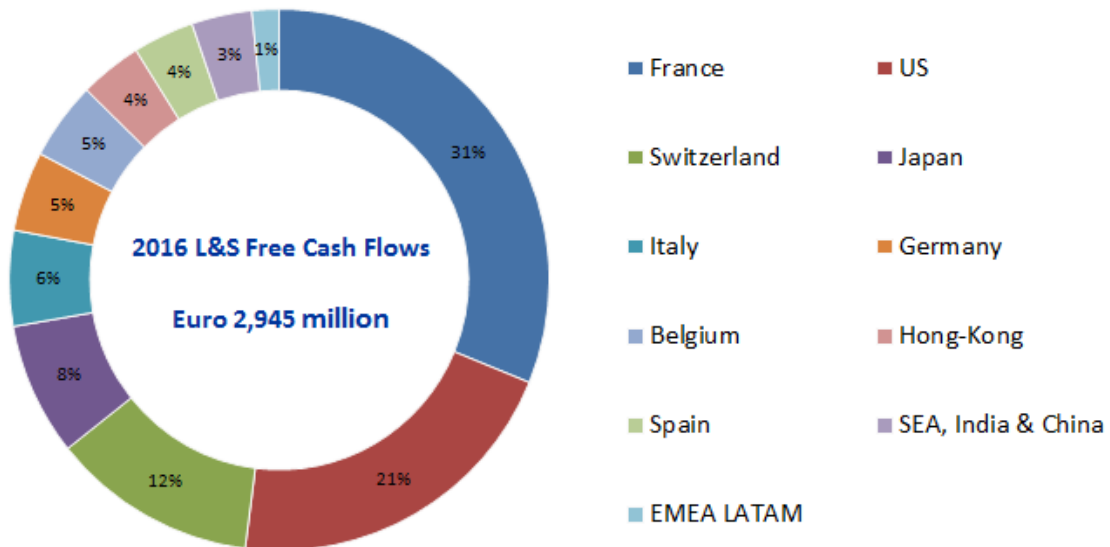
- **United States** (Euro 272 million), mainly driven by higher new business capital consumption following volume increase in Structured Capital Strategies and lower in-force capital requirement release notably on GMxB products due to the non-repeat of an increase in statutory reserves in 2015, which had led to lower RBC capital needs.

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<sup>5</sup> Local solvency regime in Switzerland

## LIFE & SAVINGS OPERATING FREE CASH FLOWS BY COUNTRY

The following chart provides with the breakdown of the Life and Savings Operating Free Cash Flows by country.



2016 Life & Savings Operating Free Cash Flows amounted to Euro 2,945 million.

## OPERATING FREE CASH FLOWS FOR PROPERTY & CASUALTY, BANKING AND ASSET MANAGEMENT

This section presents Free Cash Flows for Property & Casualty, Bank and Asset Management segments.

OPERATING FREE CASH FLOWS P&C and B&AM <i>Euro million, Group share</i>	2016		2015	
	P&C	B&AM	P&C	B&AM
Earnings contribution <sup>1</sup>	2,874	494	2,749	555
Change in required capital	(140)	-	(151)	-
<b>TOTAL P&amp;C and B&amp;AM OPERATING FREE CASH FLOWS</b>	<b>2,734</b>	<b>494</b>	<b>2,598</b>	<b>555</b>

<sup>1</sup> IFRS Underlying Earnings including Realized Capital gains.

**2016 Property & Casualty Operating Free Cash Flows increased by Euro +136 million to Euro 2,734 million:**

- **Earnings contribution increased by Euro +124 million to Euro 2,874 million**, as a result of higher underlying earnings and higher realized capital gains. The evolution of the earnings is commented in details in the 2016 Activity Report. Change in required capital remained relatively stable.

**2016 Banking & Asset Management Operating Free Cash Flow decreased by Euro -60 million to Euro 494 million**, mainly driven by:

- **Asset Management** decreased by Euro -42 million driven by lower revenues at AB and AXA Investment Managers and unfavorable tax one-offs at AB; and
- **Banking** decreased by Euro -18 million, mainly attributable to Belgium as a consequence of lower operating net banking revenues.

## LINKING GROUP OPERATING FREE CASH FLOWS TO CHANGE IN AFR

The following table presents the reconciliation between Group Operating Free Cash Flows (FCF) and expected Group available financial resources (AFR) excluding Holdings.

RECONCILIATION <i>Euro billion</i>	Group 2016
<b>GROUP OPERATING FREE CASH FLOWS</b>	<b>6.2</b>
Adding back change in required capital <sup>1</sup>	1.0
L&S value of new premiums from non-EEA entities	1.2
Holdings and others	(1.5)
<b>EXPECTED CHANGE IN AFR</b>	<b>6.9</b>
<i>o/w Expected business contribution</i>	3.9
<i>o/w Value of new premiums</i>	3.0

<sup>1</sup> Change in SCR for EEA entities, change in local required capital for non-EEA entities.

The main elements of the reconciliation from the Euro 6.2 billion of expected Group FCF to the Euro 6.9 billion of expected change in Group AFR are as follows:

- Addition of Euro 1.0 billion of change in required capital already reflected as a deduction in the FCF; capital requirement being consistent with Solvency II rules for EEA entities and with local regulation for other non-EEA entities;
- Addition of Euro 1.2 billion of present value of future profits created by non EEA entities; and
- Deduction of Euro -1.5 billion of Holdings expenses and interest charges, and other items.

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# APPENDICES

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## A. METHODOLOGY

### A.1 COVERED BUSINESS AND VALUATION DATE

The IFRS scope of consolidation is the reference scope for the consolidation of the Solvency II balance sheet of which the Available Financial resources (AFR) is a component.

The **Group AFR** is the sum of the AFR of the Life & Savings, Property & Casualty, Banking & Asset Management and Holdings segments.

**AXA's Life & Savings** segment covers a broad range of life insurance products, including retirement and health products, for both companies and individuals. This segment accounted for 60% or Euro 60 billion of AXA's consolidated IFRS gross revenues for the year ended December 31, 2016. The following entities are in the scope of this segment:

- United States
- France
- Germany
- Belgium
- Switzerland
- Italy
- Spain
- EMEA-LATAM (including the Czech Republic, Slovak Republic, Poland, Luxembourg, Greece, Morocco, Turkey, Mexico and Colombia)
- Japan
- Hong Kong
- Southeast Asia (including Indonesia, Thailand, Philippines, and Singapore), India and China
- Others Life (including AXA Life Europe, AXA Global Life and ACS Life Re)

**AXA's Property & Casualty** segment covers a broad range of products, including mainly motor, household, property and general liability insurance for both personal and commercial customers. This segment accounted for 36% or Euro 36 billion of AXA's consolidated IFRS gross revenues for the year ended December 31, 2016. The following entities are in the scope of this segment:

- France
- UK including Ireland
- Germany
- Belgium
- Switzerland
- Italy

- Spain
- EMEA-LATAM (including Czech Republic, Poland, Luxembourg, Greece, Morocco, Nigeria, Lebanon, Turkey, Gulf, Mexico, Colombia and Brazil)
- AXA Corporate Solutions
- AXA Global Direct
- Others P&C (including AXA Global P&C, AXA Assistance, AXA Asia P&C and AXA Liabilities Managers)

**AXA's Banking & Asset Management** segment notably includes AXA Bank Europe, AXA Investment Managers and Alliance Bernstein.

**AXA's Holdings** segment includes AXA SA and other holdings.

2016 AFR were determined using data and assumptions as of December 31, 2016 for all covered businesses with foreign exchange rates consistent with IFRS accounts.

## A.2 ECONOMIC RESOURCES – AFR

**Available Financial Resources (AFR)** represent the amount of economic capital available to absorb losses under stress events. The AFR are the surplus of assets over liabilities derived from the Solvency II balance sheet.

AFR are split into three different buckets of capital (so-called “tiers”) determined according to the quality of such components as defined by Solvency II regulation. Tier 1 includes the capital net of foreseeable dividend mainly made of ordinary shares, a reconciliation reserve and eligible undated subordinated debt. Tier 2 includes dated subordinated debt and the potential reclassification of undated subordinated debt into Tier 2, if exceeding 20% of total Tier 1. Tier 3 mainly includes net deferred tax assets.

As per Solvency II regulation, the following limits apply: (a) the eligible amount of Tier 1 items shall be at least one half of the Solvency Capital Requirement; (b) the eligible amount of Tier 3 items shall be less than 15 % of the Solvency Capital Requirement; (c) the sum of the eligible amounts of Tier 2 and Tier 3 items shall not exceed 50 % of the Solvency Capital Requirement. In addition, Tier 1 subordinated debt shall not exceed 20% of total Tier 1.

## A.3 ASSETS

**Assets** in the Solvency II market consistent balance sheet correspond to financial and non-financial, deferred tax assets and reinsurance recoverable.

**Invested assets:** as a general principle, are marked-to-market in the Solvency II balance sheet. As most invested assets, such as listed equities and bonds, are classified as “available for sale assets” under IFRS, they are already measured at fair value in the IFRS balance sheet. So there is no need to adjust their IFRS fair value for Solvency II balance sheet. Real estate assets, on the other hand, are recorded at cost in the IFRS balance sheet, so they need to be restated to market value under Solvency II. Likewise, for all other invested asset categories not recorded at fair value under IFRS, an adjustment to re-measure them at fair value is performed.

**Intangible assets,** such as goodwill, customer values, value of business inforce and deferred acquisition costs are eliminated in the Solvency II balance sheet. However, other intangible assets, that are separable and for which there are evidence of exchange transactions for the same or similar assets, indicating they are saleable in the market place, are recognized at fair value. In practice this corresponds to software.

**Reinsurance assets,** recoverable from reinsurance contracts and special purpose vehicles are also adjusted from their IFRS value to take into account the expected losses due to default of the counterparty.

**Deferred tax assets and liabilities (DTA and DTL).** All Solvency II adjustments from IFRS are reflected with the corresponding impacts on DTA and DTL. The recoverability of the potential net DTA is tested at Group level using Solvency II principles.

## A.4 LIABILITIES

**Best Estimate Liabilities** correspond to the probability-weighted average of future policyholder’s claims and benefits, expenses, taxes, taking into account the time value of money by discounting these future cash flows at their present value. The calculation of best estimates is based upon up-to-date credible information and realistic assumptions. The cash-flow projections used in the calculation of best estimates take into account all the cash in- and out-flows required to settle the insurance and reinsurance obligations over their lifetime.

This valuation requires deep analysis of the underlying obligations, collection of qualitative and quantitative information, projection tools and models, and expert judgment in a number of areas. The best estimate liability is recognized on a gross of reinsurance basis, without deduction of any amounts recoverable from reinsurance contracts and special purpose vehicles. The latter are recognized separately.

Contract boundaries limitations are taken into account as per Solvency II regulation (see section B.2).

The best estimate liabilities include an allowance for time value of Options and Guarantees (O&G).

This time value of O&G covers all material O&G embedded in AXA’s Life and Savings operations. The key O&G considered are interest rate guarantees on traditional products, profit sharing rules, guaranteed benefits on Unit-Linked annuity products and dynamic policyholder behavior, that is, the options that policyholders can elect in a manner that are unfavourable to the company. They are calculated following a risk neutral approach (see section A.5).

**Market Value Margin** or Risk Margin (MVM or RM) is added to the best estimate policyholder's liabilities to reach values consistent with the manner in which market prices are fixed when there are no deep and liquid markets. The RM is defined as the cost of non-hedgeable risk, i.e. a margin in addition to the expected present value of liability cash flows required to manage the business on an ongoing basis. It is deemed to be the present value of the cost of future economic capital requirements (derived from the internal model) for non-hedgeable risks. As per Solvency II regulation, MVM is calculated with a cost of capital rate of 6.

**Subordinated debt** issued by the Group is treated as capital under Solvency II regulation and therefore part of AFR, subject to tiering limits.

**Senior debt** is re-measured at fair value excluding AXA's own credit risk movements and treated as liabilities.

**Foreseeable dividends** are deducted from the AFR, as required by the Solvency II regulation.

## A.5 RISK NEUTRAL VALUE

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

The economic scenarios are constructed using a proprietary economic scenario generator developed by Barrie & Hibbert. A number of asset classes and economic assumptions are modelled 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+), which 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 of underlying market parameters to ensure that the valuation replicates the market prices of assets. Three key areas of calibration are the initial yield curves, the implied market consistent volatility, and the correlations between asset classes and geographies. The model calibration is described further under section B.1. The interest rate model considers both parallel shifts and twists to the yield curve.

## A.6 TREATMENT OF INSURANCE SUBSIDIARIES IN THE US

As permitted per the Solvency II regulation, AXA US operations are considered under the provision of the equivalence regime. Thus, their contribution to Group AFR corresponds to the local available capital used for the calculation of the risk-based capital (RBC) ratio. The components of the available capital are (i) the statutory capital and surplus, (ii) the asset valuation reserve, which cushions surplus against market losses from the asset portfolio (iii) and 50% of the provision for policyholder dividends to be paid in the following year.

Local operations are subject to the periodic examination by the New York State Department of Financial Services. As of Dec. 31st, 2016, a DFS review was on-going and the best estimate impact of this review has been reflected in the available capital under equivalence and in the capital coverage ratio.

## A.7 SECTORAL RULES

The so-called “sectoral rules” are part of Solvency II regulation and relate to non-insurance financial services. Under sectoral rules, the contribution of those operations corresponds to their available capital as per applicable sector rule.

## A.8 NEW BUSINESS

The **value of new business** (“NBV”) sold during the calendar year is determined based on the EEV CFO Forum principles.

The new business value includes both the initial cost (i.e. “strain”) of selling new business and the future earnings and return of capital to the shareholder.

New business includes new contracts written in the current year. If future flexible premia and expected renewal flows from those contracts 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. 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.

As allowed by the EEV CFO Forum Principles (Principle 8), the Solvency II limitations relating to the boundaries of an insurance contract are not considered for the calculation of the value of new business.

The NBV includes an allowance for the Time Value of Options and Guarantees, calculated following a risk neutral approach (see section A.5 Risk Neutral Value).

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

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

## A.9 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 future profits 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 2016 but in a new market environment.

For US life and savings business, AFR sensitivities apply to US contribution to Group AFR under the provision of the equivalence regime. For South East Asia and China, sensitivities are computed for interest rates only.

**Upward shift of 50 basis points in reference rates<sup>6</sup>** 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 50 basis points in reference rates** is the same as above but with a shift downward. Where the shift of 50 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 for equities only. Listed equities and private equity values 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 methodology as mentioned above assuming a decrease.

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<sup>6</sup> Sensitivities to reference rates are based on +/-50 basis points compared to +/-100 basis points in 2015 EEV report.

**10% higher value of real estate** simulates a shock to the initial conditions for real estate only. 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 methodology as mentioned above assuming a decrease.

**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 point 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 point instantaneous decrease in credit spreads:** same methodology as mentioned above assuming a decrease.

**Overall 10% decrease in the lapse rates** means that base lapse rates are multiplied by 0.9. Decreased lapses can have a positive or negative effect 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 a 5% lower mortality rate.

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

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

## **A.10 FREE CASH FLOWS**

**Group Free Cash Flows** are the sum of L&S, P&C and Banking & Asset Management Free Cash Flows.

**L&S Free Cash Flow:** a measure of dividend paying capacity calculated as the sum of expected statutory earnings and expected required capital changes.

**P&C Free Cash Flow:** a measure of dividend paying capacity calculated as the sum of IFRS Underlying Earnings including realized capital gains and realized required capital changes.

**B&AM Free Cash Flow:** a measure of dividend paying capacity, equal to IFRS Underlying Earnings.

**Required capital** is the amount of assets, over and above the value placed on liabilities in respect of covered business, whose distribution to shareholders is restricted due to local regulatory requirement. Depending on jurisdictions, capital available to cover required capital might include soft capital. 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.

For insurance units operating in the EEA, the required capital is at least sufficient to obtain a 130% solo solvency ratio. For insurance units operating outside EEA, the minimum target solvency ratio is at least 130% for Switzerland, and at least 150% for other entities with limitations on soft capital to half of the target solvency capital. For the US, the target capital is 300% for AXA Equitable Life Insurance and 200% for AXA Re Arizona.

## A.10 GROUP EMBEDDED VALUE

**Group Embedded Value** is the Life and Savings European Embedded Value plus IFRS Tangible Net asset Value for other segments. It is derived from the AFR with the following adjustments: (i) inclusion of dividend to be paid, (ii) removal of subordinated debts, (iii) removal of MVM and inclusion of a cost of capital and non-financial risks, (iv) removal of boundaries of contract limitations, (v) group share impact and (vi) US equivalence impact.

## B. ASSUMPTIONS

### B.1 FINANCIAL ASSUMPTIONS

#### Investments market conditions

The projection of cash flows considers economic scenarios designed to reflect market conditions. Any such model necessarily has a limited number of inputs, and will not perfectly reproduce all of the current conditions. The target conditions for the modeling are described below. 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 AFR and NBV calculations, AXA generates market-consistent economic scenarios based on reference interest yield curves. AXA has fully aligned the determination of the reference yield curves with Solvency 2 methodology.

The details of the methodology to determine the reference yield curve under Solvency 2 are available in the Solvency 2 Delegated Acts. When complying with this methodology, AXA performs the following adjustments over the interest rate swap curves:

- Application of credit risk adjustments -CRA- (deducted from the curves) and volatility adjustments -VA- (added to the curves) until the last liquid point. The application of the volatility adjustment is conditional on the type of business. In practice, for General Account business, 100% of volatility adjustment is applied while 0% is used for Unit-Linked business;
- Interpolation based on Smith-Wilson technique from the forward rate at the last liquid point to ultimate forward rate (UFR), 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 2016 and 2015 (restated with volatility adjustment/credit risk adjustment) are summarized in the table below:

<b>REFERENCE YIELD CURVE PARAMETERS</b>	<b>Period</b>	<b>EUR</b>	<b>USD</b>	<b>GBP</b>	<b>JPY</b>	<b>CHF</b>	<b>HKD</b>
<b>Volatility adjustment</b> <i>basis points</i>	<b>2016</b>	13	50	29	2	5	50
	<b>2015</b>	22	78	31	3	9	78
<b>Credit risk adjustment</b> <i>basis points</i>	<b>2016</b>	10	15	17	10	10	18
	<b>2015</b>	10	10	12	10	10	10
<b>Ultimate forward rate</b> <i>percentage</i>	<b>2016</b>	4.20	4.20	4.20	3.20	3.20	4.20
	<b>2015</b>	4.20	4.20	4.20	3.20	3.20	4.20
<b>Last liquid point</b> <i>years</i>	<b>2016</b>	20	50	50	30	25	15
	<b>2015</b>	20	50	50	30	25	15
<b>Convergence period to UFR</b> <i>years</i>	<b>2016</b>	40	40	40	40	40	40
	<b>2015</b>	40	40	40	40	40	40

The last liquid point is set by Solvency II regulation on the basis of an assessment of the liquidity of the corresponding swap market. The convergence period is used in the interpolation method referred to above.

The following tables show the reference yield curves as of December 31, 2016 and December 31, 2015. The first table corresponds to application of 0% of volatility adjustment, used for Unit-Linked business and the second to 100% of volatility adjustment for General Account business.

0% VA*	EUR		USD		GBP		JPY		CHF		HKD	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Maturity												
1	-0.3%	-0.2%	1.0%	0.8%	0.4%	0.7%	-0.1%	0.0%	-0.8%	-0.8%	1.3%	0.6%
2	-0.3%	-0.1%	1.3%	1.1%	0.4%	1.0%	-0.1%	0.0%	-0.7%	-0.7%	1.6%	0.9%
3	-0.2%	0.0%	1.6%	1.3%	0.5%	1.2%	-0.1%	0.0%	-0.6%	-0.7%	1.8%	1.1%
5	0.0%	0.2%	1.8%	1.7%	0.7%	1.5%	0.0%	0.1%	-0.4%	-0.4%	2.2%	1.5%
7	0.2%	0.5%	2.0%	1.9%	0.9%	1.7%	0.0%	0.2%	-0.2%	-0.1%	2.3%	1.7%
10	0.6%	0.9%	2.2%	2.2%	1.1%	1.9%	0.1%	0.3%	0.0%	0.2%	2.5%	1.9%
15	1.0%	1.3%	2.4%	2.4%	1.3%	2.1%	0.3%	0.7%	0.3%	0.5%	2.7%	2.1%
20	1.1%	1.5%	2.5%	2.5%	1.3%	2.1%	0.6%	0.9%	0.5%	0.7%	2.9%	2.4%
25	1.4%	1.8%	2.5%	2.6%	1.3%	2.1%	0.7%	1.1%	0.5%	0.8%	3.1%	2.7%
30	1.8%	2.1%	2.5%	2.6%	1.3%	2.0%	0.7%	1.2%	0.7%	1.0%	3.3%	2.9%

100% VA*	EUR		USD		GBP		JPY		CHF		HKD	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Maturity												
1	-0.2%	0.1%	1.5%	1.6%	0.7%	1.0%	-0.1%	0.0%	-0.7%	-0.7%	1.8%	1.4%
2	-0.1%	0.1%	1.8%	1.9%	0.7%	1.3%	-0.1%	0.0%	-0.7%	-0.7%	2.1%	1.7%
3	-0.1%	0.2%	2.1%	2.1%	0.8%	1.5%	0.0%	0.0%	-0.6%	-0.6%	2.3%	1.9%
5	0.1%	0.5%	2.3%	2.4%	1.0%	1.8%	0.0%	0.1%	-0.4%	-0.3%	2.7%	2.2%
7	0.3%	0.7%	2.5%	2.7%	1.2%	2.0%	0.0%	0.2%	-0.1%	-0.1%	2.8%	2.4%
10	0.7%	1.1%	2.7%	2.9%	1.4%	2.2%	0.1%	0.4%	0.1%	0.2%	3.0%	2.6%
15	1.1%	1.6%	2.9%	3.2%	1.6%	2.4%	0.4%	0.7%	0.4%	0.6%	3.2%	2.9%
20	1.2%	1.7%	3.0%	3.3%	1.6%	2.4%	0.6%	1.0%	0.5%	0.8%	3.4%	3.1%
25	1.5%	2.0%	3.0%	3.4%	1.6%	2.4%	0.7%	1.1%	0.6%	0.9%	3.5%	3.3%
30	1.9%	2.3%	3.0%	3.4%	1.6%	2.4%	0.8%	1.2%	0.8%	1.1%	3.6%	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 can be 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.

The table below shows the target volatilities for interest rate and equity in 2015 and 2016.

TARGET INTEREST RATE VOLATILITIES (10y swaptions)	2016		2015	
	year 5	year 10	year 5	year 10
EUR	51%	45%	38%	34%
USD	31%	28%	31%	26%
GBP	51%	49%	32%	30%
JPY	52%	35%	39%	26%
CHF	103%	103%	91%	76%
HKD	27%	26%	34%	29%

TARGET EQUITY VOLATILITIES	2016		2015	
	year 5	year 10	year 5	year 10
EUR	21%	22%	21%	22%
USD	21%	27%	22%	27%
GBP	20%	22%	20%	22%
JPY	21%	22%	20%	21%
CHF	16%	17%	17%	17%
HKD	20%	23%	20%	21%

**Correlations** measure the extent to which various asset classes and geographies move together over time. The correlation of equity returns, inflation, bond yields, and geographies, 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 from whose price one can, in an objective manner, derive market consistent implied correlations. AXA’s modeling ensures that correlations between equities and 10 year bond interest rates are between 10% and 25%.

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

INFLATION RATE	2016	2015
EUR	1.2%	0.4%
USD	2.3%	1.1%
GBP	3.4%	2.0%

## 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 for Life & Savings 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.

<b>ASSET MIX</b> <i>Percentage of fixed-income/equity/others at ultimate</i>	<b>2016</b>	<b>2015</b>
United States	88/0/12	91/0/9
France	85/8/7	85/8/7
Switzerland	76/5/19	79/6/15
Japan	91/9/0	91/8/1
Belgium	74/5/21	74/5/21
Hong Kong	75/20/5	76/18/6
Germany	91/5/4	92/5/3

## EXCHANGE RATES

End of year AFR and NBV are calculated using end of year exchange rates.

<b>EXCHANGE RATES</b> <i>vs. Euro</i>	<b>2016</b>		<b>2015</b>	
	<b>Year-end</b>	<b>Average</b>	<b>Year-end</b>	<b>Average</b>
USD	1.055	1.105	1.086	1.119
GBP	0.854	0.812	0.737	0.731
CHF	1.072	1.089	1.087	1.078
JPY	123.0	121.2	130.7	135.4
HKD	8.178	8.578	8.419	8.679
CZK	27.02	27.03	27.02	27.31
HUN	308.9	311.7	316.0	310.1
POL	4.403	4.357	4.290	4.187
SGD	1.524	1.528	1.541	1.533
PHP	52.43	52.44	51.12	50.87
THB	37.74	39.06	39.09	38.21
IDR	14210	14747	14975	14892
CNY	7.330	7.324	7.054	7.025
INR	71.59	74.19	71.87	71.68
TRY	3.710	3.330	3.171	3.007

## B.2 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 policyholders and beneficiaries. AXA 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	2016	2015
United States	35%	35%
France	34%	34%
Switzerland	21%	21%
Japan	28%	29%
Belgium	34%	34%
Hong Kong	0.825% of premia	0.825% of premia
Germany	32%	32%

In most jurisdictions, different tax rates apply to different types of income and expense, so effective tax rates will vary. Generally, stochastic projections also reflect the impact of economic scenarios on the sources of taxable income and the related taxes.

In December 2016 the French parliament voted a decrease in corporate taxes. This decrease will be progressive from a 34.43% tax rate to 28.92% for 2020. It has been reflected in the AFR as at 31 December 2016.

### Expenses

Expenses include administrative, investment management, claims management and acquisition expenses which relate to recognized insurance and reinsurance obligations. Such expenses are based on the actual analysis of expenses performed by each company. The assumptions underlying the expense projections should be consistent with the strategy of the company, taking into account future new business and any change in the expenses validated by local management. An allowance is made in the projections for inflation on future expenses. Inflation assumptions are selected on the basis of the local economic environment and the specifics of each company, and generally vary across economic scenarios.

## Boundary of an insurance or reinsurance contract

The boundaries of contract principles set by the Solvency II regulation define which future premiums expected from in-force contracts already underwritten may be included in the projection (Solvency II Delegated Acts published in the Official Journal of the European Commission on January 17, 2015). If the company has either a right to reject future premiums on a unilateral basis or to re-price these premiums so as to reflect the full risks covered, they should be excluded from the Solvency II balance sheet. The best estimate liabilities, as reflected in AFR, are consistent with this Solvency II requirement on contract boundaries limitation. Nonetheless, as allowed by the EEV CFO Forum Principles (Principle 8), limitations regarding the boundaries of an insurance contract are not considered for the calculation of the NBV.

## 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 returns do 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.

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 net present value of future profits;
- 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 net present value of future profits.

The participating features of products are usually a combination of contractual / legal requirements, and management discretion based on competition 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 modelled 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 actions

Management actions refer to operational measures available to company's management in order to strengthen business. Dynamic management actions include, but are not limited to strategic asset allocation, crediting rates in participating business, products pricing and expense management. As stated in the Delegated Acts published in the Official Journal of the European Commission on January 17, 2015, assumed future management actions are to be consistent with the insurance or reinsurance undertaking's current business practice and business strategy. Management actions shall recognize the time and cost of implementing them, and must be documented. Management actions are applied to both in AFR and NBV.

## B.3 REAL WORLD ECONOMIC ASSUMPTIONS

The pre-tax management's expectations for future economic conditions in 2015 and 2016 are shown in the following table. Those assumptions are used to derive the internal rates of return.

REAL WORLD ASSUMPTIONS			EUR	USD	JPY	CHF	HKD
<b>30Y GOVERNMENT RATE</b> <i>Percentage</i>	<b>First year</b>	<b>2016</b>	1.2	3.2	0.5	0.3	2.5
		<b>2015</b>	1.4	3.1	1.5	0.5	2.7
	<b>Ultimate</b>	<b>2016</b>	2.5	3.8	1.9	2.6	3.8
		<b>2015</b>	3.6	5.1	3.0	3.5	5.2
<b>EQUITY RETURN</b> <i>Percentage, including dividends</i>	<b>First year</b>	<b>2016</b>	-2.5	-1.0	-2.0	2.2	4.0
		<b>2015</b>	8.5	2.0	6.5	4.9	4.0
	<b>Ultimate</b>	<b>2016</b>	5.8	6.0	3.4	4.7	7.9
		<b>2015</b>	6.7	7.3	4.3	5.2	8.5
<b>REAL ESTATE</b> <i>Percentage</i>	<b>First year</b>	<b>2016</b>	3.0	N/A	N/A	3.5	-13.0
		<b>2015</b>	9.5	N/A	N/A	3.7	13.5
	<b>Ultimate</b>	<b>2016</b>	5.1	N/A	N/A	4.3	6.0
		<b>2015</b>	6.0	N/A	N/A	4.0	7.0
<b>INFLATION RATE</b> <i>Percentage</i>	<b>First year</b>	<b>2016</b>	1.0	1.6	0.1	0.0	2.5
		<b>2015</b>	0.7	0.5	1.3	0.1	2.4
	<b>Ultimate</b>	<b>2016</b>	2.0	2.5	1.5	1.0	3.0
		<b>2015</b>	2.0	2.5	2.0	1.5	3.0

## C: GLOSSARY

**AFR (Available Financial Resources):** surplus derived from the Solvency II balance sheet. It is defined as the excess of market value of assets over market value of liabilities as of valuation date.

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

**BEL (Best Estimates Liabilities):** Market value of obligations of an insurance company to the policyholders and beneficiaries.

**BoC (Boundary of Contract):** the boundaries of contracts principles set by the Solvency II rules define which future premiums expected from inforce contracts already underwritten may be included in the projection.

**Certainty Equivalent PVFP (CE 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 instruments are assumed to earn the reference rate.

**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.

**Economic variance:** reflects the experience variance observed over current year compared to the management case scenario on expected financial conditions for the current year at the end of the previous year, and the change in AFR created by reflecting end of current year market conditions in the BEL rather than those of end of last year.

**Expected existing business contribution:** reflects the release of TVOG, plus the unwind of the AFR at the reference rate plus the financial over-performance expected under management case assumptions defined at the end of the previous year.

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

**IRR (Internal Rate of Return):** is a measure of the rate of return on any investment. IRR is the discount rate at which the present value of distributable earnings over the full lifetime of the business is equal to the capital invested to support the business underwritten.



**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 premiums.

**MVM (Market Value Margin):** is the present value of the cost of future economic capital requirements for non-hedgeable risks. The MVM is a part of the market-consistent value of liabilities.

**NBV (New Business Value):** the value of newly issued contracts during the current year. It consists of the present value of future profits after the costs of acquiring business, less (i) an allowance for the time value of financial option and guarantees, (ii) cost of capital and non-financial risks. AXA calculates this value net of tax.

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

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

**Operating variance and change in assumptions:** operating variance reflects the variation of year-end AFR versus the expected AFR due to the difference over the current year between realized and expected operational assumptions, such as mortality, longevity, lapses and expenses. Change in assumptions corresponds to the impact of changes in future assumptions relating to similar operational items.

**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.

**Reference interest rate:** the risk free rate proxy used as the basis for the market-consistent valuation.

**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.

**Solvency Capital Requirement:** is the capital required under local regulation. Under Solvency II it is calculated either with the standard formula (risk-based with factors applied on provisions and other key metrics or scenario-based with stress tests), or internal models (upon validation by supervisors).

**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 allows the total value of the O&G to be determined. The difference represents the Time Value.

**UFR (Ultimate Forward Rate):** is a rate specified under Solvency II regulation which is defined by currency zone and is equal to the sum of a long-term inflation and an expected real rate of interest defined by the European Insurance and Occupational Pensions Authority ("EIOPA").

**Value of new premium:** the value of new premium for Life & Savings and Property & Casualty is defined as the value attached to the new premium under Solvency 2 requirements including the application of contract boundaries. Thus, value of new premium generates AFR.

**VIF (value of in-force business):** the discounted value of after-tax statutory profits projected over the future duration of existing liabilities. This notably includes Time Value of O&G and CoC/NFR. **Volatility adjustment:** an adjustment to the risk-free yield curve. The volatility adjustment is defined by currency zone and is 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.

## D. CAUTIONARY 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 report.

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 Available Financial Resources are reconciled to IFRS shareholders' equity as reported in AXA's 2016 financial statements. AXA's 2016 financial statements have been examined by the Board of Directors on February 22, 2017 and, as of the date of this report, are subject to completion of audit procedures by AXA's statutory auditors.

Auditors were asked to issue a report on the Economic Resources' information disclosed in the AXA Embedded Value & AFR report. The procedures performed by auditors encompass the disclosure of the results and of the underlying methodology and assumptions for the following information only:

- The Group AFR including the AFR of the different segments : Life and Savings, Property and Casualty, Banking and Asset Management, Holdings,
- The Group AFR sensitivities,
- The Analysis of Change of change of Group AFR and of the breakdown of AFR per segment,
- The New Business Value of the Life and Savings segment,
- The reconciliation of the IFRS Equity to the Group AFR.

To the exclusion of the information listed above, any other information disclosed in the AXA Embedded Value & AFR report was not in scope of auditors' procedures.

## E. KEY PRINCIPLES & 2016 DEVELOPMENTS

### KEY PRINCIPLES

The Embedded Value is an estimate of the economic value of a life insurance 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 the European Insurance CFO Forum's ('CFO Forum') European Embedded Value (EEV) Principles and guidance and has adopted a market-consistent approach.

In June 2008, the CFO Forum released the new MCEV Principles ©. AXA uses a market consistent methodology when making an allowance for the aggregate risks in its Life and Savings business but has remained under the EEV principles. While the CFO Forum remains committed to the value of supplementary information, including embedded value, the mandatory implementation date of MCEV principles was withdrawn, reflecting the on-going developments of insurance reporting under Solvency II and IFRS.

AXA's methodology for Life and Savings AFR continues to comply with the 2016 revised CFO Forum's EEV principles and guidance by aligning with Solvency II valuation principles where Solvency II is adopted for solvency reporting (CFO Forum EEV Guidance G1.5). The AXA methodology is a market consistent methodology. In particular:

- The methodology provides for the cost of all significant options and guarantees (O&G) for Life and Savings businesses.
- No allowance is made in the AFR for the cost of holding the required capital over and above the Solvency II risk margin (CFO Forum EEV principle 5), while an allowance is made in the NBV
- Their required capital is aligned with the Solvency II Solvency Capital Requirement (CFO Forum EEV Guidance 5.5)
- The level of renewals is aligned with the Solvency II boundaries of contracts for the value of new premium to the AFR while it is not for the New Business Value (CFO Forum EEV Guidance G8.3)
- Expenses allow for changes in future experience (CFO Forum EEV Guidance G9.4) as a result of expected management actions.
- The AXA methodology does not include the margins earned by affiliated investment management companies reported outside the Life and Savings segment, and with that respect is not compliant with the CFO Forum EEV Guidance 9.11.
- Alignment with Solvency II is made for taxes (CFO Forum EEV Guidance 9.13)
- The basic risk-free rate term structure, credit risk adjustment and volatility adjustment as calibrated and applied in Solvency II is applied (CFO Forum EEV Guidance 10.10).

## 2016 DEVELOPMENTS

Following the introduction of the Solvency II regime in January 2016, the CFO Forum acknowledged that (i) there are similarities between the methodology and assumptions used to determine the Solvency II balance sheet and those employed under Embedded Value reporting, and (ii) that alignment of methodology and assumptions between Solvency II and MCEV and EEV may be beneficial for companies that embedded value report under one of these approaches. As a consequence, in May 2016, the CFO Forum has amended both the MCEV and EEV Principles and Guidance to permit, but not require the use of projection methods and assumptions applied for market consistent solvency regimes. The CFO Forum has also amended the MCEV and EEV disclosure requirements, allowing flexibility while ensuring that the scope of a company's disclosures are commensurate with the results shown and the level of disclosures are sufficient to enable users to understand the methodology and assumptions, key judgments and sensitivities of results to changes in key assumptions.

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 in AXA's 2015 Embedded Value reporting. For consistency reasons, the transition to Solvency II required capital for EEA entities had been reflected in 2015 indicators, including Free Cash Flows, Life & Savings Internal Rate of Return and Life & Savings New Business Value. This approach has been maintained for 2016 reporting.

## F. PRICEWATERHOUSECOOPERS AND MAZARS ATTESTATION REPORT

To the AXA Group Chief Financial Officer

This attestation report is an update to our attestation report on the Economic Resources' information issued on February 23rd, 2017 following additional information disclosed by AXA in sections "Linking IFRS Shareholders' Equity to Group AFR" and "Life and Savings EEV by country" of the AXA Embedded Value & AFR report dated 20 April 2017 as compared to the AXA Embedded Value & AFR report published on February 23rd, 2017. The additional information provided in the "Linking IFRS Shareholders' Equity to Group AFR" section have been examined by us consistently with the scope of this attestation report as set out below.

As statutory auditors of AXA Group and in accordance with your request, we have examined the Group Available Financial Resources (AFR) including the AFR of the different segments (Life & Savings, Property & Casualty, Banking & Asset Management, Holdings), the analysis of change in AFR, the AFR sensitivities, the reconciliation of the IFRS Equity to the Group AFR, the new business value of the Life and Savings segment (NBV) at December 31, 2016 of the AXA Group contained in the AXA Embedded Value & AFR report ("Embedded Value & AFR report") and hereinafter referred to as "the Economic Resources Information".

The Economic Resources Information and underlying significant assumptions, upon which the information relies, have been prepared under the responsibility of management. The methods and significant assumptions adopted are detailed in the Embedded Value & AFR report.

We are responsible for expressing a conclusion on the compliance of the results of the Economic Resources Information with the methodology and assumptions adopted by management and on the consistency of accounting information used with the AXA Group consolidated financial statements at December 31, 2016.

Our work, which does not constitute an audit, has been performed in accordance with the professional standards applicable in France and the professional guidance issued by the French Institute of statutory auditors, 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 Economic Resources Information.
- A review of the "market-consistent" approach adopted by management and described in the Embedded Value & AFR report for consistency with the Solvency II valuation principles and the European Insurance CFO Forum EEV Principles and Guidance.
- A review of the methodology used and implemented by management for consistency with the Solvency II valuation principles and the European Insurance CFO Forum EEV Principles and Guidance as applied to AFR.
- A review of the methodology used and implemented by management for consistency with the European Insurance CFO Forum EEV Principles and Guidance as applied to NBV.
- A review of the methodology and the assumptions used and implemented by management for consistency with those described in the Embedded Value & AFR 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 Economic Resources Information.

- Checking by review and reconciliation the consistency of the Economic Resources Information with the methodology and assumptions described in the Embedded Value & AFR report.
- Checking the consistency of the solvency capital data used in preparing the Economic Resources Information with the risk capital information available as at December 31, 2016.
- Checking the consistency of the accounting information and other relevant underlying data used in preparing the Economic Resources Information with the annual financial statements and underlying accounting records at December 31, 2016.
- Obtaining the information and explanations as deemed necessary to deliver our conclusion.

Due to the uncertain nature of estimation, actual outcomes can differ, perhaps significantly, from those used to determine the Economic Resources 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 Economic Resources Information at December 31, 2016 presented in the Embedded Value & AFR report with the AXA Group's market consistent methodology and assumptions adopted by management and described in the Embedded Value & AFR report.
- The consistency of the AXA Group's market-consistent AFR methodology and assumptions with the Solvency II valuation principles and the European Insurance CFO Forum EEV Principles and Guidance.
- The consistency of the AXA Group's market-consistent NBV methodology and assumptions 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, 2016, on which we issued our audit report on March 22, 2017.

Neuilly-sur-Seine and Courbevoie, April 20, 2017

PricewaterhouseCoopers Audit

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