

Scénarios économiques en assurance

Motivation et plan du cours

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Motivation

Les nouveaux référentiels prudentiel et d'information financière font un appel intensif aux valorisations de contrats, portefeuilles ou organismes d'assurance dites cohérentes avec les marchés (*market consistent*) :

- Solvabilité 2
- *Embedded Value*
- *International Financial Reporting Standards* (IFRS)

Motivation

Du côté de Solvabilité 2...

Directive 2009/138/EC (préambule)

The calculation of technical provisions should be consistent with the valuation of assets and other liabilities, market consistent and in line with international developments in accounting and supervision.

Directive 2009/138/EC : art. 76 (dispositions générales)

2. The value of technical provisions shall correspond to the current amount insurance and reinsurance undertakings would have to pay if they were to transfer their insurance and reinsurance obligations immediately to another insurance or reinsurance undertaking.

3. The calculation of technical provisions shall make use of and be consistent with information provided by the financial markets and generally available data on underwriting risks (market consistency).

Motivation

... de l'embedded value...

MCEV Principles (octobre 2009) : Principle 6

The value of in-force covered business (VIF) consists of the following components :

- *Present value of future profits (where profits are post taxation shareholder cash flows from the in-force covered business and the assets backing the associated liabilities) (PVFP)*
- *Time value of financial options and guarantees as defined in Principle 7*
- *Frictional costs of required capital as defined in Principle 8*
- *Cost of residual non hedgeable risks as defined in Principle 9.*

MCEV Principles (octobre 2009) : Principle 7

Allowance must be made in the MCEV for the potential impact on future shareholder cash flows of all financial options and guarantees within the in-force covered business. The allowance for the time value of financial options and guarantees must be based on stochastic techniques using methods and assumptions consistent with the underlying embedded value. All projected cash flows should be valued using economic assumptions such that they are valued in line with the price of similar cash flows that are traded in the capital markets.

Motivation

et des normes IFRS.

IFRS 13 (Fair Value Measurement) : §B16

A fair value measurement should include a risk premium reflecting the amount that market participants would demand as compensation for the uncertainty inherent in the cash flows.

Insurance contracts ED 2013 : §2

this [draft] Standard requires an entity :

(a) to measure an insurance contract it issues using a current value approach that incorporates all of the available information in a way that is consistent with observable market information

Au programme...

Plan du cours

- 1 *Market consistency* : les fondements et les limites
- 2 Préliminaires mathématiques
- 3 Modélisation des taux d'intérêt
- 4 Les autres risques
- 5 Tests d'un GSE

Au programme...

Séances promo 2013

- Vendredi 18 octobre : 9h - 12h30
- Vendredi 22 novembre : 14h - 17h30
- Samedi 14 décembre : 9h - 12h30

Références principales

Des références bibliographiques plus détaillées sont données dans chaque chapitre.



Brigo, D., Mercurio, F., 2006. Interest rate models - theory and practice, 2nd Edition. Springer.



Hull, J., 1997. Options, futures and other derivatives, 3rd edition. Prentice-Hall, New Jersey.



Lamberton, D., Lapeyre, B., 1997. Introduction au calcul stochastique appliqué à la finance, 2nd Edition. Ellipses, Paris.



Orléan, A., 2011. L'empire de la valeur. Seuil.



Planchet, F., Thérond, P., Juillard, M., 2011. Modèles financiers en assurance. Analyses de risque dynamiques, 2nd Edition. Economica.



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Walter, C., Brian, E., 2008. Critique de la valeur fondamentale. Springer.