MARKET-CONSISTENT EMBEDDED VALUE REPORT

31 December 2017



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# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# INTRODUCTION

1.1 Preparation bases & Key principles	
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## **1.1 PREPARATION BASES & KEY PRINCIPLES**

## PRESENTATION OF THE REPORT

This report presents the results, methods and assumptions used to determine the Embedded Value of the CNP Assurances Group (the "Group") at 31 December 2017. The Embedded Value (referred to variously by the terms "Market- Consistent Embedded Value", "MCEV", "Embedded Value" or "EV") is established in accordance with the "European Insurance CFO Forum Market-Consistent Embedded Value© Principles" (the "MCEV principles") published in June 2008, amended in October 2009 then updated in April 2016.

The report contains a reconciliation between the Group's IFRS equity and the Group's EV at 31 December 2017. However, the information contained in this report is not directly comparable to the financial information produced in accordance with the IFRS standards. Nor it is a valuation of the Group or of a part of the Group as might be established in the context of an acquisition: other valuation methods would then be used.

The Group nevertheless considers that the information on Embedded Value is such as to provide valuable components to analyse the Group's economic performance in the financial year. The different terms used in this report to analyse the Group's activities may differ from the definition used by other insurance companies or groups. A glossary at the end of the document (Appendix A) gives details on the definition of the main terms used in this report.

The methodology, assumptions and results of the 2017 MCEV have been reviewed jointly by auditors PwC and Mazars, which also audit CNP Assurances's financial reports and whose opinion is appended at the end of the report.

## PRESENTATION OF MCEV

The Market-Consistent Embedded Value is a measure of the economic value of life insurance activities and related activities, on the basis of a fair value valuation of assets and liabilities. It comprises on the one hand the adjusted value of shareholders' equity and on the other hand the value of the portfolio of policies at the financial year-end. This last component is estimated using projection models and is the present value of future distributable profits after making sufficient allowance for risks and constraints related to insurance activities in a market-consistent financial environment. In particular, it takes into account:

- the Cost of Time Value of Options and Financial Guarantees given to policyholders ("TVOG") in addition to their embedded value;
- the Frictional Cost of Required Capital ("FCRC"), arising from the obligation to permanently maintain the Required Capital;
- the Cost of Residual Non-hedgeable Risks not fully valued elsewhere (CRNHR).

The Adjusted Net Asset Value ( "ANAV") breaks down into Required Capital and Free Surplus. The Required Capital is the market value of the assets that the insurer must hold in respect of its business, whose distribution to shareholders is restricted. The Free Surplus refers to the surpluses available. The "Operating Free Cash-Flow" indicator ("OFCF") shows the release of Free Surplus related to operating activities. This release can be used to pay dividends and develop business via marketing new business or through external growth operations.

The contribution to MCEV from new policies in the current year (referred to variously by the terms "Value of New Business" or "VNB") is analysed specifically, and is a measure of the performance of the Group's underwriting activity.

The MCEV and VNB are calculated net of minority interests, net of reinsurance and net of tax.

## INTRODUCTION

01

## **1.2 CONTENT AND PERIMETER**

### DESCRIPTION OF THE REPORT

This report presents the results, methods and assumptions used to calculate the Group's Embedded Value and prepare information on Embedded Value at 31 December 2017. It is structured around the following sections:

Section 1: Preparation bases & key principles

Section 2: Group results at 31 December 2017

Section 3: Results detailed by geographic area

Section 4: Methodology

Section 5: Assumptions

Section 6: Changes in MCEV since 2012

Section 7: External opinion on Market-Consistent Embedded Value

Appendices

## SCOPE

The Group's business is concentrated on life insurance in the three geographic areas: France, Latin America and Europe excluding France. The main products are:

- individual traditional savings and unit linked accounts;
- pension products including immediate and deferred annuities;
- credit insurance (consumer credit and mortgage);
- capital accumulation products;
- protection and health products;
- other products linked to the above products.

The business covered by MCEV concerns all Group entities' life insurance business and related business that contributes significantly to the value. The scope covered and changes to it compared to the MCEV scope at 31 December 2016 are detailed in Appendix B.





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

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## 2.1 INTRODUCTION

## 2.1.1 MAIN EVENTS IN THE YEAR

### 2017 was marked by several major events:

### - The maintein of the low rate environment in the eurozone

The maintain of the low rate environment in the euro zone has a significant impact on the profitability of savings-pensions business, and consequently on the value of MCEV metrics. The unfavourable environment was partly offset by the management actions regarding the expenses monitoring, the pricing, the product design and business strategy. Management actions as well as the potential behaviour of policyholders in a sustained negative rate situation are also taken into account in the calculations.

### - Renewal of the partnership agreement in Italy

The partnership agreement between CNP Assurances and UniCredit has been renewed for a seven years period. It includes, *inter alia*, developing the commercialisation of savings unit-linked products, individual protection and credit insurance, in line with the reorientation strategy of the CNP Assurances segment mix.

### - Renewal of the credit insurance partnership agreements

2017 was marked by the conclusion of a memorandum of understanding with Crédit Agricole that provides for handling new business in the Group. CNP Assurances remains the insurer for business in stock.

### - Organisation of the Group's business in France

In France, 2017 was marked firstly by the transfer of part of the liabilities on the collective pension portfolio to Arial CNP Assurances, arose from the partnership between CNP Assurances and AG2R La Mondiale. This was accompanied by CNP Assurances accepting for reinsurance the whole portfolio transferred. New collective policies taken out with Arial CNP Assurances are reinsured by CNP Assurances in proportion to its share.

The fusion of Investissements Trésor Vie and Préviposte in CNP Assurances is also to be noted as regards savings. In addition, the CNP Luxembourg subsidiary has been included into the valuation perimeter.

Changes in regulations approved in 2017 that affect the pension schemes in points "L.441" have been included in the model, while taking contractual agreements into account. The main changes cover in particular the reserving rules and the changes to the coverage rate. In addition, the new regulation no longer limits loadings to 15% of financial production.

Concerning credit insurance, the law of February 2017 has provided the option of annual cancellation, on the anniversary date of the policy, which will now also apply to guarantees on current loans and not only during the underwriting year.



## 2.1.2 OVERALL RESULTS

The value of the Group's 2017 new business came to  $+ \notin 782M$ , up 80% compared to 2016. The increase in VNB is essentially driven by France ( $\notin 498M$ ) and is due to favourable economic effects and the improvement in the mix/volume on credit insurance and unit-linked savings together with the implementation of a new commercialization perimeter. It is important to note the significant progress in selling have been reaized in Brazil in most segments, combined with the inclusion of experience on non-economic assumptions.

The Group's Embedded Value amounts to  $+ \in 23,241$  M, or an increase of  $+ \in 3,290$  M (+ 16%) over the period including  $+ \in 2,105$  M for operational impacts and  $+ \in 1,268$  M for economic effects other than foreign exchange rate and the decrease in normal corporate tax rates. Dividends paid were  $+ \notin 549$  M.

The main vectors for the change in VNB and MCEV are given in the following sections, and components detailed by geographic area are given in Section 3 of the report.

### The following table gives the main results in terms of VNB and MCEV:

(€m, %)		2017	2016
VNB	VALUE OF NEW BUSINESS	782	436
APE	Annual Premium Equivalent	3,316	3,129
pvnbp	Present Value of New Business Premiums	28,201	27,463
	Margin rate	23.6%	13.9%
	PVNBP ratio	2.8%	1.6%

(€m, %)		2017	2016
MCEV	MARKET-CONSISTENT EMBEDDED VALUE	23,241	19,951
VIF	Value of In-Force	9,329	6,509
ANAV	Adjusted Net Asset Value	13,911	13,442
	Return on MCEV	10.4%	7.4%
IDR	Implied Discount Rate	7.2%	7.4%
OFCF	OPERATING FREE CASH FLOW	1,113	1,632
Of which subordinate	ed debt	0	576



## 2.2 VALUE OF NEW BUSINESS

The following table gives a detailed breakdown of Group VNB. VNB is valued using a marginal method that takes account of interactions between new products and stock (see Section 4.3.2). It is valued on the basis of assumptions reviewed at the year-end, after including taxes and minority shareholdings.

		2017		2016		Change	
		€m	€ per share¹	€m	€ per share¹	€m	%
PVFP	Present Value of Future Profits	1,094	1.6	825	1.2	270	32.7%
TVOG	Time Value of Options and Guarantees	(167)	(0.2)	(283)	(0.4)	115	-40.8%
FCRC	Frictional Cost of Required Capital	(22)	(0.0)	(32)	(0.0)	10	-30.2%
CRNHR	Cost of Non-Hedgeable Risks	(123)	(0.2)	(75)	(O.1)	(48)	64.5%
VNB	Value of New Business	782		436	0.6	347	79.6%
APE	Annual Premium Equivalent		3,316		3,129	186	5.9%
pvnbp	Present Value of New Business Premiums		28,201		27,463	738	2.7%
	Margin rate		23.6%		13.9%	9.7%	69.5%
	PVNBP ratio		2.8%		1.6%	1.2%	74.9%

<sup>1</sup> Number of shares at 31 December 2016 and at 31 December 2017: 686,618,477

### Group VNB is up by €347M (+ 80%). The increase is due to changes in the following components:

- The Present Value of Future Profits (PVFP), up + 32.7% compared to 2016; the value of new business using a central assumption of change in financial market is reinforced compared to the 2016. This reflects the work done within the Group to favour the growth of the most profitable products.
- The Time Value of Options & Guarantees (TVOG) is down
   - 40.8% due to improved market conditions, in particular
   with the rise in rates and their lower volatility in the euro
   zone and with a strategy on Segment Mix focusing on
   credit insurance and unit-linked savings.
- The Frictional Cost of Required Capital (FCRC) is down €10M linked to the update of the Required Capital and fall in the tax rate in France.
- The Cost of Residual Non-Hedgeable Risks (CRNHR), is up 64.5% which results from the increase in non-financial risks linked to new underwriting in the 2017 financial year.

02

## Group APE volume (+ $\in$ 3,316M), is up 5.9% compared to 2016, due to:

- stable receipts in France typified by a Segment Mix focused on the most profitable products, especially unit-linked savings and credit insurance;
- receipts sharply up in the Latin America perimeter (+ 30% at constant exchange rate), mainly driven by the individual pension segment and Consorcios (motor and home business);
- receipts up in Europe excluding France, driven by the Irish subsidiary and by the inclusion of CNP Luxembourg subsidiary in the perimeter.

The Group's margin rate is up 9.7 points and came to + 23.6% in 2017 against + 13.9% in 2016. The rise in margin rate is basically due to a strong operational contribution reflecting the improvement in non-economic assumptions and favourable economic effects in the euro zone.

The following table gives a detailed analysis of the main factors in the change in value of new business:

(€m , %)	VNB	Change	Margin rate
Value of New Business 2016	436		13.9%
Updated model and scope	460	24	14.6%
Change in the APE volume	477	18	14.6%
Change in the segment mix	578	101	17.7%
Change in experience	668	90	20.4%
Change in financial market conditions	751	83	23.0%
Updated taxation	768	17	23.5%
Change in the foreign exchange rate	782	14	23.6%
Value of New Business 2017	782	347	23.6%



## The VNB came to + €782M at end 2017 against + €436M in 2016, the main items explaining the change are as follows:

- Update model and scope (+ €24M) represents the impact from all changes in models and perimeter occurring in the 2017; they basically concern France and in particular better application of the revaluation strategy on savings policies in a context of low rates and inclusion of the new regulation on pension schemes in points (L.441), as well as the inclusion of CNP Luxembourg and improvements in modelling in Italy.
- Change in the APE volume (+ €18M) basically represents the effects of change in the overall volume of premiums received by Group companies, without including changes in the distribution per segment and per product. The volumes used are the APE volumes and are established from premiums written in accordance with local accounting standards.
- Change in the Segment Mix (+ €101M) takes account of the difference in the distribution of sales between different segments. It is mainly due to France with a more favourable change in receipts in more profitable segments.

- Change in experience (+ €90M) reflects the impacts from changes in non-economic assumptions, basically assumptions on claims, behavioural assumptions and assumptions on costs. It basically concerns the update of experience laws on credit insurance as well as the effects of the recovery-oriented policies on loss ratios on collective protection insurance in France.
- Change in financial markets (+ €83M) reflects the impacts from the improvement in rates and lower rate volatility in the euro zone.
- Updated taxation (+ €17M) reflects the impacts of changes in tax rates including the decrease in tax rate in France.
- Change in the foreign exchange rate (+ €14M) reflects the change in the average exchange rate for the Brazilian Real against the € since the last VNB reference calculations.

Duration (years)	2017	2016
Savings & Pensions	14.1	13.3
Risk & Protection	12.9	11.9

## The following table gives the duration of new business:



## 2.3 MCEV AT 31 DECEMBER 2017

The following table gives a breakdown of the various components of Group MCEV at 31 December 2017 and a comparison with the MCEV at 31 December 2016:

	MCEV 2017 before distribution of dividend 2017		MCEV 2016 after distribution of dividend 2016		Change before distribution of dividend 2017		MCEV 2016 before distribution of dividend 2016	
	€m	€ per share *	€m	€ per share *	€m	%	€m	€ per share *
ANAV – Adjusted Net Asset Value		20.3	12,892	18.8	1,019	8%	13,442	19.6
Required Capital	2,577	3.8	5,412	7.9	(2,835)	-52%	5,412	7.9
Free Surplus	11,335	16.5	7,480	10.9	3,854	52%	8,030	11.7
VIF – Value of In Force	9,329		6,509	9.5	2,820	43%	6,509	
Present Value of Future Profits	13,757	20.0	11,927	17.4	1,830	15%	11,927	17.4
Time Value of Options & Guarantees	(3,255)	(4.7)	(4,199)	(6.1)	944	-22%	(4,199)	(6.1)
Frictional Cost of Required Capital	(466)	(0.7)	(673)	(1.0)	207	-31%	(673)	(1.0)
Cost of Residual Non-Hedgeable Risks	(707)	(1.0)	(546)	(0.8)	(162)	30%	(546)	(O.8)
MCEV - Market-Consistent Embedded Value	23,241	33.8	19,402	28.3	3,839	20%	19,951	29.1

\* Number of shares at 31 December 2016 and at 31 December 2017: 686,618,477

The MCEV consists of (i) Adjusted Net Asset Value ("ANAV"), in other words the market value of assets not backing insurance liabilities, and (ii) the Value of In-Force ("VIF"), in other words the value of future profits emerging from insurance liabilities and back assets.



## 2.3.1 ADJUSTED NET ASSET VALUE

Adjusted Net Asset Value ("ANAV") is the market value of assets that do not back insurance liabilities. It is derived from the IFRS shareholders' book equity after deducting intangible assets, subordinated liabilities and the share of revalued policyholder portfolio. The ANAV is determined at the valuation date at consolidated level, excluding minority interests and breaks down into the Required Capital and the Free Surplus.

## The following diagram gives the reconciliation of the IFRS shareholders' book equity with the ANAV at 31 December 2017



## The ANAV is reconciled with the IFRS shareholders' equity as follows:

- Cancellation of intangible assets: the various intangible assets whose amortisation is not projected in the VIF are restated. These intangible assets do not have a commercial value and they are assigned a nil value for the needs of determining the ANAV.
- It concerns:
- accounting goodwills which represents a book entry in accordance with the IFRS standards related to the acquisition cost of an entity;
- deferred acquisition costs (DIR/DAC) being the nonamortized part of acquisition costs incurred at inception of insurance policies;
- value of business acquired representing the VIF crystallised on the acquisition date of an external portfolio and amortised over time.

- Reclassification of subordinated debts: subordinated debts are considered to be components of shareholders' equity in the IFRS standards, but do not belong to the shareholders. So their value is not included when determining the ANAV.
- Share of revalued policyholder portfolio: fraction of the unrealised gains or losses on financial assets is deemed to belong to the shareholders under the IFRS standards in accordance with specific keys whereas the residual part is deemed to belong to the policyholders. Modelling in MCEV results in a more accurate approach in determining the part due to shareholders, which is reincorporated into the portfolio value modelling.



## 2.3.2 ANALYSIS OF CHANGE IN MCEV

The following table gives an analysis of variances, distinguishing VIF and ANAV, itself broken down between Free Surplus and Required Capital:

(€m)	ANAV	Free Surplus	Required Capital	VIF	MCEV
MCEV 2016	13,442	8,030	5,412	6,509	19,951
Opening adjustments	(549)	961	(1,510)	841	291
Adjusted opening MCEV 2016	12,892	8,991	3,902	7,350	20,242
Value of New Business	(23)	(455)	432	805	782
Expected existing business contribution	202	202	0	1,235	1,438
Transfers from the VIF and required capital to free Surplus	1,390	1,977	(587)	(1,390)	0
Experience variances	(223)	(107)	(116)	242	19
Changes in assumptions relating to operating activities	0	(504)	504	(133)	(133)
Other operating variance	0	0	0	0	0
Operating MCEV Earnings	1,346	1,113	233	759	2,105
Economic variances	44	1,592	(1,548)	1,172	1,216
Other non-operating variance	(144)	(184)	40	196	51
Total MCEV earnings	1,246	2,521	(1,275)	2,127	3,373
Closing adjustments	(227)	(178)	(50)	(147)	(375)
MCEV 2017		11,335	2,577	9,329	23,241

## Opening adjustments cover:

- model changes mainly concern France perimeter and they are detailed by geographic zone in the section 3;
- movements of capital and especially payment of the Group dividend for 2016 which affects the ANAV;
- changes in perimeter: disposal of La Banque Postale Prévoyance and the entry of CNP Luxembourg subsidiary;
- the Solvency 2 Required Capital is down because of favourable adjustments to the VIF.

The value of new business contribute to  $+ \notin 782M$  on changes in the MCEV. This value includes the net result generated in 2017 by new business for  $- \notin 23M$  allocated to ANAV and the contribution to the year-end VIF. The corresponding increase in Required Capital comes to  $+ \notin 432M$ .

The expected existing business contribution (+  $\in$ 1,438M) results from capitalisation of the VIF (+  $\in$ 1,235M) calculated at 31 December 2016 and the projected yield from the Free Surplus (+  $\in$ 202M) at 31 December 2016. In addition, the 2017 result attached to the 31 December 2016 VIF is transferred to the ANAV without impact on the MCEV, and increases the Free Surplus both because of externalised profits from the VIF and the reduction in required capital.

The experience variances affect the VIF by  $+ \notin 242M$  and arise mainly from differences between the 2017 anticipated in the context of modelling of the VIF and the actual result posted during the 2017 financial year.



The changes in assumptions relating to operating activities result in a  $\cdot \in 133$  M fall in VIF. Various assumptions have been changed in the light of accumulated experience, better incorporated into forecast for the future as well as in changes in anticipations linked to events occurring in 2017 the effects of which were not fully covered in the book result. The assumptions concerned are behavioural assumptions and in particular assumptions on surrenders, biometric assumptions, aggregated claims assumptions and management cost assumptions on the activity modelled.

**Other operating variances** represent the impact of repayments and issues of subordinated debt in 2017.

The result is a contribution from operating activities of  $+ \in 2,105$ M on MCEV. As regards Free Surplus, the available Cash-flow of  $+ \in 1,113$ M freed up by operational activities is the "Operating Free Cash-Flow" indicator. Its interpretation and details of changes in it are given in paragraph 2.3.3.

Economic variances (+ €1,216M) cover;

- an increase in rates and a decrease in their volatility in the euro zone;
- a decrease in rates in Brazil;
- movements on stock markets and property and their volatility;
- changes in asset portfolios.

**Other non-operating variances** are the effects of the decrease in normal corporation tax rates in France by 2022.

**Closing adjustments** (-€375M) are for exchange rate effects, basically those of the Brazilian real (BRL).

A detailed analysis by geographic area is given in Section 3.



The following graph details the change in value between MCEV and its components (VIF and ANAV) for 31 December 2016 and 31 December 2017, grouping the different impacts together:



## 2.3.3 ANALYSIS OF CHANGE IN FREE SURPLUS

The following graph shows the change in Free Surplus for 31 December 2017 and 31 December 2016, grouping the different impacts together:



### The Free Surplus came to + €11,335M, up + €3,305M compared to 2016.

The opening adjustment is  $+ \notin 961M$  which is for the effects of the restatement on the Solvency 2 Required Capital (increase in VIF, which is an item of the Solvency 2 Own Founds of  $+ \notin 1,510M$ ) partly offset by the payment of the dividend (- $\notin 549M$ ).

### The operational contribution comes to + €1,113M:

- a 2017 operational result of + €1,346M;
- minus the change in Required Capital of €233M, braking down into an allocation of - €432M linked to new business and smaller than 2016 because of the high increase on VNB and a release of Required Capital of + €199M due to the impact of the review of biometric and behavioural laws;

The OFCF shows the Group's ability to generate the Free Surplus to pay its dividends and develop through commercialization of new business or by external growth operations.

The economic contribution is  $+ \in 1,408$  M.

The final adjustment is mainly the effects of exchange rates.



The following table gives an analysis of the OFCF, distinguishing its different components at 31 December 2017 and 31 December 2016:

(€m)	2017	2016
VIF transfers to Free Surplus	1,390	1,173
Financial income from Free Surplus	202	146
Release of required capital to Free Surplus	587	360
Experience variances	(612)	614
Expected contribution of In-Force	1,568	2,293
Capital required for new business	(432)	(620)
Earnings attributable to new business	(23)	(41)
Capital required for new business	(455)	(661)
OPERATING FREE CASH FLOW		1,632
of which subordinated debt	0	576

### At 31 December 2017, Operating Free Cash Flow is + €1,113M

## **2.4 IMPLIED DISCOUNT RATE**

In an alternative way to the traditional approach in which the VIF and VNB result from an update of future distributable revenue with a discount rate, the MCEV approach can also be used to deduce an implied discount rate to directly value the VIF and VNB. The implied discount rate (IDR), is defined as the discount rate as such, when used with a traditional model of embedded value, the values produced (VIF, VNB) are equal to those that result from a market-consistent valuation. This IDR is thus a result of the valuation work rather than a basic MCEV assumption. The IDR calculation requires

At 31 December 2017, the IDR for the Group's subsidiaries is calculated on the basis of a spread of 0 bp on the reference rate curve and a spread of 20 bps on corporate type bonds. Shares and property benefit from a risk premium of 310 bps and 230 bps (the same as at 31 December 2016) respectively.

The IDR is + 7.2% for the Group at 31 December 2017 against + 7.4% at 31 December 2016.

a deterministic projection of future profits resulting from stock on a "real world" basis as for a traditional embedded value.



## **2.5 SENSITIVITIES**

MCEV sensitivities are based both on the economic and underlying non-economic assumptions. It should be noted that sensitivities are often correlated, so it is unlikely that the impact of two events occurring simultaneously would be equal to the sum of the individual sensitivities for each event. For events whose impact is considered symmetrical, only sensitivities in one sense are presented.

The meaning of the different sensitivities is described in th	e comments beneath	n the table below whic	h gives the results
of sensitivities:			

(€m)	ANAV	VIF	MCEV	VNB
MCEV - Market-Consistent Embedded Value		9,329	23,241	782
Interest rate curve +50 bps	(192)	1,440	1,248	71
Interest rate curve -50 bps	190	(1,347)	(1,158)	(123)
No volatility adjustment (VA = 0)		(131)	(131)	(11)
25% decrease in equity capital values	(995)	(1,768)	(2,763)	
Surrenders - 10%		251	251	42
Costs -10%		306	306	46
Regulatory minimum Capital		79	79	5
Claims rates - 5% - Risk of longevity		(61)	(61)	(1)
Claims rates - 5% - Risk of mortality & disability		177	177	63
25% increase in swaption implied volatilities		(734)	(734)	(59)
25% increase in equity implied volatilities		(1,354)	(1,354)	(28)

In each of the sensitivity calculations, all other assumptions remain unchanged. No specific additional action by management has been included in the sensitivities above.



## Interest rate curve +/-50 bps:

This sensitivity is a translation of the swap rate curve by 50 bps up or down. In particular, it results in:

- a revaluation of the market value of bonds;
- an adjustment of reinvestment rates for all classes of assets of 50 bps;
- and an update of the discount rate.

The impact on the initial mathematical provisions for unit-linked policies is not valued.

Only the liquid part of the yield curve is subject to translation with a stable ultimate forward rate (UFR), in line with its definition under Solvency 2.

Because of the asymmetrical, non-linear impact of options and financial guarantees on MCEV, the drop in financial markets usually has a bigger impact on MCEV than the rise in interest rates, the impact gets greater with every additional drop.

In the new method used, yield rates are no longer floored at 0.

## No volatility adjustment (VA):

This sensitivity is used to value the impact where there is no correction for volatility ("volatility adjustment") on activities where such a correction is used.

## 25% decrease in equity capital values:

immediate 25% in equity indices. This shock results in a 25% fall in the market value of financial assets in equity, and a decrease in the mathematical provisions on unit-linked policies for their share invested in those assets.

## 25% increase in swaption/equity implied volatilities:

These sensitivities are used to value the impact on Time Value of Options and financial Guarantees of the 25% increase in swaption and equity volatility.

## Surrenders -10%:

This sensitivity measures the impact of a 10% decrease in total and partial annual surrender rates.

## Costs -10%:

This sensitivity is used to value the impact of a 10% decrease in all costs: acquisition, management, claim and structure costs.

## Claims -5%:

This sensitivity measures the impact of a fall in claims: the incidence rate, loss ratios, disability and incapacity rate and mortality tables have been reduced by 5%. Sensitivities to longevity risk, mortality risk and long term disability risk are measured separately.

## Regulatory minimum Required Capital:

This sensitivity consists of defining Required Capital as 100% of the required regulatory solvency margin, considering as stable the share of subordinated securities, and of measuring the impact of this change of assumption on value.





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# RESULTS DETAILED BY GEOGRAPHIC AREA

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The following section gives an analysis of the main indicators and main vectors for change by geographic area.

## **3.1 OVERVIEW**

The following tables give the overall results and the contribution of the different geographic areas to the CNP Group's MCEV and VNB results. Detailed analyses for each area follow.

			France	Latin America	Europ excluding france	Group
VNB (€m)		2016	232	146	58	436
		2017	498	225	59	782
	change		267	79	]	347
Share in Group VNB (%)		2016	53%	33%	13%	100%
		2017	64%	29%	8%	100%
		2016	2,328	501	300	3,129
APE (€m)		2017	2,317	690	309	3,316
	change		(11)	189	8	186
Margin rate (%)		2016	10.0%	29.1%	19.3%	13.9%
		2017	21.5%	32.6%	19.1%	23.6%
	change		11.6%	3.5%	(0.2%)	9.7%

			France	Latin America	Europ excluding France	Group
MCEV (€m)		2016	1 <i>7</i> ,136	1,824	991	19,951
		2017	20,322	1,845	1,073	23,241
	change		3,187	21	82	3,290
Share in Group MCEV (%)		2016	86%	9%	5%	100%
		2017	87%	8%	5%	100%
		2016	5,359	878	272	6,509
VIF (€m)		2017	8,077	973	279	9,329
	change		2,718	94	7	2,820
ANAV (€m)		2016	11,777	946	719	13,442
		2017	12,245	873	794	13,911
	change		468	(73)	75	470



## The following table gives VIF sensitivities by geographic area:

(€m)	France	Latin America	Europ excluding france	Group
VIF 2017	8,077	973	279	9,329
Interest rate curve +50 bps	1,443	(9)	5	1,440
Interest rate curve -50 bps	(1,346)	7	(9)	(1,347)
No volatility adjustment (VA = 0)	(129)	0	(1)	(131)
25% decrease in equity capital values	(1,726)	0	(42)	(1,768)
Surrenders -10%	195	49	6	251
Costs -10%	280	15	11	306
Regulatory minimum Required Capital	74	5	1	79
Claims rates - 5% - Risk of longevity	(56)	0	(5)	(61)
Claims rates - 5% - Risk of mortality & disability	135	31	]]	177
25% increase in swaption implied volatilities	(732)	0	(2)	(734)
25% increase in equity implied volatilities	(1,346)	0	(7)	(1,354)

## The following table gives VAN sensitivities by geographic area:

(€m)	France	Latin America	Europ excluding france	Group
VNB 2017	498	225	59	782
Interest rate curve +50 bps	70	(O)	2	71
Interest rate curve -50 bps	(121)	0	(2)	(123)
No volatility adjustment (VA = 0)	(11)	0	0	(11)
Surrenders -10%	24	16	1	42
Costs -10%	37	6	3	46
Regulatory minimum Required Capital	4	1	0	5
Claims rates - 5% - Risk of longevity	(1)	0	(O)	(1)
Claims rates - 5% - Risk of mortality & disability	52	7	4	63
25% increase in swaption implied volatilities	(59)	0	(O)	(59)
25% increase in equity implied volatilities	(27)	0	(1)	(28)



## **3.2 FRANCE**

Business in France is split into several segments: savings-pensions, credit insurance and protection products.

During 2017 the business has been characterized by the effects of the diversification strategy into credit insurance and unit linked accounts.

The improvement of rates level and the decrease of interest rate volatility in the euro zone resulted in a net improvement in MCEV indicators.

64 %

€498m VNB 2017 21.5 % MARGIN RATE ON NEW BUSINESS NEW BUSINESS OF GROUP VNB

## **3.2.1 VALUE OF NEW BUSINESS**

The following table gives the breakdown of VNB :

		2017	2016	change	
(€m, %)				€m	%
PVFP	Present Value of Future Profits	769	599	170	28%
TVOG	Time Value of Options and Guarantees	(165)	(275)	110	(40%)
FCRC	Frictional Cost of Required Capital	(8)	(23)	15	(65%)
CRNHR	Cost of Non-Hedgeable Risks	(97)	(69)	(28)	40%
VNB	Value of New Business	498	232	267	115%
APE	Annual Premium Equivalent	2,317	2,328	(11)	(0.5%)
pvnbp	Present Value of New Business Premiums	22,280	22,952	(672)	(3%)
	Margin Rate	21.5%	10.0%	11.6%	116%
	PVNBP ratio	2.2%	1.0%	1.2%	122%

The APE volume in France (+ €2,317M), stable compared to 2016, is caractherized by an increase in the amount of unit linked accounts offset by lower volumes on individual traditional savings. Strong receipts on credit insurance are added to this.

The Value of New Business amounted to + €498M at end 2017 against + €232M in 2016, or an increase of + 115%.



## The following table gives a detailed analysis of the main factors of changes in the value of new business:

(€m, %)	VNB	Change	Margin rate
Value of New Business 2016	232		10.0%
Updated model and scope	262	31	11.1%
Change in the APE volume	258	(5)	11.1%
Change in the segment mix	319	62	13.8%
Change in experience	400	81	17.3%
Change in financial market conditions	481	82	20.8%
Updated taxation	498	17	21.5%
Change in the foreign exchange rate	498	0	21.5%
Value of New Business 2017	498	267	21.5%
Change	267		11.6%

- Updated model and scope (+ €31M) represents the impact of all changes occurring in the exercise 2017. Changes in the model projection mainly concern:
  - better inclusion of the revaluation policy on savings products in a low rate environnement;
  - he fact that new law on "pension schemes in points" (L.441) has been taken into account.
- Change in APE volume (- €5M) reflects the slight fall observed on APE volume in 2017, without taking into account changes in the breakdown by segments.
- Change in Segment Mix (+ €62M) includes the difference in the distribution of sales between different segments. It is driven by the favourable volume on credit insurance due in particular to inclusion of the new commercializing perimeter. The increase in the volume of unit linked accounts is added to this (favourable effect of the Fourgous transfers).
- Change in experience (+ €81M) reflects the continued sale of products with better margins in every segment. It also includes the impacts of changes in non-economic assumptions, basically assumptions on claims, behavioural assumptions and expense assumptions. It is also due to the effects of the recovery-oriented policy on loss ratios on the collective protection products.



- Change in financial markets (+ €82M) reflects the impacts related to the changes in market conditions and especially the increase of rates of about + 11 centimes in the euro zone in 2017 which resulted in a significant fall in the cost of the capital guarantee on traditional savings contracts.
- The updated tax rate (+ €17M) reflects the impacts of the drop to 25% of the normal corporation taxe rate by 2022.

## The following table gives the duration of new business:

Duration (years)	2017	2016
Savings & Pensions	14.1	13.3
Risk & Protection	13.4	12.4

## 3.2.2 MCEV AT 31 DECEMBER 2017

The following table gives a breakdown of In-Force values for France perimeter, excluding Subordinated Debt cost:

	2017		20	2016		Change	
	€m	€/share	€m	€/share	€m	%	
Value of In-Force	8,077		5,359	7.8	2,718	50.7%	
Present Value of Future Profits	12,268	17.9	10,654	15.5	1,614	15.2%	
Time Value of Options and Guarantees	(3,228)	(4.7)	(4,159)	(6.1)	931	(22.4%)	
Frictional Cost of Required Capital	(412)	(0.6)	(623)	(0.9)	212	(33.9%)	
Cost of Non-Hedgeable Risks	(551)	(O.8)	(513)	(O.7)	(38)	7.4%	

The VIF for France (+ €8,077M) is up + 50.7% compared to 2016 due to a favourable operational contribution and favourable economic effects observed in 2017.

03



(€m)	ANAV	Free Surplus	Required Capital	VIF	MCEV
MCEV 2016	11,777	7,051	4,726	5,359	17,136
Opening adjustments	(368)	1,126	(1,494)	862	494
Adjusted opening MCEV 2016	11,408	8,177	3,232	6,221	17,629
Value of New Business	6	(219)	225	493	498
Expected existing business contribution	172	172	0	1,046	1,218
Transfers from the VIF and required capital to free Surplus	1,063	1,492	(430)	(1,063)	0
Experience variances	(249)	(126)	(123)	215	(34)
Changes in assumptions relating to operating activities	0	(503)	503	(187)	(187)
Other operating variance	0	0	0	0	0
Operating MCEV Earnings	991	816	175	505	1,496
Economic variances	47	1,562	(1,515)	1,122	1,169
Other non-operating variance	(138)	(152)	14	232	93
Total MCEV earnings	899	2,225	(1,326)	1,859	2,758
Closing adjustments	(63)	(63)	0	(2)	(65)
MCEV 2017	12,245	10,339	1,906	8,077	20,322

O3

**Opening adjustments** affect the ANAV (-€368M) subsequent to the contribution from France to the payment of the Group dividend for the 2016 financial year. The Solvency 2 Required Capital is down by -€1,494M due to favourable adjustments to the VIF.

Changes to the projection model made in 2017 that affected the VIF by + €862M mainly concern the explicit incorporation of arbitrage facilities between traditional savings and and unit linked account. In addition, the methods and assumptions used for modelling the revaluation policy and the policyholder behaviour have been reviewed both on the in force business as well as on new business. The new modelling applied thus improves the quality of backtesting and the projection of target (and actual) rates, more in line with CNP Assurances remuneration policy. Changes in regulations approved in 2017 and covering pension schemes in points (L.441) have been added to the model, while taking account of policy agreements.

The value of new business is  $+ \notin 498$  M. This value includes the net profit generated in 2017 by New Business of  $+ \notin 6$  M added to the ANAV. The corresponding increase in Required Capital amounts is  $+ \notin 225$  M. The Required Capital is halved compared to 2016 because of the increase in the value of New Business.

The expected existing business contribution  $(+ \in 1,218M)$  results from the capitalisation of VIF  $(+ \in 1,046M)$  and the projected yield from Free Surplus  $(+ \in 172M)$ . For transfers of VIF and Required Capital to Free Surplus, the 2017 result attached to the VIF at the 31 December 2016 is transferred to the ANAV without impact on the MCEV.

The experience variances linked to operational activity affect the VIF to the tune of  $+ \in 215$  M and mainly come from allocations of provisions and PPE insufficiently anticipated in the economic context at end 2016 as well as the effects of the diversification strategy (Fourgous / Eurocroissance transfers).

The changes in assumptions linked to operational activity result in a decrease of - €187M in VIF. The decrease is mainly due to the inclusion of annual cancellation rights on credit insurance introduced by the "Bourquin Amendment" in February 2017. The Amendment allows the option of cancellation at the anniversary date of the policy, which will now also apply to guarantees on current loans and not only in the underwriting year. As this mechanism comes into effect on 1<sup>st</sup> January 2018, assumptions on the rate of cancellations used in projections have been revised up due mainly to the inclusion of potential surrenders. The change in the Required Capital is due to the aforementioned impact on the VIF and to the revision of biometric and behavioural laws.

The contribution from operating activities is  $+ \in 1,496M$  on the MCEV (Operating MCEV Return of + 8.5%).

France	2017	2016
Adjusted opening MCEV n-1	17,629	17,105
Operating MCEV Earnings	1,496	990
Operating MCEV Return	8.5%	5.8%

As regards the Free Surplus, the available Cash-flow of + €816M produced by operational activities correspond to the "Operating Free Cash-Flow" indicator.

**Economic variances** result in  $a + \notin 1,169M$  increase in MCEV mainly due to the VIF because of current rate and volatility levels that improve the profitability of savingspensions. This increase also results in a greater financing ability on the Required Capital which consequently is sharply down.

**Other non-operating variances** are the effects of the decrease in the normal corporation tax rates.

**Closing adjustments** correspond to a foreign exchange effect on the ANAV.



## **3.3 LATIN AMERICA**

The Latin America area covers the activities of Caixa Seguradora Group in Brazil and CNP Assurances Compañia de Seguros in Argentina.

2017 is marked by the increase in sales in all business units (apart from Health) in a context of renegotiation of distribution agreements with the Caixa Economica Federal (CEF) network. €225m 32.6 % 29 %

VNB 2017 MARGIN RATE ON NEW BUSINESS OF GROUP VNB

## 3.3.1 VALUE OF NEW BUSINESS

The following table gives a breakdown of VNB and the main volume and profitability indicators:

		2017	2016	Chan	ge
(€m. %)				€m	%
PVFP	Present Value of Future Profits	260	158	103	65%
TVOG	Time Value of Options and Guarantees	0	0	0	0%
FCRC	Frictional Cost of Required Capital	(13)	(8)	(5)	60%
CRNHR	Cost of Non-Hedgeable Risks	(23)	(4)	(19)	533%
VNB	Value of New Business	225	146	79	54%
APE	Annual Premium Equivalent	690	501	189	38%
pvnbp	Present Value of New Business Premiums	3,434	2,150	1,283	60%
	Margin rate	32.6%	29.1%	3.5%	12%
	PVNBP ratio	6.5%	6.8%	(0.2%)	(4%)

The APE volume is + 38% up compared to 2016 (+ 29% at constant exchange rate and post restatement) resulting from the increase in sales on individual pensions due to extra performance on sales linked to Caixa Economica Federal's business targets which were prioritised, Consorcios (motor and home business) with an increased number of points of sale and the launch of sales campaigns, the individual protection and consumer credit with the creation of a new product and the launch of sales campaigns. The average exchange rate used on all cash-flows in the Latin America was down - 7% over 2017.

PVNBP is globally up to + 60% resulting from a positive update effect combined to an increase in premiums on long branches such as credit insurance and individual pensions and a favourable exchange rate.

The Value of New Business is up + 54% at + €79M.



The following table gives a detailed analysis of the main factors for change in the value of new business:

(€m. %)	VNB	CHANGE	MARGIN RATE
Value of New Business 2016	146		29.1%
Updated model and scope	146	(O)	30.5%
Change in the APE volume	197	52	30.5%
Change in the segment mix	196	(1)	30.4%
Change in experience	211	14	32.6%
Change in financial market conditions	211	1	32.7%
Updated taxation	211	0	32.7%
Change in the foreign exchange rate	225	14	32.6%
Value of New Business 2017	225	79	32.6%
Change	79		3.5%

- Change in the APE volume (+€52M) basically represents the effects of the variation in the overall amount of written premiums without taking into account changes in the allocation per segment and per product. The amounts used are the APE amounts and are established from premiums measured in accordance with local accounting standards.
- Change in Segment Mix (- €1M) results in a negative impact especially because of the increase in sales of less profitable products.
- Change in experience (+ €14M) is positive due to the fact that experience on claims laws has been taken into account. Uncertainties around the ongoing discussions on the renewal of the partnership in Brazil with the CEF have resulted in the recognition of additional component in the CRNHR.

- Change in financial market conditions has a positive impact on VNB (+ €1M) due to the fall in update rate and financial yields.
- The positive impact (+ €14M) is basically due to the downward of the average exchange rate on Brazil (- 7%), which was 3.6054 BRL/€ in 2017 against 3.8561 BRL/€ in 2016.



## The following table gives the duration of new business:

Duration (years)	2017	2016
Savings & Pensions	5.8	5.4
Risk & Protection	3.9	4.0

## 3.3.2 MCEV AT 31 DECEMBER 2017

## The following table gives the breakdown of Values In-Force:

	2017		2016		Change	
	€m	€/share	€m	€/share	€m	%
Value of In-Force	973		878		94	10.8%
Present Value of Future Profits	1,168	1.7	949	1.4	219	23.0%
Time Value of Options and Guarantees	(1)	(0.0)	(2)	(O.O)	0	- 24.6%
Frictional Cost of Required Capital	(50)	(O.1)	(47)	(O.1)	(3)	6.5%
Cost of Non-Hedgeable Risks	(144)	(0.2)	(22)	(O.O)	(121)	543.6%

The VIF (+  $\notin$  973M) is up + 10.8% compared to 2016, mainly subsequent to the downward revision of non-economic assumptions on pensions and credit insurance. Uncertainties around ongoing discussions on the renewal of the partnership in Brazil with the CEF have resulted in the recognition of an additional component

of CRNHR. The update of the closing exchange rate has an unfavourable effect. This is because the rate in December 2017 used for closing values in Brazil was 3.9729 BRL/€ against 3.4305 BRL/€ at end 2016. For Argentina, the exchange rate was 22.55 ARS/€ at end 2017 against 16.71 ARS/€ at end 2016.



The following table gives an analysis of variances, distinguishing VIF and ANAV, itself broken down into Free Surplus and Required Capital:

(€m)	ANAV	Free Surplus	Required capital	VIF	MCEV
MCEV 2016	946	600	345	878	1,824
Opening adjustments	(186)	(164)	(21)	(22)	(208)
Adjusted opening MCEV 2016	760	436	324	856	1,616
Value of New Business	0	(100)	100	225	225
Expected existing business contribution	25	25	0	164	188
Transfers from the VIF and required capital to free surplus	244	296	(51)	(244)	0
Experience variances	18	10	9	25	43
Changes in assumptions relating to operating activities	0	0	0	54	54
Other operating variance	0	0	0	0	0
Operating MCEV Earnings	288	231	57	223	511
Economic variances	(5)	(4)	(1)	38	34
Other non-operating variance	(6)	(6)	0	0	(6)
Total MCEV earnings	277	221	56	262	539
Closing adjustments	(165)	(115)	(50)	(145)	(310)
MCEV 2017		542			1,845

**Opening adjustments** affect the MCEV (-€208M) because of the payment of 2016 dividends (€182M) and the improvement of projection models on pensions.

The value of new business contribute up to  $+ \notin 225M$  to the increase in the MCEV. The corresponding increase in the Required Capital amounts to  $+ \notin 100M$ .

The expected existing business contribution (+  $\in$ 188M) results from capitalisation of the VIF (+  $\in$ 164M) and projected yield from the Free Surplus (+  $\in$ 25M). For Transfers of VIF and Required Capital to free surplus, the 2017 result attached to the VIF for 31 December 2016 is transferred to the ANAV without impact on the MCEV.

The experience variances affect the VIF to the tune of +  $\in$ 25M.

Changes in assumptions relating to operating activities result in an increase in the VIF of  $+ \in 54$ M due to the revision of noneconomic assumptions. Uncertainties around ongoing discussions on the renewal of the partnership in Brazil with the CEF have resulted in the recognition of an additional element of CRNHR.

There results in a contribution from operational activity of  $\in$ 511M on the MCEV (Operating MCEV Return of 31.6 %).

Latin America	2017	2016
Adjusted opening MCEV n-1	1,616	1,018
Operating MCEV Earnings	511	315
Operating MCEV Return	31.6%	30.9%

As regards the Free Surplus, the available Cash-flow of + €231 Mproduced by operational activities is the "Operating Free Cash-Flow" indicator.

**Economic variances** have a +  $\in$  34M impact on the MCEV, of which -  $\in$ 5M on the ANAV. The ANAV is basically linked to capital losses on equity capital. The fall in rates in Brazil has a positive impact on the VIF.

**Clsoing adjustments** correspond to the effects of the exchange rate. The variation in the Brazilian exchange rate is unfavourable, as shown on the previous page.

# 3.4 EUROPE EXLUDING FRANCE

The Europe excluding France geographic area covers CNP UniCredit Vita, CNP Santander Insurance with business in Germany, Italy, Spain, Poland and the Scandinavian countries, CNP Luxembourg, CNP Partners and CNP Cyprus Insurance Holdings.

As for France, 2017 continues to be characterized by a low rate environment.

59m	VNB 2017
9.1 %	MARGIN RATE NEW BUSINES
%	OF GROUP VN

ON

## 3.4.1 VALUE OF NEW BUSINESS

The following table gives a breakdown of the VNB:

		2017	2016	Chang	le
(€m, %)				€m	%
PVFP	Present Value of Future Profits	65	68	(3)	(4%)
TVOG	Time Value of Options and Guarantees	(2)	(8)	6	(74%)
FCRC	Frictional Cost of Required Capital	(1)	(O)	(1)	155%
CRNHR	Cost of Non-Hedgeable Risks	(3)	(2)	(1)	61%
VNB	Value of New Business	59	58		2%
APE	Annual Premium Equivalent	309	300	8	3%
pvnbp	Present Value of New Business Premiums	2,488	2,361	126	5%
	Margin rate	19.1%	19.3%	(0.2%)	(1%)
	PVNBP ratio	2.4%	2.5%	(0.1%)	(3%)

The APE volume in Europe excluding France (+€309M), up by 3 %, results from the effects of differents receipt in each country, including in particular a decline in sales at CNP UniCredit Vita, offset by an increase for CNP Santander and the introduction of the CNP Luxembourg in the perimeter.

The Value of New Business is stable, at  $\in$  59M (or +  $\in$  1M).



The following table gives a detailed analysis of the main factors in the change in value of new business:

(€m, %)	VAN	Change	Margin rate
Value of New Business 2016	58		19.3%
Updated model and scope	52	(6)	16.3%
Change in the APE volume	56	4	18.1%
Change in the segment mix	62	7	20.2%
Change in experience	58	(5)	18.7%
Change in financial market conditions	59	1	19.0%
Updated taxation	59	0	19.0%
Change in the foreign exchange rate	59	0	19.1%
Value of New Business 2017	59		19.1%
Change	]		-0.2%

- Updated model and scope (- €6M) mainly relates to the inclusion of CNP Luxembourg business and the improvements linked to modelling of negative rates in Italy.
- Change in the APE volume (+ €4M) reflects the effects of the variation in overall volume of premiums received without taking into account of changes in the breakdown per segment and per product. The volumes used are the APE volumes and are established from premiums measured in accordance with local accounting standards. The rise results mainly from CNP Santander and is linked to the higher proportion of periodic premiums increasing the APE.
- Change in the Segment Mix (+ €7M) results in a positive impact subsequent to the reorientention of sales from traditional savings products in euros to unit linked account, in Italy and Spain.
- Change in experience (- €5M) is negative especially subsequent to the update of assumptions on CNP Santander.
- The rise in rates together with their lower volatility results in a reduction in the cost of options and guarantees on savings-pensions products (+ €1M).



The following table gives the duration of new business:

Duration (years)	2017	2016
Savings & Pensions	6.0	5.9
Risk & Protection	2.5	2.8

## 3.4.2 MCEV AT 31 DECEMBER 2017

The following table gives the breakdown in Values In-Force:

	2017		2016		Change	
	€m	€/share	€m	€/share	€m	%
Value of In-Force	279	0.4	272	0.4		2.7%
Present Value of Future Profits	322	0.5	324	0.5	(2)	(0.8%)
Time Value of Options and Guarantees	(25)	(0.0)	(39)	(O.1)	13	(34.2%)
Frictional Cost of Required Capital	(4)	(0.0)	(3)	(0.0)	(1)	39.1%
Cost of Non-Hedgeable Risks	(13)	(0.0)	(10)	(O.O)	(2)	21.9%

The VIF Europe excluding France ( $\in$  279M), is up +2.7% compared to 2016. The TVOG is sharply down because of the improvement in the economic environment, and offsets the slight reduction in PVFP (-0.8%).



The following table gives an analysis of variances, distinguishing VIF and ANAV, itself broken down into Free Surplus and Required Capital:

(€m)	ANAV	Free surplus	Required Capital	VIF	MCEV
MCEV 2016		378	341	272	991
Opening adjustments	5	0	5	1	6
Adjusted opening MCEV 2016	724	379	346	273	997
Value of New Business	(28)	(136)	108	87	59
Expected existing business contribution	6	6	0	25	31
Transfers from the VIF and required capital to free surplus	83	189	(106)	(83)	0
Experience variances	7	9	(2)	2	9
Changes in assumptions relating to operating activities	0	(1)	1	(1)	(1)
Other operating variance	0	0	0	0	0
Operating MCEV Earnings	68	67	1	31	99
Economic variances	2	35	(33)	11	14
Other non-operating variance	(1)	(26)	26	(36)	(37)
Total MCEV earnings	70	75	(6)	6	76
Closing adjustments	0	0	(O)	0	0
MCEV 2017	794	454	340	279	1,073

**Opening adjustments** affect the ANAV (+ $\in$ 5M) mainly due to the payment of dividend in Italy (- $\in$ 14M) and Cyprus (- $\in$ 1M) and to the inclusion of CNP Luxembourg (+ $\in$ 20M) in the perimeter. The adjustment on VIF (+ $\in$ 1M) is mainly due to the improvements in the model in Spain and Italy, and the update of the tax rate on products sold in Italy by CNP Partners.

The value of new business in MCEV is +  $\in$ 59M, mostly due to the CNP Santander subsidiary and the Italian subsidiary CNP UniCredit Vita. It includes the net result generated in 2017 by New Business of -  $\in$ 28M charged to the ANAV, almost exclusively resulting from the Italian subsidiary because of the withholding of commission on unit linked account. The corresponding increase in Required Capital comes to +  $\in$ 108M mostly linked to CNP Santander's non-life business.

The expected existing business contribution  $(+ \in 31M)$  results from capitalisation of the VIF  $(+ \in 25M)$  and projected yield on the Free Surplus  $(+ \in 6M)$ . Changes in VIF enable  $\in 106M$  to be released as regards Required Capital and  $+ \in 83M$  to be transferred to the ANAV, mainly driven by the results on stock in the Italian subsidiary and the CNP Santander subsidiary. For transfers of VIF and Required Capital to Free Surplus, the 2017 result from the December 2016 VIF is transferred to the ANAV without impact on the MCEV. Experience variances impact ANAV basically from expense monitoring and more favourable claims at CNP Santander.

Changes in assumptions related to operating activities affect the VIF to the tune of -  $\in 1M$ .

The result is a contribution from operational activity of +  $\notin$ 99M on MCEV. (Operating MCEV Return de 9.9 %). The OFCF is +  $\notin$ 67M.

Europe excluding France	2017	2016
Adjusted opening MCEV n-1	997	903
Operating MCEV Earnings	99	97
Operating MCEV Return	9.9%	10,8%

Economic variances have an impact of  $+ \notin 14M$  on the MCEV, of which  $+ \notin 2M$  for the ANAV, basically due to capital gains on CNP Santander's equity. The impact on the VIF of  $+ \notin 11M$ , mainly from the Italian subsidiary, is linked to the improvement in market conditions on the traditional segment.





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# METHOD

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The Embedded Value represents the consolidated value of shareholders' interests generated by insurance business in portfolio on the date of valuation. It is calculated before the payment of dividends and taxes related to such dividends. This value excludes any incorporation of future business, in other words policies incepted after the valuation date. The method used by the CNP Assurances Group is based on the MCEV principles©. This chapter provides information on the way in which those principles are applied by the CNP Assurances Group.

# PRESENT VALUE Image: Cost of Non-Hedgeable Risks OF FUTURE PROFITS Image: Cost of Non-Hedgeable Risks ADJUSTED NET Image: Cost of Required Capital ASSET VALUE Image: Cost of Required Capital

## 4.1 ADJUSTED NET ASSET VALUE

Adjusted Net Asset Value ("ANAV") represents the fair value of assets that do not back insurance liabilities minus the fair value of liabilities other than insurance liabilities. The ANAV is reconciled with the IFRS shareholders' equity as follows:

- the elimination of intangible assets especially acquisition variances, the value of sales agreements, portfolios acquired and deferred acquisition costs, except for acquisition costs that have already been amortised in the VIF;
- the reincorporation of the shareholders' portion in unrealized gains not included in IFRS (especially for property assets and securities in the books at amortised cost) and the deduction of the portion of revaluations of financial assets included in the portfolio value modelling;
- the restatement of subordinated securities.

The ANAV is determined at the date of valuation for consolidated figures and for each of the subsidiaries by excluding minority interests and is split into Required Capital and Free Surplus.

## 4.1.1 REQUIRED CAPITAL

The Required Capital corresponds to the market value of assets representing equity that the insurer must isolate as regards its business and the distribution of which to shareholders is restricted.

The Required Capital reflects the level of capital that the Group sets to attain a target rating and control of its own risks as well as all other fixed components.

For European countries, the Required Capital is 110% of the regulatory solvency Required Capital in accordance with the Solvency 2 standard, net of all other sources of funding such as subordinated securities and future profits on policies in stock valued in a Solvency 2 universe. The Required Capital for each entity is calculated on the basis of its individual SCR.

For Latin America, the Required Capital chosen by the CNP Assurances Group is 110% of the solvency Required Capital under the local standard, which includes a component linked to market risk.

## 4.1.2 FREE SURPLUS

The Free Surplus is the value of the ANAV minus the Required Capital.

METHOD



## 4.2 VALUE OF IN-FORCE (VIF)

The VIF consists of the Present Value of Future Profits (PVFP) minus the following components:

- the Time Value of Options and Guarantees (TVOG);
- the Frictional Cost of Required Capital (FCRC);
- the Cost of Residual Non-Hedgeable Risks (CRNHR).

## 4.2.1 PRESENT VALUE OF FUTURE PROFITS (PVFP)

The PVFP is the present value of Future Profits net of tax generated by policies in portfolio at the date of valuation and with a central assumption of changes in financial markets aligned with the reference rate curve on the basis of a market-consistent method. The Group's choice as regards the reference rate curve is described in the "Assumptions" section of this report.

The PVFP included the intrinsic value of options and financial guarantees on policies in portfolio. The main options and financial guarantees included are as follows:

- credited rate guarantees (Minimum Guaranteed Rate);
- floor guarantees on unit-linked policies;
- technical rate guarantees on annuities being paid and guarantee resulting from the point acquisition tariff for the Préfon portfolio and other L.441 products;
- profit sharing options;
- surrender options.

The Time Value of Options and Financial Guarantees is incorporated separately in the TVOG.

## 4.2.2 TIME VALUE OF OPTIONS AND GUARANTEES (TVOG)

The Time Value of Options and Financial Guarantees ("TVOG") is generated by the asymmetry of risk sharing between shareholders and policyholders in accordance with the diverse changes on financial markets. Stochastic calculations are used, on the basis of multiple simulations, to scan the field of possibilities in terms of changes on financial markets and so capture the cost linked to financial options held by policyholders.

The valuation is based on a stochastic model itself based on a neutral-risk approach. This approach consists of setting the price of an asset as the expected future yield updated at the reference rate. The scenarios are from the Barrie & Hibbert generator, which is used to generate 1,000 scenarios projecting:

- the change in equities indices;
- the change in the property index;
- the actual rate curves for whole maturities between 1 year and 50 years;
- the nominal rate curve for whole maturities between 1 year and 50 years;
- the corporate credit spread curves (AAA to CCC ratings) for whole maturities between 1 year and 50 years.



Inflation is obtained by the difference between actual rates and nominal rates for 1 year maturity. The share dividend rate and property rent rate are set at 2.5% of the fair value of shares and property assets respectively and are supposed constant. The techniques used by the Group to calibrate the economic generator are described in the "Assumptions" section of this report. In addition, the projection model incorporates a competitive surrender component that represents the propensity of policyholders to surrender their policies when the actual return deteriorates compared to a market reference.

## 4.2.3 FRICTIONAL COST OF REQUIRED CAPITAL (FCRC)

The need to block the Required Capital in respect of business covered results in a carry cost to be allocated to the value of Embedded Value and new business. In market-consistent modelling, Frictional Costs are the cost of taxation friction and financial costs related to backing that capital.

The cost of interest paid to holders of subordinated debt is included in the value of business in portfolio. The approach used is as follows:

 the reference value of subordinated securities is determined in reference to the method given in the article 75 of Solvency 2 directive and the 5th orientation paper by EIOPA. It consists of using a valuation of subordinated securities taking account of the spread on issue and the exact characteristics of the securities. The Frictional Cost of Required Capital also includes the charge linked to funding a part of the Required Capital by subordinated securities; this charge is valued as the difference between the economic value of subordinated securities and their nominal. The CNP Assurances Group defines this economic value as being the present value net of future amounts paid to holders of securities calculated taking account, in the discount rate, of the spread on issue of each security. The Required Capital for new production is deemed to be funded by subordinated securities in the same proportions as the stock of policies; the funding is achieved by newly issued securities, for which the economic value is equal to the nominal.

### 4.2.4 COST OF RESIDUAL NON-HEDGEABLE RISKS (CRNHR)

The cost allocated to non-hedgeable financial and non financial risks results from:

- the inclusion of risks also not valued in the PVFP or TVOG such as the counterparty default risks and operational risks.
- the asymmetrical impact of particular non-hedgeable risks on value and especially mortality, longevity and morbidity risks included in policyholders' with-profits clauses.
- the uncertainty underlying the establishment of assumptions on non-hedgeable risks concerning claims, surrenders and costs, that are estimated using a "best estimate" approach.

The Group has used a cost of capital approach to value these residual non-hedgeable risks. The capital allocated as regards these risks is defined as the contribution of each of the specified risks to a level of capital and according to Solvency 2.

METHOD



## 4.3 VALUE OF NEW BUSINESS (VNB)

## 4.3.1 DEFINITION OF NEW BUSINESS

Projections made to estimate the value of a year's new production are based on the profile and volume of new business done in 2017.

### • Individual traditional and unit-linked savings and pensions:

New production consists of new policies and unscheduled payments on existing policies, without assumption on the recurrence of premiums.

### • Collective pensions:

New production of Collective Pension policies consists of new policies and unscheduled payments on existing policies. It concerns L441 and corporate pension policies in France and PGBL/VGBL policies (unit-linked pensions) in Brazil.

## • Individual protection:

New production consists only of new policies and future premiums attached to those policies. Future periodic premiums on existing policies are valued in the value of stock.

### • Collective protection:

As collective protection policies are annual from 1<sup>st</sup> January to 31<sup>st</sup> December with a inception date prior to 1<sup>st</sup> January, new production in a year consists policies whose cover period is the year following the current year.

### • Credit Insurance:

New production consists of new policies and future premiums attached to those policies. Future periodic premiums on existing policies are valued in the value of stock.

## • Other Products:

New production consists only of new policies and future premiums attached to those policies, projected periodically and split as annual, monthly or one-off policies. Future periodic premiums on existing policies are valued in the value of stock for the year.

## 4.3.2 VALUATION METHOD

The approach retained for the valuation of new business consists in determining aggregates identical to those of the value of stock: it is defined as the present value of projected results for polices written in the year after deducting of the Time Value of Financial Options and Guarantees, Frictional Cost of Required Capital, and the Cost of Residual Non-hedgeable Risks. The value of new business is based on a projection of its contribution to results as from the date of sales.

## Traditionally, there are two methods of measuring its contribution:

- the "stand alone" method: the value of new business is measured without taking into account the pooling effect with policies in stock and a part of the unrealised gains or losses on assets representing stock;
- the "marginal" method: the value of new business is measured taking into account pooling between new policies and policies en stock, and taking into account part of the unrealised gains or losses on assets representing stock.

### The Group uses:

## - a marginal method for valuing its VNB but that varies operationally depending on the product:

 for all portfolios excluding traditional savings, no unrealized gains and losses is taken into account in determining the VNB, and premiums on new business are deemed to be invested in new assets available at the date of valuation in accordance with the investment policy applied in the year; because there are no significant interactions between new business and stock, using a "stand alone" is method equivalent for these products to using a "marginal" method and is preferred operationally;

 for traditional savings portfolios, in France, Italy and Spain, the revaluation of policies does not distinguish different generations of identical policies, and depends on the financial performance linked to financial assets representing generations overall without distinction: a "marginal" method is applied operationally. For those portfolios, the method consists of taking into account a fraction of the Group's unrealised capital gains or losses and supposing that it is used for new business alone.





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# ASSUMPTION

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## **5.1 ECONOMIC ASSUMPTIONS**

Embedded Value calculations are based on financial assumptions determined from market conditions at 31 December 2017.

## 5.1.1 INTEREST RATE REFERENCE CURVE

The MCEV© principles state that the reference rate curve can be determined from the swap rate curve, potentially adjusted and especially to enable convergence with the Solvency 2 regulatory requirements.

The swap rate curves minus the "credit risk adjustment" in euros and Brazilian reals used for determining the reference rate curves for France, Europe excluding France and Latin America are given in the following table.

	€ RATE	€ RATE	BRL RATE	BRL RATE
MATORIT	31/12/2017	31/12/2016	31/12/2017	31/12/2016
1	-0.36%	-0.30%	6.75%	10.41%
2	-0.25%	-0.26%	7.72%	10.01%
5	0.21%	-0.02%	9.49%	10.38%
10	0.80%	0.57%	10.20%	10.44%
15	1.18%	0.96%	10.00%	10.10%
20	1.36%	1.12%	9.46%	9.50%
30	1.96%	1.76%	8.41%	8.42%
Ultimate forward rate	4.20%	4.20%	5.20%	5.20%
Point of entry of the extrapolation	20 years	20 years	10 years	10 years
Convergence	40 years	40 years	50 years	50 years

For the Eurozone, the rate curve is extrapolated with an entry point at 20 years which converges on 40 years according to the Smith-Wilson technique, to the ultimate forward rate which comes to 4.2%. For Brazil, the entry point is at 10 years and the rate curve converges on 50 years to the ultimate forward rate of 5.2%.

To determine the reference rate curve, the Group has chosen to align itself with the Solvency 2 prudential regulatory requirements, and adjust the rate swap curve - when allowed - with a credit risk adjustment and a volatility adjustment, in accordance with the prudential regulatory requirements. No matching adjustment has been used for Group entities. The levels of credit risk adjustment and volatility adjustment for different zones within the Eurozone at 31/12/2017 are given in the following table:

							)5
Ajustements (bps)	France	Italy	Spain	Ireland	Luxembourg	Cyprus	Brazil
CRA	10	10	10	10	10	10	35
VA	4	-	4	-	4	-	n.a

As a reminder at 31/12/2016 the volatility correction was of 13 bps for Eurozone and the credit risk adjustment of 10 bps. Depending on the requirements of local supervisory authorities, adjustments to rate curves and especially the application of a volatility adjustment is submitted to the supervisory authority in the Solvency 2 context. If the reference curve remains the same per monetary zone, the application of a volatility adjustment depends on local requirements and business and is not routine across the Group.

## 5.1.2 CALIBRATING THE RATE MODEL

The generation model used for nominal rates is based on the two factor Libor Market Model Plus (LMM+). The 10Y ATM swaption volatilities for markets used for calibration are as follows:

Terms	1 year	2 years	5 years	10 years	15 years	20 years	25 years	30 years
MCEV 31/12/2016 (normal)	0.65%	0.69%	0.75%	0.73%	0.69%	0.65%	0.60%	0.55%
MCEV 31/12/2017 (normal)	0.45%	0.53%	0.62%	0.65%	0.62%	0.57%	0.52%	0.48%

Actual rates are generated by means of the two factor Vasicek mode, which has been calibrated on Treasury bonds indexed on the inflation.



## 5.1.3 CALIBRATING THE EQUITY MODEL

A different level of volatility for each projection horizon between 1 and 10 years was used to generate the equity index (determinist volatility model). The levels used are given in the following table.

The volatility parameters were calibrated from implied ATM forward volatilities on the Eurostoxx 50 index at 31 December 2017.

Terms	1 year	2 years	5 years	10 years
MCEV 31/12/2016	20.3%	21.4%	22.3%	22.8%
MCEV 31/12/2017	16.1%	17.1%	19.2%	20.8%

The correlation coefficients between the different factors (equity, actual interest rates and nominal interest rates) are determined by Barrie & Hibbert from econometric analyses and experts' opinions.

## 5.1.4 CALIBRATING THE OTHER DIVERSIFIED INDEX

Two additional diversification index have been calibrated in the projection model : real estate index and Equity Minimum Variance index whose volatilities are 7% and 14.45% respectively.

The amandement called « Moment Matching Adjustement » is applied to all the diversification index in order to ensure a martingale projection.

## ASSUMPTION



## 5.1.5 CALIBRATING THE CORPORATE CREDIT SPREAD MODEL

In 2015 the CNP Assurances Group added a corporate credit spread diffusion model, the Credit G2 (JLT) model. The model's parameters are calibrated so as to reproduce the spread of an A rated bond of 7 years maturity (34 bps at 31 December 2017) with the following historic transition matrix:

	AAA	AA	А	BBB	BB	В	CCC	DEFAULT
AAA	93.4%	6.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
AA	2.5%	89.8%	6.8%	0.3%	0.2%	0.2%	0.0%	0.1%
A	1.4%	3.2%	89.6%	4.7%	0.4%	0.4%	0.0%	0.2%
BBB	1.4%	1.4%	5.0%	88.5%	2.2%	0.5%	0.5%	0.4%
BB	0.1%	0.4%	1.4%	6.9%	82.2%	6.9%	0.6%	1.5%
В	0.0%	0.1%	1.4%	2.0%	6.1%	80.2%	5.9%	4.3%
ССС	0.0%	0.0%	1.4%	1.8%	2.8%	7.7%	76.6%	9.7%
Default	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

## 5.1.6 EXCHANGE RATE

The following table gives the exchange rates for the CNP Assurances Group business zones outside the Eurozone:

	SF	TOY	AVERAGE		
	31/12/2016	31/12/2017	31/12/2016	31/12/2017	
Brazil (BRL / €)	3.4305	3.9729	3.8561	3.6054	
Argentina (ARS ∕€)	16.7049	22.5520	16.3463	18.7477	
Norway (NOK /€)	0.1100558	0.1016229	na	na	
Sweden (SEK ∕€)	0.1046846	0.1015868	na	na	
Poland (PLN / €)	0.2267419	0.2394063	na	na	
Denmark (DKK / €)	0.1345098	0.1343201	na	na	

The spot rate is a period-end rate, it is applied to VIF calculations. The average rate is the average daily rate for the year, it is applied for VNB calculations.



## 5.1.7 TAX RATE

The tax rate used in Embedded Value is the standard rate in the country in which the Group is operating:

TERMS	FRANCE	ITALY	luxembourg	Spain	CYPRUS	BRAZIL	ARGENTINA	ireland
MCEV 31/12/2015	30.25%	30.82%	na	25%	12.50%	45% (3)	35%	12.50%
MCEV 31/12/2016	27.45% (1)	30.82%	27.08% (2)	25%	12.50%	45% <sup>(3)</sup>	35%	12.50%

(1) The average rate taking into account the degressivity brought by the finance law of 2017 and 2018; the rates goes to 25 % starting from 2022

(2) The taxe rate is 27.08 % for 2017 and 26.01 % starting from 2018

(3) The taxe rate is 45% till 2018 then goes to 40 %. Except for CAIXA Consorcios whose taxe rate is mainteinde equal to 34 %

The tax credits recognised for France enabling the standard tax to be reduced are taken into account.

## 5.1.8 COST OF CAPITAL ALLOCATED TO RESIDUAL NON-HEDGEABLE RISKS

The rate applied to capital allocated to non-modelled risks and asymmetrical risks has been set at 5 %. The capital allocated to uncertainty on establishing assumptions suffers a frictional cost.

On average, the rate applied to capital is 2.5 % at 31 December 2017 (2.5 % at 31 December 2016).

## 5.1.9 SUBORDINATED SECURITIES FINANCE RATE

Those cover 60 % (average for the Group) of the solvency Required Capital at 31 December 2017 for the CNP Assurances entity.

## **5.2 NON ECONOMIC ASSUMPTIONS**

## 5.2.1 EXPENSES ASSUMPTIONS

Every year-end, the Group produces an analysis of expenses by object: acquisition, management, claims, investment costs and other technical and non technical charges as well as a breakdown by company, product family and network. These expenses bases are then projected by means of relevant drivers. At 31 December 2017, an annual rate of inflation between 1% and 1.5% was used for European entities for the drivers not already containing implicit inflation. In Latin America an inflation curve is used in line with the local market situation.

## 5.2.2 CLAIMS AND PERSISTENCE ASSUMPTIONS

Non-economic assumptions, mortality experience, surrender laws and claims assumptions are determined by each entity on the basis of their best estimate at the date of valuation. They derive from an analysis of actual and past experience seen on each of the portfolios valued.

## 5.2.3 FUTURE MANAGEMENT DECISIONS AND REACTIONS BY INSURED PARTIES

The calculation of MCEV metrics needs the incorporation of future management actions. Enabling management of the company to be tailored according to the financial and economic situation, they are represented in particular by the strategies on investment and the revaluation of amounts outstanding and specific actions on liabilities.

In the most unusual environments, such as persistent negative rate short-term and long-term, the investment strategy is modulated by the adjustment of the asset mix aimed at reducing the exposition to equity risks or rates. In this context, actions are planned on the savings portfolio in order to reduce the charge. In line with the future management decisions, policyholder reactions are anticipated.





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# CHANGES IN MCEV SINCE 2012

6.1	VNB history (€m and margin rate as %)
6.2	MCEV history (€m)

55 56



## 6.1 VNB HISTORY (€m AND MARGIN RATE AS %)



The above graph shows changes over time in the Group's VNB, compiled in accordance with the CFO Forum principles. Since 2014 the VNB has benefitted from pooling the unrealized gains in stock, with use of the marginal method.

## CHANGES



## 6.2 MCEV HISTORY (€m)







# MARKET-CONSISTENT EMBEDDED VALUE REPORT

EXTERNAL OPINION ON MARKET-CONSISTENT EMBEDDED VALUE

## CNP ASSURANCES 4 PLACE RAOUL DAUTRY 75716 PARIS CEDEX 15

## To the Group Financial Director of CNP Assurances

07

As Statutory Auditors of CNP Assurances and in accordance with your request, we have examined the Market-Consistent Embedded Value (MCEV©) information regarding MCEV© and its components, the value of new business, the analysis of movements in MCEV© and MCEV© sensitivities (hereinafter referred to as "the MCEV© Information") at 31 December 2017 of the CNP Assurances Group, presented in the attached document ("Embedded Value Report at 31 December 2017", hereinafter referred to as "the EV Report").

The MCEV© Information and the 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 required, based on our work, to express a conclusion on the consistency of the results of the MCEV© Information with the methodology and assumptions adopted by management, with the MCEV© principles, with the guidance published by the CFO Forum in May 2016, as well as on the consistency of the accounting information used with the consolidated financial statements as at 31 December 2017.

Our work, which does not constitute an audit, nor a limited review, 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 process used by management to prepare the MCEV© Information;
- Checking the "Market-Consistent" approach used by management and described in the EV Report, with regards to its consistency with the MCEV© principles and guidance published by the CFO Forum;
- Checking the compliance of the methodology applied with that described in the EV Report;
- Checking the economic assumptions used and their consistency with observable market data;
- Checking the consistency of the operational assumptions used with regards to past, current and expected future experience;
- Checking the consistency of the results presented in the MCEV© Information with the methodology and assumptions described in the EV Report;

- Checking the consistency of the accounting data and other relevant underlying data used in preparing the MCEV© Information with the annual consolidated financial statements and underlying accounting records at 31 December 2017;
- Obtaining the information and explanations deemed necessary to deliver our conclusion.

We note that the Embedded Value calculation is based on a number of assumptions and expectations, notably regarding future management actions and policyholder's behavior, thus by nature includes an element of uncertainty and might evolve in accordance with the changes of environment. As a result, actual outcomes may differ significantly from those expected in the MCEV© Information. We do not express any conclusion relating to the possibility of such outcomes.

Based on our work, we do not have any observations regarding:

- The consistency of the results of the MCEV© Information at 31 December 2017 as presented in the EV Report with the methodology and assumptions adopted by management, which are consistent with MCEV© principles 1 to 16, with the guidance published by the CFO Forum in May 2016;
- The consistency of the accounting information used with the CNP Assurances Group's consolidated financial statements at 31 December 2017, upon which we expect to issue our audit report at the beginning of March 2018.

This report is governed by the French law;

Neuilly-sur-Seine and Courbevoie, 21 February 2018

PricewaterhouseCoopersAudit / Mazars

Bénédicte Vignon - Eric Demerlé - Olivier Leclerc - Grégory Boutier





# MARKET-CONSISTENT EMBEDDED VALUE REPORT

# APPENDICES

Appendix A: Glossary Appendix B: Perimeter 62 64 08

## **APPENDIX A: GLOSSARY**

### ADJUSTED NET ASSET VALUE (ANAV)

Calculated by subtracting from the Group shareholders' equity the subordinated debt classed as shareholders' equity, intangible assets and other components also valued in the Value of In-Force. This indicator is net of minority interests. The Adjusted Net Assets Value are composed of Required Capital and Free Surplus.

### ANNUAL PREMIUM EQUIVALENT (APE)

Indicator of production volume in the period, being one tenth of the sum of unique premiums and unscheduled payments to which is added the amount of periodic premiums subscribed in the year. This indicator is net of minority interests and net of reinsurance.

## FRICTIONAL COST OF REQUIRED CAPITAL (FCRC)

The need to block the Required Capital results in a carry cost to be allocated to the value of the Embedded Value and new business. In market-consistent modelling, the Frictional Costs are the cost of taxation friction and financial costs related to blocking that capital.

### COST OF RESIDUAL NON-HEDGEABLE RISKS (CRNHR)

The cost allocated as regards non-hedgeable financial and non financial risks results from:

- the inclusion of non valued risks in addition in the PVFP or TVOG such as counterparty default risks and operational risks.
- the asymmetrical impact of certain non-hedgeable risks on value and especially mortality, longevity and morbidity risks included in policyholders' with-profits clauses.
- the uncertainty underlying the establishment of assumptions on non-hedgeable risks concerning claims, surrenders and costs, that are estimated using a "best estimate" approach.

## EIOPA

European Insurance and Occupational Pension Authority.

### CHANGE AT CONSTANT EXCHANGE RATES

In the comparison at constant exchange rates, the exchange rate for the previous period is applied to the current period. This indicator is used to measure changes in the main indicators excluding exchange rate effects.

## CHANGE AT CONSTANT PERIMETER

In the comparison at constant perimeter, the contribution from activities disposed of or ceased is removed from the perimeter of the previous period, and the contribution from new activities is removed from the perimeter of the current period. This indicator is used to measure changes in the main indicators on a comparable perimeter of activity.

### FREE SURPLUS

Is the portion of the Adjusted Net Asset Value that can be freely used by management to pay dividends and develop activity through marketing new business or by means of external growth operations. This indicator is net of minority interests.

### IFRS

International Financial Reporting Standards.

## MARKET-CONSISTENT EMBEDDED VALUE (MCEV)

Method of valuing a life insurance company that is broken down into Adjusted Net Asset Value and the Value of In-Force, namely the value insurance policies in portfolio at the date of valuation, determined using a market-consistent asset and liability valuation method. This indicator is net of minority interests.

### **OPERATING FREE CASH-FLOW (OFCF)**

Measures the release of Free Surplus, which can be used to pay dividends and develop activity through marketing new business or by means of external growth operations. This indicator is net of minority interests. The Operating Free Cash-Flow can be calculated gross or net of issues and repayments of subordinated debt.

## APPENDICES



## SOLVENCY REQUIRED CAPITAL (SCR)

Level of eligible equity enabling an insurer to absorb significant losses, and give reasonable assurance that commitments to policyholders and beneficiaries will be honoured when they are due. The SCR is defined by the Solvency 2 directive as the value-at-risk of the insurer's basic equity, with a 99.5% level of confidence at a one year horizon. CNP Assurances has opted to calculate its SCR in accordance with a standard formula without transitory measurements, except grandfathering subordinated debt issued before the entry in force of Solvency 2.

## MARGIN RATE ON NEW BUSINESS OR APE RATIO

Is calculated by dividing the value of new business by the APE. This indicator is used to measure the future profitability of insurance policies written in the period

## TVOG (TIME VALUE OF OPTIONS AND FINANCIAL GUARANTEES)

The time value of options and financial guarantees represents the additional cost of options and guarantees beyond their intrinsic value that is included in the determinist scenario. The time value of costs of options and financial guarantees is calculated by the difference between the average value of future Cash-flows updated using stochastic and determinist scenarios.

## ULTIMATE FORWARD RATE (UFR)

Used to update insurers' long term liabilities (pensions, death, life assurance, public liability, etc.) in the absence of relevant market data. Beyond the last liquid point (LLP) (20 years in the Eurozone) market rates are extrapolated and converge over a 40 year period on an ultimate rate (the UFR).

## VALUE OF NEW BUSINESS (VNB)

Assessment of the value of insurance policies written in the period, determined in accordance with a market-consistent asset and liabilities valuation method. It is calculated as the Present Value of Future Profits estimated on insurance policies written in the period, minus the time value of options and financial guarantees, frictional cost of capital and the cost of non-hedgeable risks. This indicator is net of minority interests and tax on profits.

## VALUE OF IN-FORCE (VIF)

Assessment of the value of insurance policies in portfolio at the date of valuation, determined in accordance with a marketconsistent assets and liabilities valuation method. It is calculated as the estimated present value of future profits on insurance policies in portfolio at the date of valuation, minus the time value of options and financial guarantees, frictional cost of capital and the cost of non-hedgeable risks. This indicator is net of minority interests and tax on profits.



## **APPENDIX B: PERIMETER**

GEOGRAPHICAL AREA	COUNTRY	ENTITY	SHARES OWNED	
		CNP Assurances	Consolidating Entity	
r	F	CNP Caution	100.00%	
rrance	France	MFPrévoyance	65.00%	
		Arial CNP Assurances	40.00%	
	Brazil	Caixa Seguradora	51.75%	
Latin America	Argentina	CNP Assurances Compañia de Seguros	76.47%	
	1. I	CNP Unicredit Vita	57.50%	
	Italy	CNP Assurances Italian Branch	100.00%	
E	Spain	CNP Partners	100.00%	
Europe excluding France	Luxembourg	CNP Luxembourg	100.00%	
	Cyprus / Greece	CNP Cyprus Insurance Holdings	50.10%	
	Ireland	CNP Santander Insurance	51.00%	

## The main changes in the Group's scope of consolidation in 2017 are:

- the integration of the CNP Luxembourg specialising in the wealth savings;
- the fusion of ITV and Prévipote in CNP Assurances;
- the consolidation of Arial CNP Assurances specializing in the supplementary corporate pensions field and owned by CNP Assurances and AG2R.

Entities not covered have been valued on the basis of their IFRS equity restated for intangible components.

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