

Impact of a low-yield environment for the main French insurers

Dominique DURANT

Deputy head of Research Directorate

EIOPA advanced seminar quantitative
techniques in financial stability

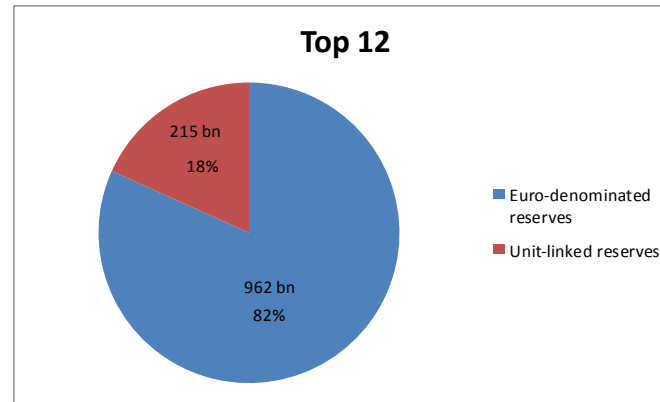
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Sommaire

1. Participation rates down since several years
2. Low guaranteed rates, at least on individual contracts
3. The profit sharing minimum requirements is still not binding
4. Interactions between return on assets and profit-sharing
5. A high level of economic wealth
6. Forward-looking: investment return rate projection
7. Macro-prudential measures

A large majority of euro-denominated contracts

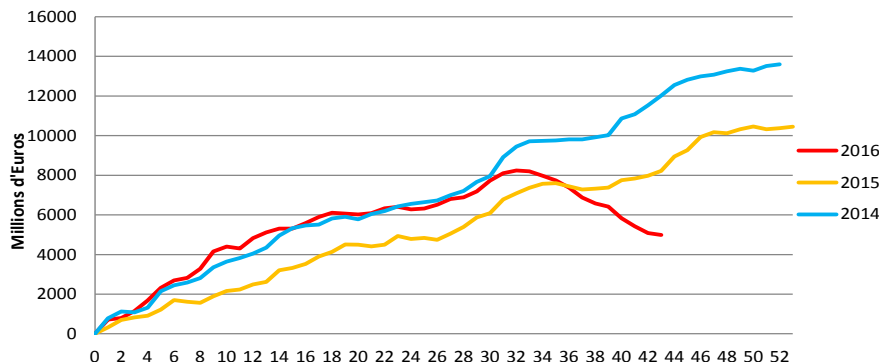
- As at end 2015, the euro-denominated contracts represent nearly 80% of reserves against less than 20% for the unit-linked



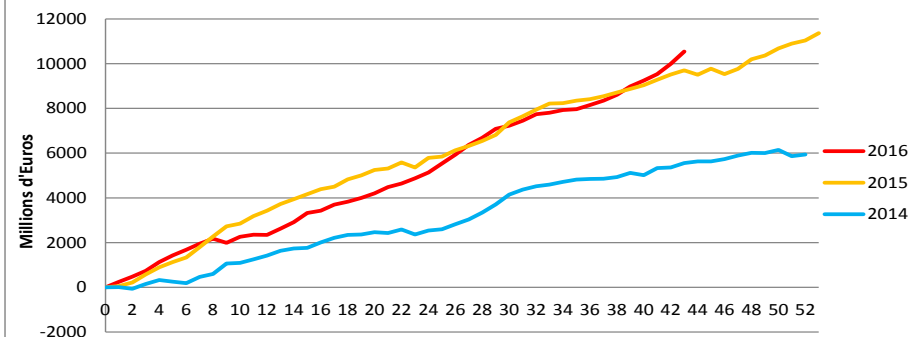
- Insurers adapt to low yield environment by decreasing euro-denominated insurance contracts to the partial benefit of unit-linked contracts

**Net premium cumulated from the beginning of the year
euro-denominated contracts (left) – Unit linked contracts (right)**

**Collecte Nette depuis le 1er Janvier
(Supports rachetables en euros)**



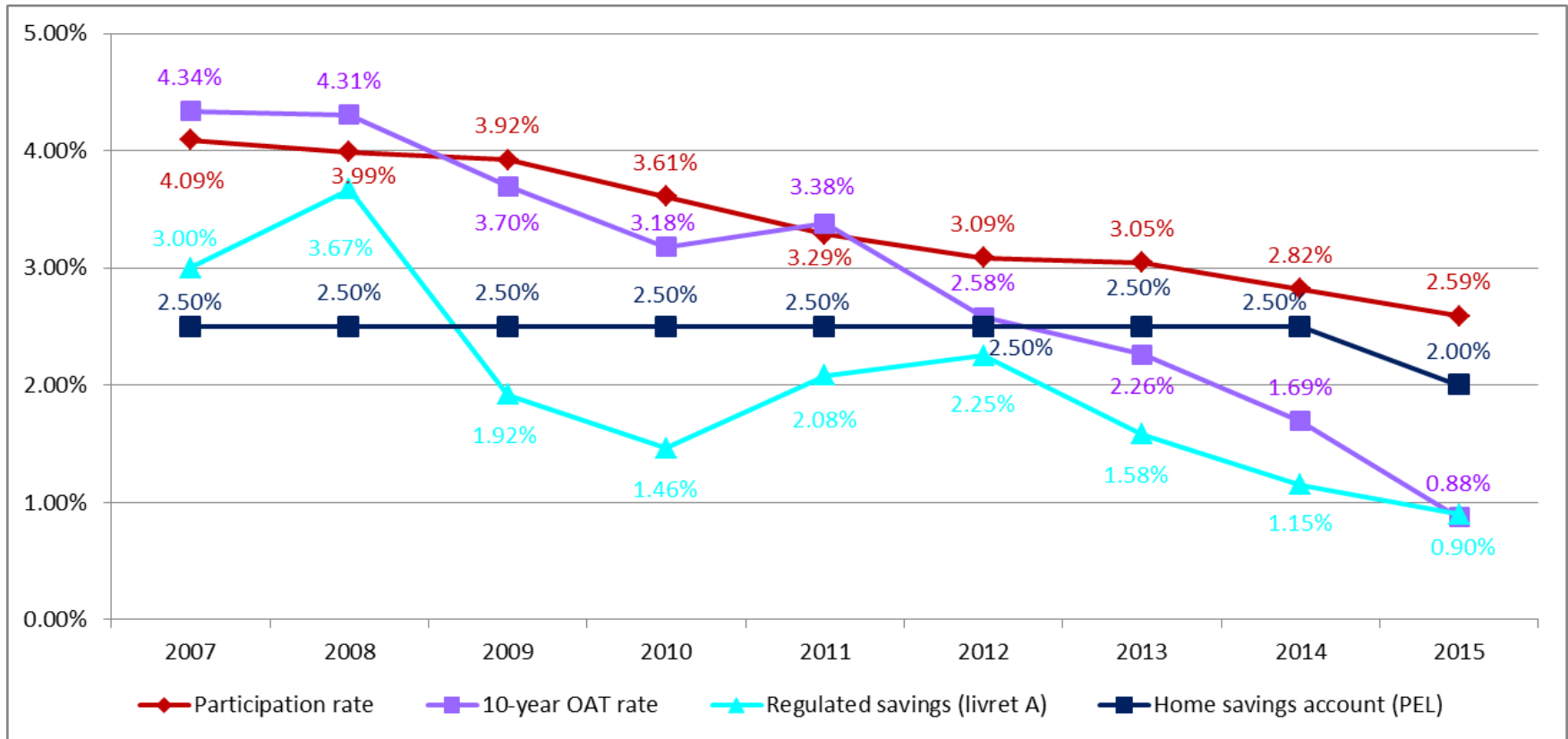
**Collecte Nette depuis le 1er Janvier
(Supports rachetables en UC)**



Bonus rates down

- But the decline is slower than the 10-year OAT rate
- It is also slower than the rate of saving accounts, at least in 2015

Average participation rates since 2007

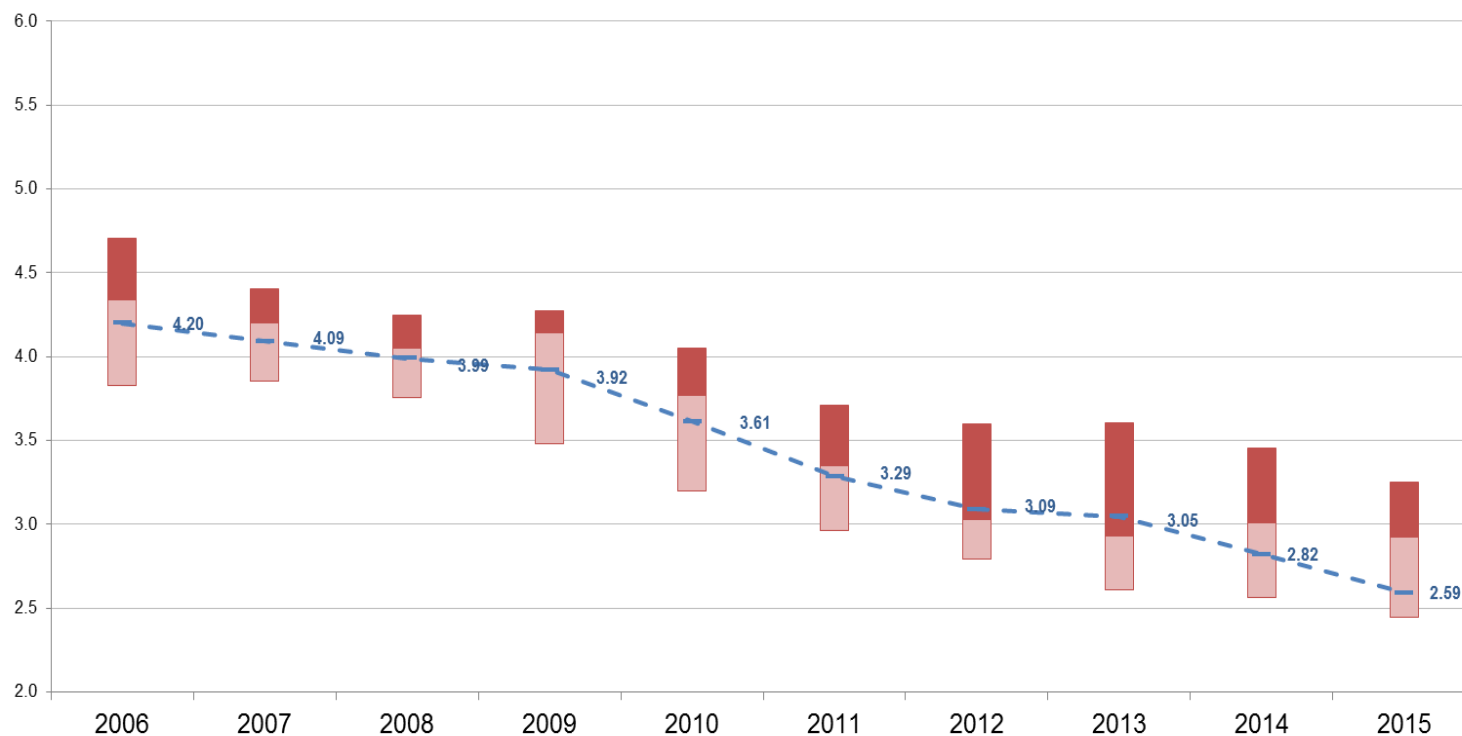


Perimeter : TOP 12

Significant dispersion of bonus rates

- A prisoners dilemma game with a leading role of the first announcer of the yearly participation rate
- Some important insurers, especially bank insurers, have a low bonus rate,

Dispersion of participation rates since 2006



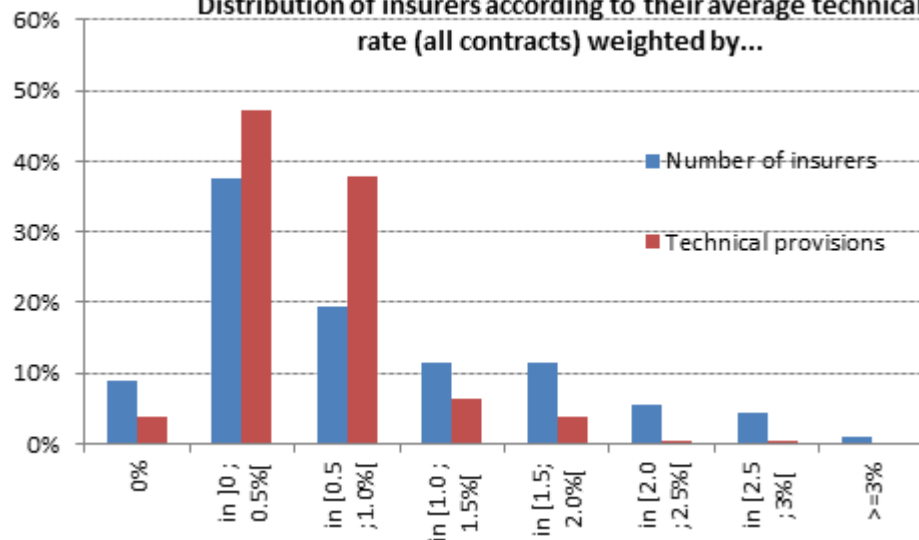
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Low guaranteed rates, at least on individual contracts

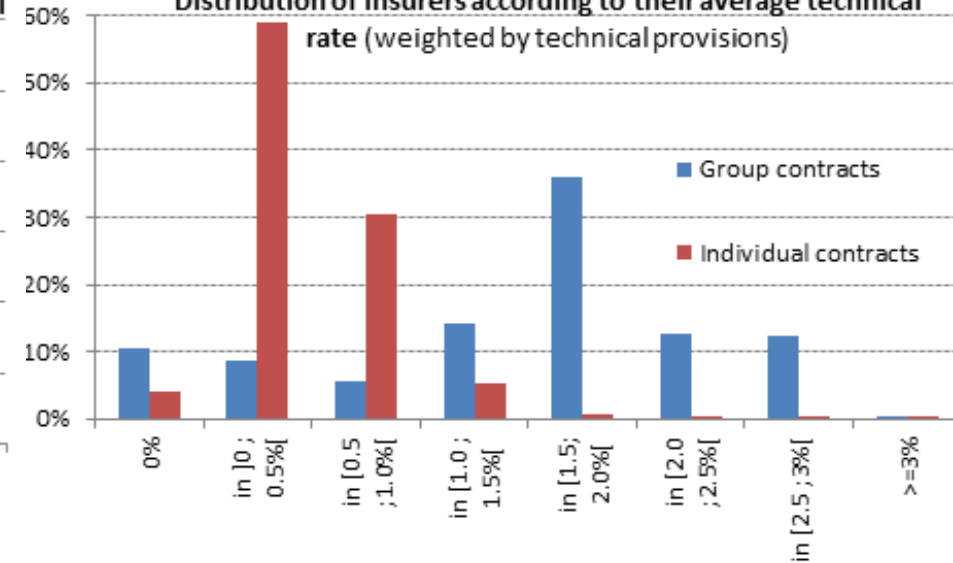
Technical interests

- Limited to 75 % of the TME (10-year French government bonds rate) since June 1st, 1995 (art. In 132-1) under 8 years and 60% above 8 years.
- In 2015, the average technical interest is 0,42% on individual contracts (92% of PT) and 1,51% on collective contracts (8% of PT), with a global average of 0,51%

Distribution of insurers according to their average technical rate (all contracts) weighted by...



Distribution of insurers according to their average technical rate (weighted by technical provisions)



Other guaranteed rates

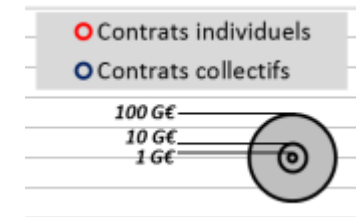
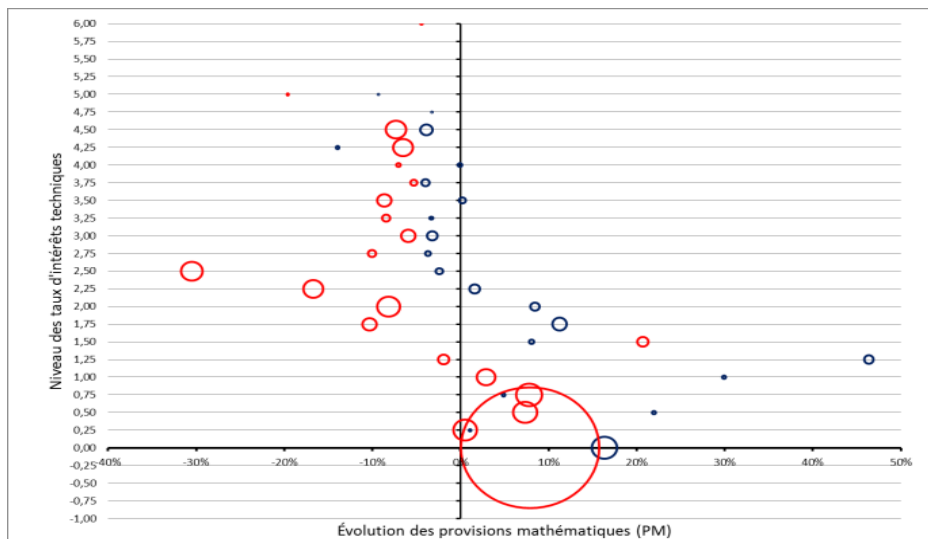
- Possible to take additional commitments is limited to 2 years (art. A 132-2 et A 132-3) and marginal for the main insurers

Technical rates are decreasing through time

Higher lapse rate on contract with high technical interest rates:

- Either through benefits (subscribers are older)
- Or through surrender (due to commercial incitation by insurers)

Net premium by contract type depending on the technical rate



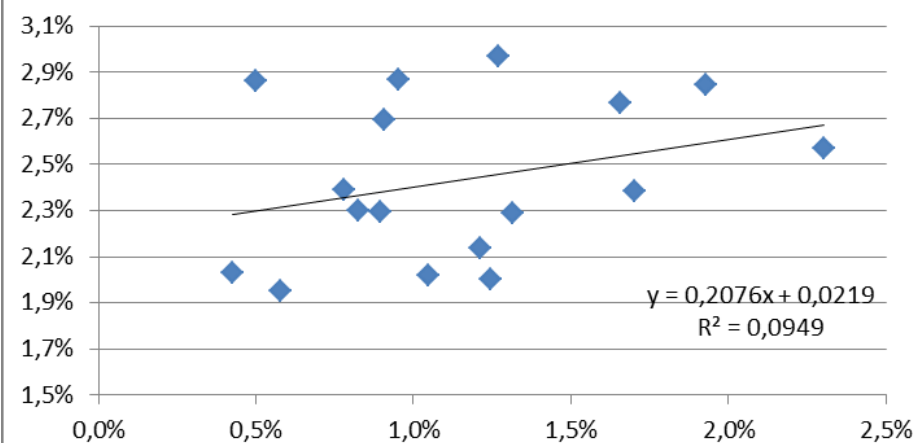
The case law permits a decrease in technical rates

- On unilateral basis for non planned future premiums
- For stocks when agreed with the subscribing association regarding collective contracts

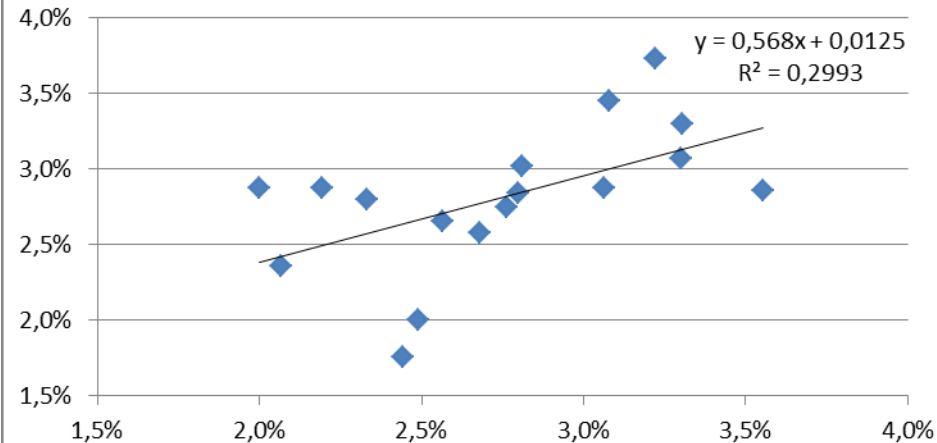
Commitments embedded in individual contracts

- Contractual commitments often specified in % of the financial incomes
- Represent 0,5 points of % in 2015 for the main insurers
- Less relevant when explaining the bonus rate than the regulatory profit sharing minimum requirement which is defined globally (see next slide)

Participation rate (X axis) and contractual commitments (Y axis)



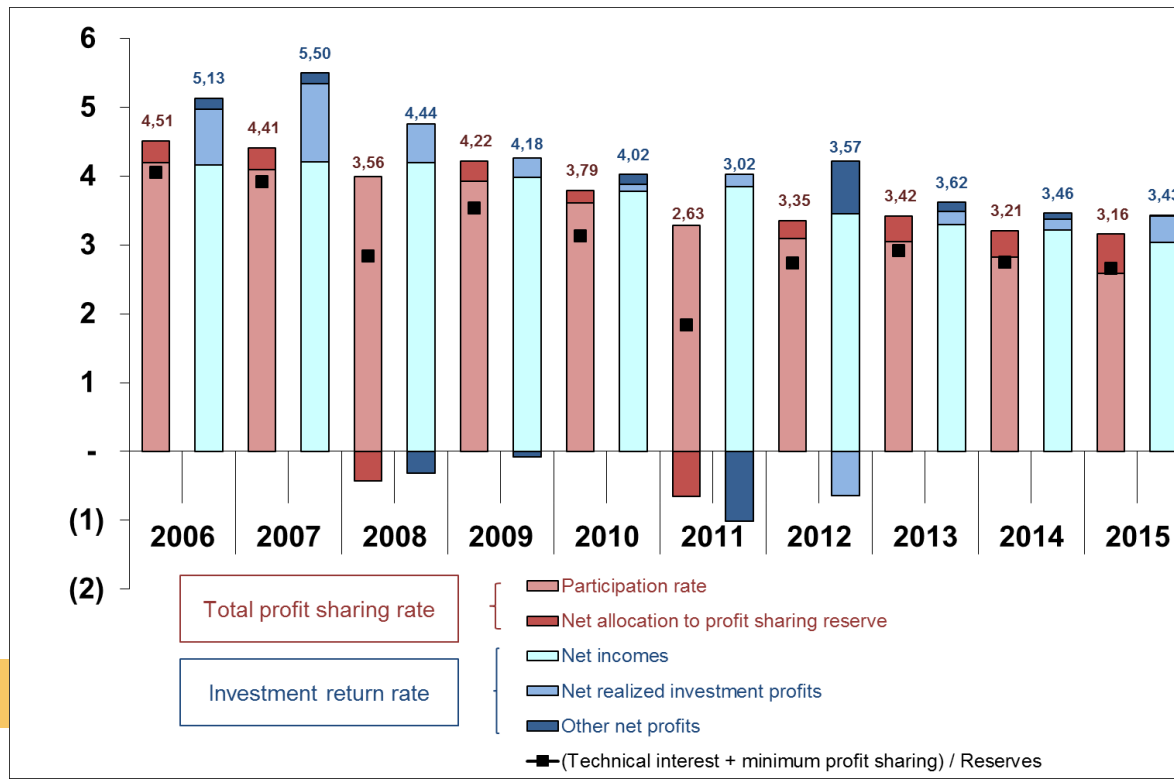
Revaluation risk (X Axis) and profit sharing minimum requirement (Y axis)



Perimeter : TOP 12

The profit sharing minimum requirements is easily respected

- ❑ Obligation to distribute within 8 years 90 % of the technical balance if it is positive and 85 % of the financial incomes once deducted the technical interests
- ❑ The insurer has several options:
 - realizing capital gains or losses on securities with variable income to increase or reduce the financial incomes
 - distributing immediately or increasing the profit-sharing provision that has to be distributed to policy holders within 8 years
- ❑ The sum of the bonus rate and the allocation to profit-sharing provision is superior or equal to the minimum profit-sharing for all the insurers



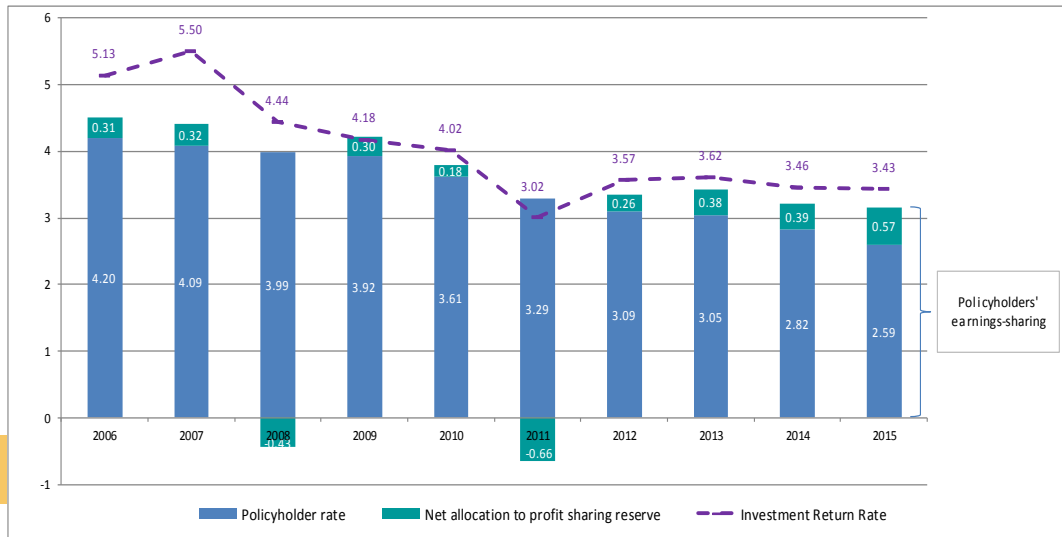
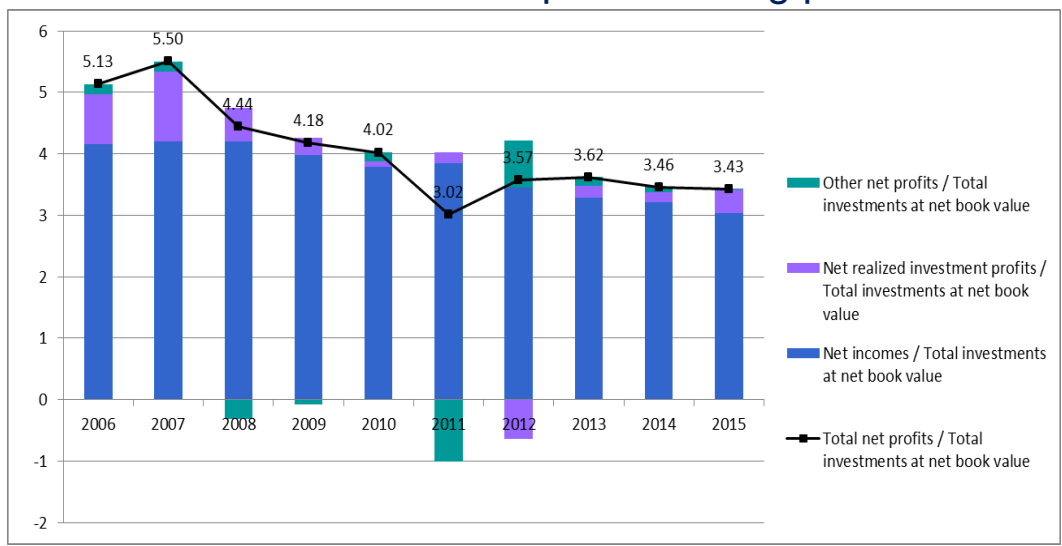
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Interaction between return on assets and profit-sharing

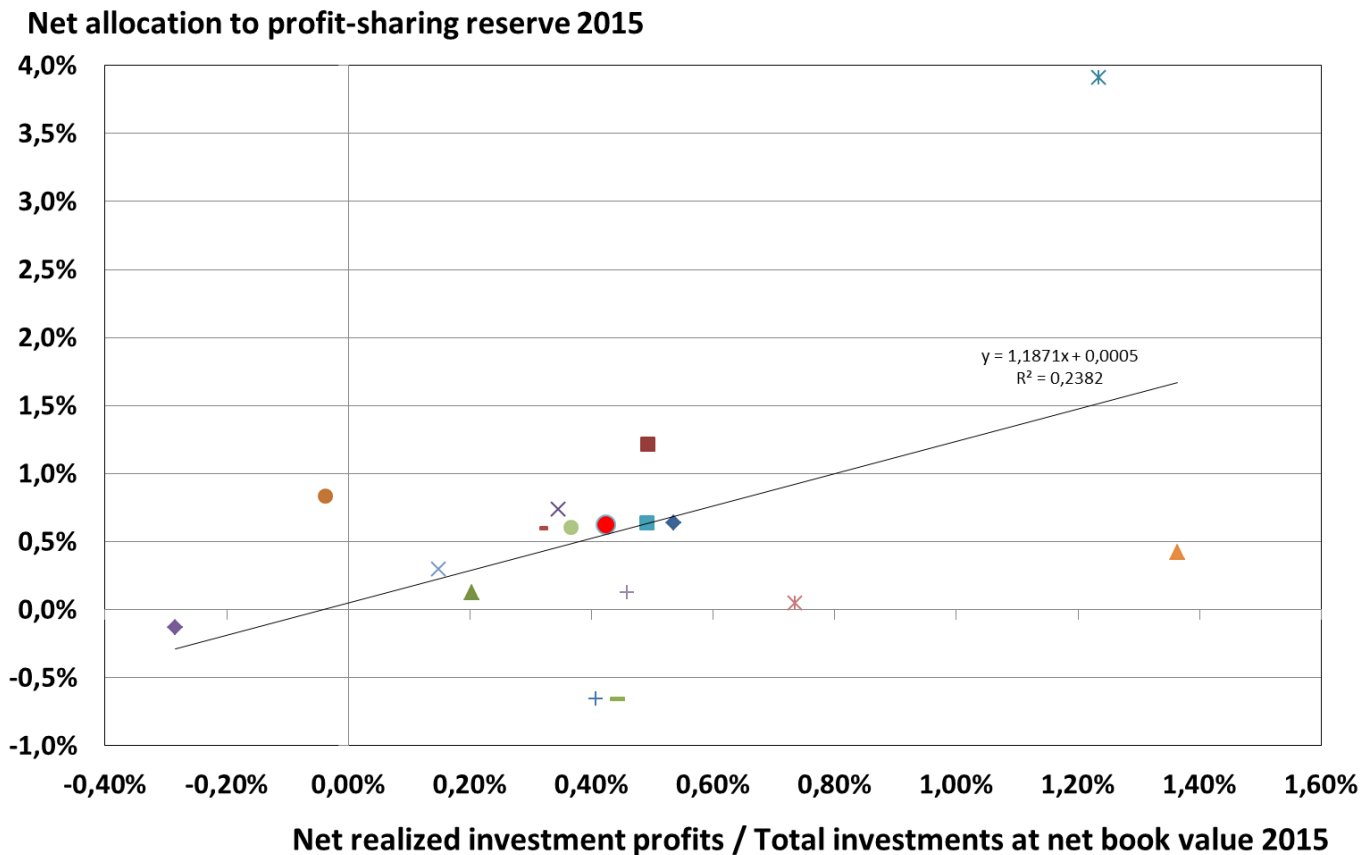
- Due to realized holding gains, the margin between return on assets and profit sharing is stable
- Insurers distribute less and increase the profit-sharing provision



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Interactions between return on assets and profit-sharing

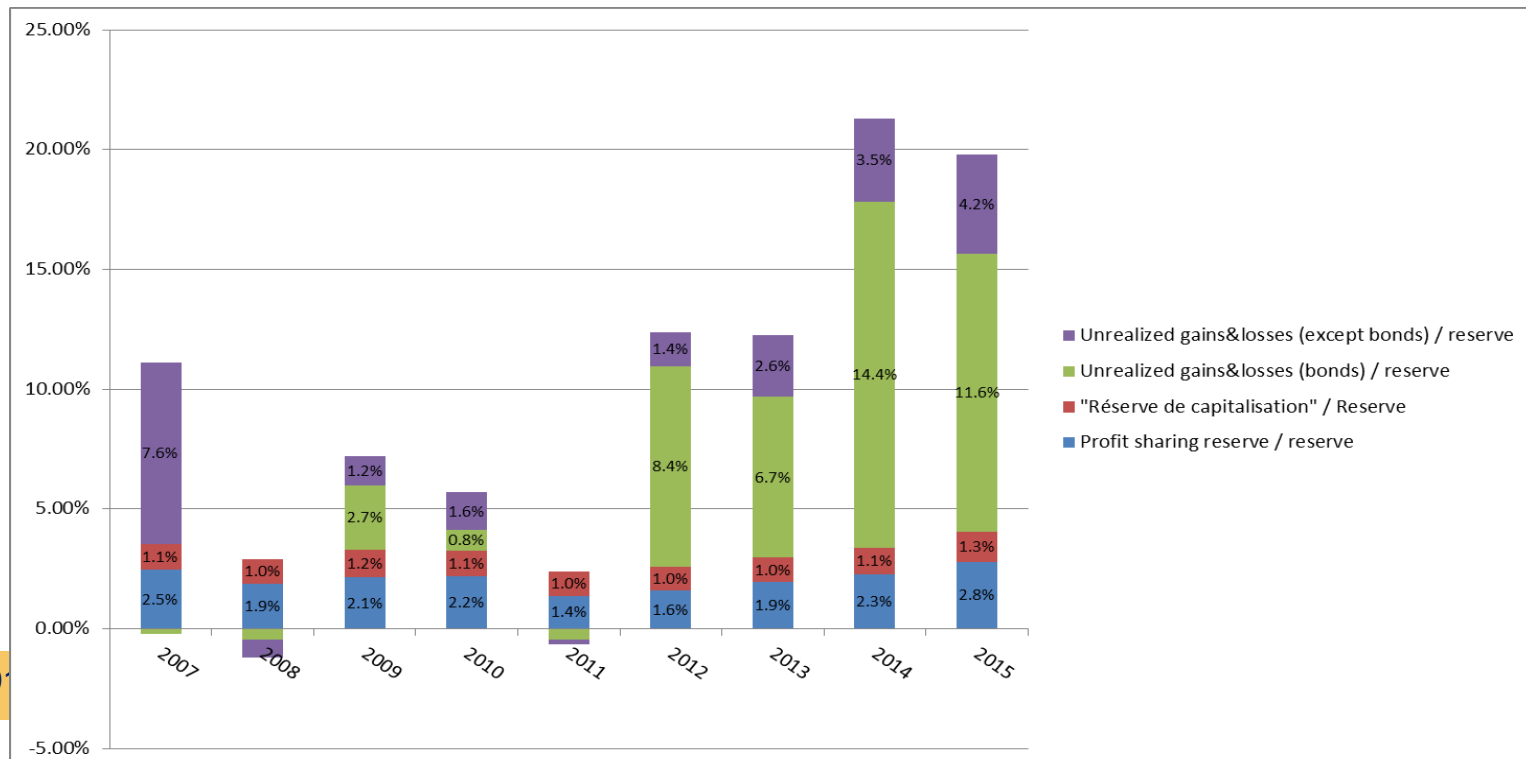
- A significant part of realised holding gains is used for increasing the profit sharing provision



Perimeter : TOP 12

A high level of economic wealth

- ❑ Unrealized gains on bonds are significant since 2014 but aren't available for participation rate because they are put into the "capitalisation reserve".
- ❑ The "capitalisation reserve" increases since 2013: it can only decrease when holding losses are realized on bonds
- ❑ The profit-sharing provision rises since 2011 : 70% are allocated in the current year and 19% in the previous year. Few amounts have to be distributed due to the 8 year limit
- ❑ Unrealized gains on variable-income securities are volatile

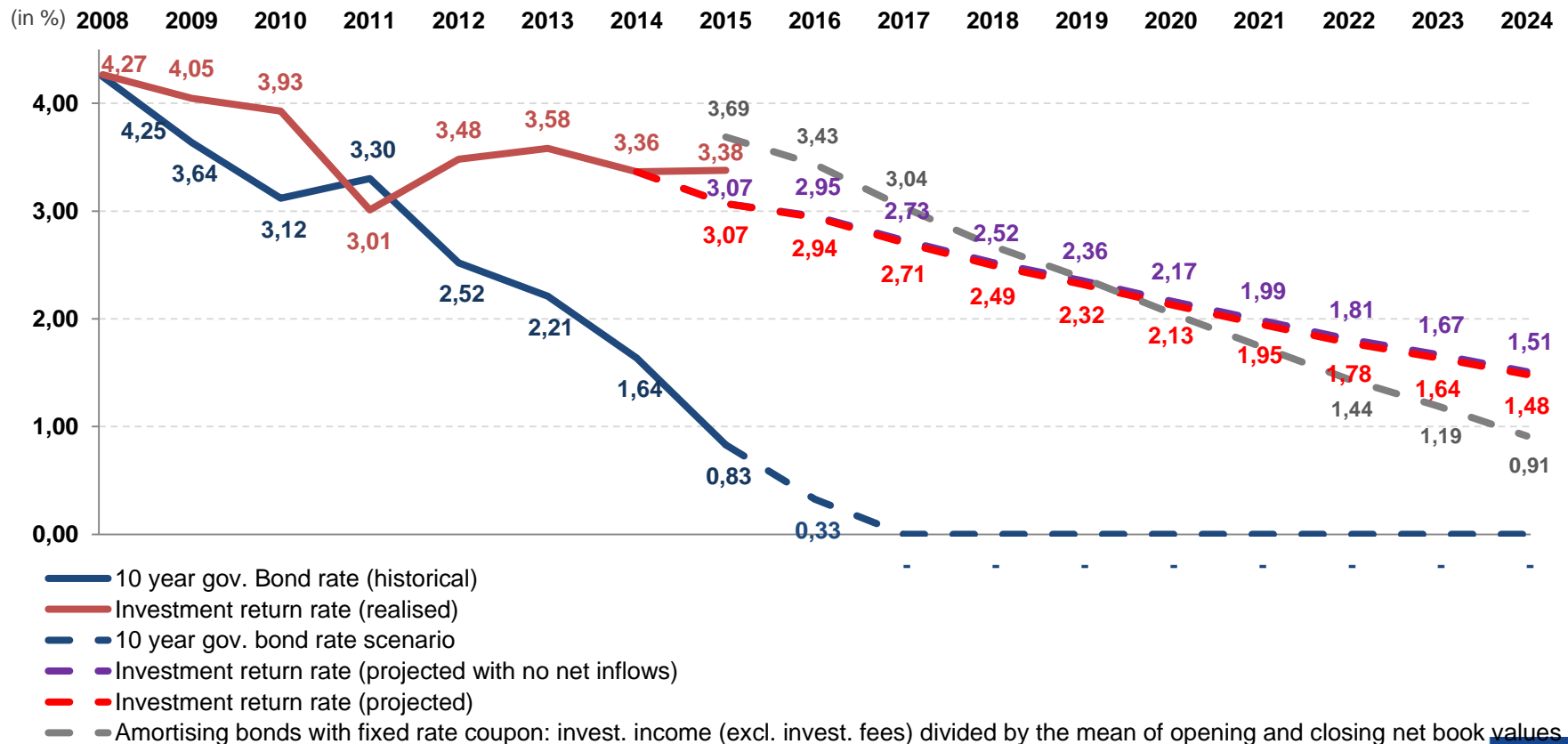


Forward-looking: projection of return on investments

Main results

- The reinvestment of (amortizing) fixed rate bonds maturing and the investment of the new net inflows into (amortizing) bonds with a fixed rate coupon of 0% reduce the return on investment by circa 20 bps every year
- The new inflows have a marginal impact on the return on assets

Return on investments projection for the aggregated 16 main French life insurers (in %)



Forward-looking: projection of return on investments

Methodology: main features

- projecting the investment return rates stemming from the investments excluding the unit-linked contracts assets
 - over a period of 10 years
 - With a 10-year French government bonds rate of 0% over the projection period
 - Considering two-type of assets i: amortising bonds with fixed coupon rate and other assets
 - the definition of investment return rate is:

$$\text{Investment return of asset } i \text{ in year } n = \frac{\text{accounting investment income of assets } i \text{ in } n}{\frac{1}{2} * (\text{opening net book value of assets } i \text{ in } n + \text{closing net book value of assets } i \text{ in } n)}$$

- Based on end-2014 security by security portfolio : list and characteristics of assets (directly held by the insurer sourced from the annual regulatory reporting template « *Tableau Complémentaire à l'État des Placements* »)
- Could be done with S02.06, eventually complemented with CSDB

Forward-looking: projection of return on investments

Methodology: assumption about investment of inflows

- ❑ Reinvestment of fixed income amortizing bonds maturing in the same type of assets
- ❑ Reinvestment of revenue stream generated by assets in portfolio: the cash flows (coupons, redemption price, dividends, rents, etc.) are invested in the same type of asset they stem from
- ❑ Investment of net annual premium:
 - Two scenarios: a zero annual premium or a net annual inflows equal to the realized net inflows in non-UL contracts over 2016 first semester, multiplied by 2 (calculation in Aug.16) – it is assumed stable over the projection period and is different for each insurers
 - Investment separated between the two asset types in proportion of their opening net book value
 - Negative net annual premiums in a year is deduced from other inflows
- ❑ New securities investments:
 - In 10-year government amortizing bonds with fixed coupon rate of 0%, bought at par value (therefore their coupon is equal to their actuarial rate or return and they have a constant net book value)
 - In other assets with the same characteristics as those in portfolio (investment income and net book value)
- ❑ No sales and rebalancing of assets in portfolio

Forward-looking: projection of return on investments

Methodology: projecting book value of assets and investment income

- Under French accounting standards, non UL contracts assets are recorded at historical cost and are eventually amortized or depreciated. In particular, « amortizing assets » (i.e. bonds with known maturity date) are amortized, and depreciated when the issuer is considered to carry an identified credit risk

Amortising bonds with fixed coupon rate

Available data for each bond security:

- **Net book value**
- **Redemption price**
- **Coupon rate**
- **Maturity date** (retrieved by ACPR)

Assumptions:

- **non identified credit event**
- **bonds held-to-maturity**

Actuarial rate of return (yield-to-maturity)

Under these assumptions, available information allows to project the (*certain*) investment income and net book value of initial assets held and new assets invested in 0% 10-year bonds

For an amortising bond with fixed yearly *Coupon* paid on the 31/12, maturing on 31/12/*m*,

Investment income *excluding investment costs* in *n* = actuarial rate of return × closing net book value in *n* – 1

Closing net book value in year *n* =
$$\sum_{\text{years } k:n+1 \text{ to } m} \frac{\text{Coupon}}{(1 + \text{actuarial rate of return})^{k-n}} + \frac{\text{Redemption price}}{(1 + \text{actuarial rate of return})^{m-n}}$$

Other assets

Includes amortising bonds with variable coupon rate and non amortising assets (equities, property, etc.)

Assumptions: no sales, no depreciation, invest. income generated only by revenue stream, constant net book value

Investment income *excluding investment costs* in *n* = α × closing net book value in *n* – 1

α being the mean of the estimated assets revenues in proportion of the net opening net book value in years 2014-2015

α is insurer specific and stable along the whole projection period

Forward-looking: projection of return on investments

Methodology: treatment of investment costs

- ❑ Investment costs as a proportion of the investment income is assumed to be constant over the projection period (equal to its mean over 2014 and 2015)
- ❑ Investment return of the portfolio over the projection period is given by:
 - the projected investment income excluding investment costs of the amortising bonds with fixed rate coupon and of the other assets,
 - Less the assumption on investment costs.

Investment income in year n

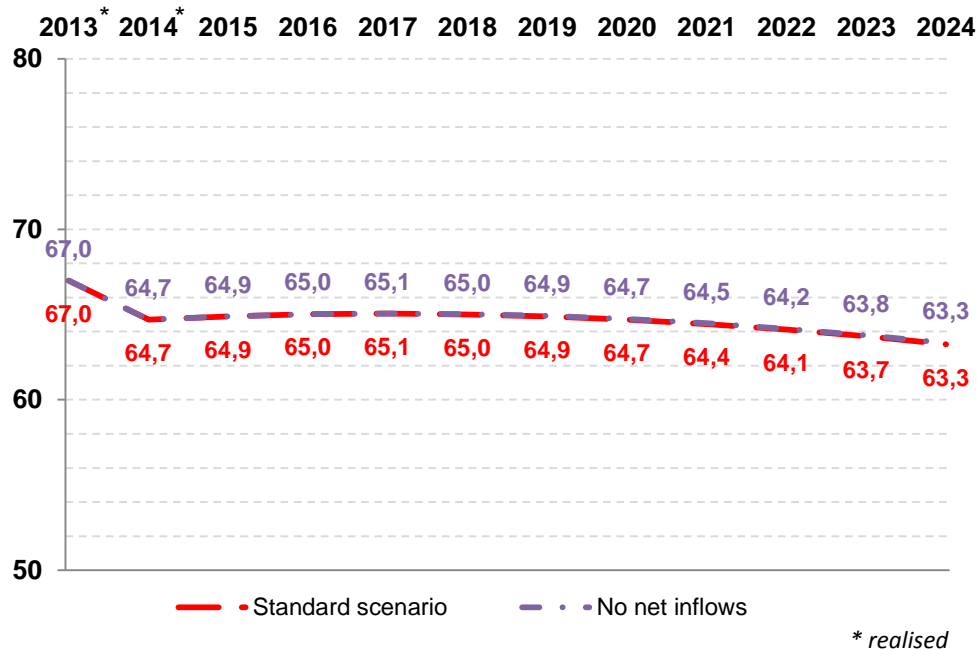
$$\begin{aligned} &= \text{investment income}^{\text{excluding investment costs}} \text{ in } n + \text{investment costs in } n \\ &= \frac{\text{investment income}^{\text{excluding investment costs}} \text{ in } n}{1 - \frac{\text{investment costs in } n}{\text{investment income in } n}} \end{aligned}$$

Forward-looking: projection of return on investments

Results – main numerical assumptions

- Share of amortising bonds with fixed rate coupon nearly stable over the projection period

Share of amortising bonds with fixed rate coupon of the aggregated top 16 French life insurers (in %)



Main numerical assumptions of top 16

Main numerical assumptions for the top 16	Projection period	
	2015	2016-2024
Net annual inflows (in billion euro):	7,28	9,12
Annual revenues of other assets in proportion to their opening net book value (in %):	2,92	2,95
Share of investments fees in the annual investment income of all assets (in %):	-9,77	-9,35

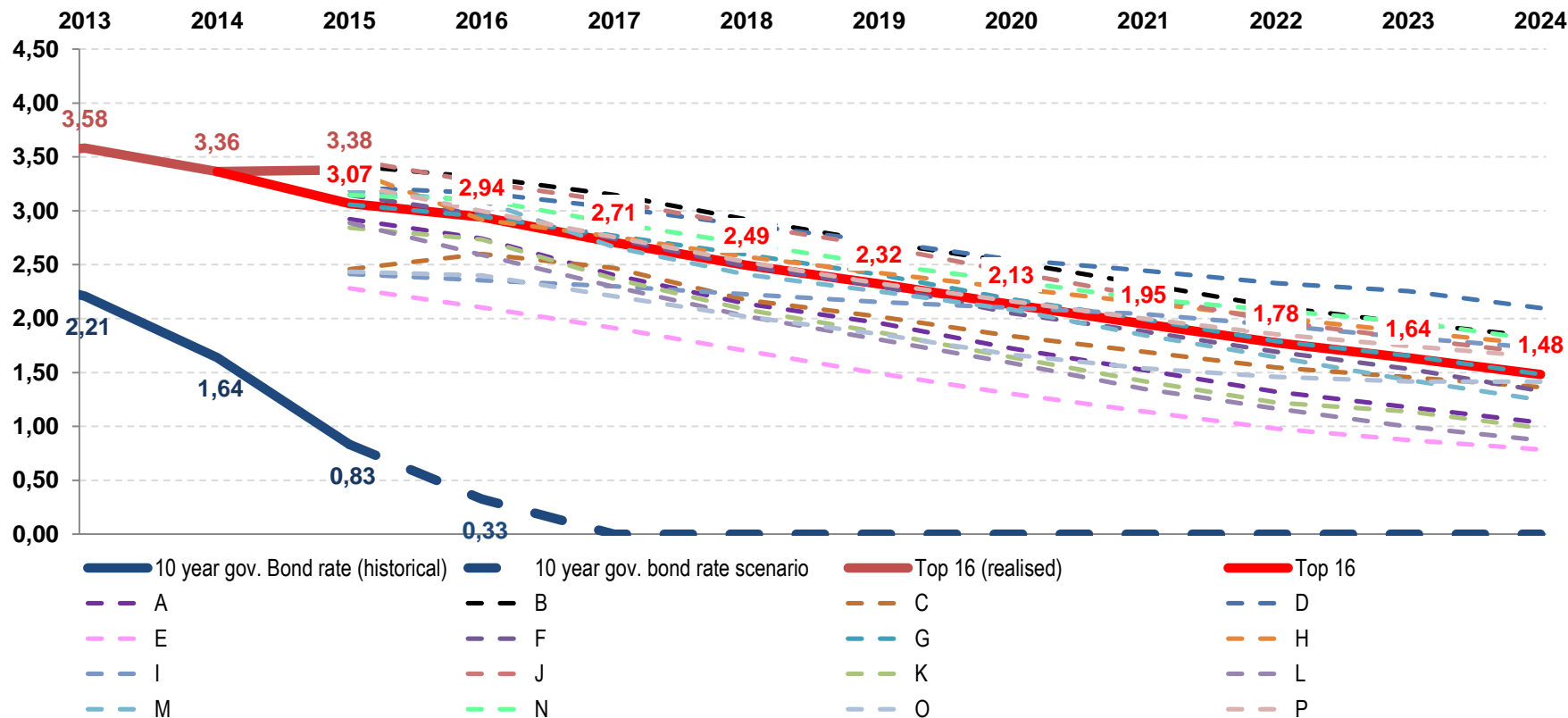
Note: 2015 figures are known at the time of calculation

Forward-looking: investment return rate projection

Results

Each of the 16 main life insurers are concerned by the drop

Investment return rates projected for the 16 main French life insurers (in %)



Some macro-prudential measures abroad

□ ESRB proposals to improve insurers' resilience :

- The solvency II framework needs to be revised : especially UFR (*Ultimate Forward Rate*),
- The necessity of adopting macro-prudential tools should also be explored : e.g. reviewing the minimum guaranteed rate, no dividend distribution even before breach of the SCR, discretionary benefits reduction, etc.

□ Japanese failures in the 90s led to many reforms of Insurance Business Act :

- Failures due to high guaranteed rates, competition from high revaluation, fall in asset values
- Introduction of a solvency ratio more comprehensive and risk-sensitive-based
- The possibility of revising guaranteed rates downward for insurers in difficulty
- A regulatory framework establishing a declining discount rate depending on the subscription date (from 2,75 % in 1998 to 1,5 % in 2001)

□ In Germany:

- Decrease in maximum technical interest (1,25 % for 2016) for new contracts.
- limitations in the participation of policyholders in the reserves of revaluation, limitation in dividends
- the insurers have to complete reserves at the level of the technical reserves discounted with the current interest rate.

Macro-prudential measures foreseen in France

□ Take measures on the whole sector to face emergency situations

- Purposes : protect the interest of the policyholders in case of significant threat on insurers, especially in case of sharp increase in interest rates
- Proposed solutions : the law *Sapin II (article 49)* allows macro-prudential national authority (the *Haut conseil de stabilité financière - HCSF*) for 3 renewable months to:
 - Limit temporarily the activity
 - Suspend the availability of assets
 - Suspend the redemptions and the arbitrages
 - Limit the payment of dividends

□ Invite the insurers to increase provision today

- Purpose : increase provision instead of bonus rate with the current high return on investment. This provision will be released when the return on investment will become lower than the commitments or when the market interest rates will increase
- Proposed solutions:
 - The law *Sapin II (article 49)* allows the HCSF to modulate the rules of constitution and release of the profit-sharing provision
 - Discussion about creating a reserve which would reduce the net profits on investment and thus the profit-sharing contractual commitments and could be used to cover losses due to high technical interests

How to set a provision?

❑ Constraints:

- No regulated rates
- Allocation to profit-sharing provision, if constrained, should not result in a loss for individual insurers

❑ Options:

- an ad-hoc reserve that would be deducted from the financial income would reduce amounts distributable by contractual commitments and could cover losses due to an excess of technical interest : it could thus provide additional room for manoeuvre to some insurers
- In the event of rising interest rates, the reversibility of the measure can be obtained either by a temporary decision of HCSF, or a formula for the calculation integrating the reversibility

❑ Sensitive points:

- To show pedagogy is necessary in order to prevent surrenders
- The measures have to fulfil consumer protection rules

What is at stake?

□ To make policyholders and insurers understand that past participation rates are not sustainable in the long run with the current interest rates level while:

- The return on investments and the capital gains remain at comfortable level today
- Insurers are in very different situations in terms of guaranteed rates, contractual clauses, investment return and level of economic wealth
- The competition limits the decrease in revaluation

→ **A choice to be made between binding rules or responsibilities of insurers?**

□ Find the balance between long term solvency for the insurers and interest of the policyholders and fulfilment of the contractual commitments:

- The case law defined rules regarding revision of the guaranteed rates and contractual commitments
- A suitable information of the policyholders about the less profitable or more risky new products is essential

→ **Find the right balance between micro-prudential supervision, financial stability and consumer protection**