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OBSERVATOIRE DE L'ÉPARGNE EUROPÉENNE

Does financial innovation benefit investors ?

THE CASE OF STRUCTURED PRODUCTS

Sophisticated, innovative developments over the past twenty years have multiplied the number of financial products, meeting many needs and resolving constraints on investors. The OEE asked researchers whether these products meet the real needs of savers and whether they are available at fair prices.

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ISSUES AT STAKE

- The total amount of outstanding European structured products is € 700 billion.
- Two thirds of the products are sold in retail banks and one third in private banks / wealth management.
- Most offer a guarantee of capital. They participate in the development of passive portfolio management.

What is a structured product?

It is a product for which the performance is determined in advance by a formula with a nonlinear calculation (ETFs are not).

Financial innovation allows to better meet the needs of investors, who do not always find on the market suitable products corresponding to their tradeoffs in terms of performance, risk and liquidity. But innovation may also introduce unnecessary or even harmful complexity and excessive intermediation costs.

The OEE was associated with two teams of researchers to clarify this alternative. **Jean-Luc Prigent and Philippe Bertrand** compared the prices at which structured products are sold and the actual value of the protection they offer, while **Claire Célérier and Boris Vallée** used new lexicography techniques for measuring the complexity of products.

As they have shown in a conference-debate that was held with market players, complexity can be comprised of three rationales:

1. Complex products can help to provide a hedge against risks considered undesirable by the investor, which are compensated by a general reduction of the expected return. In theory, they allow a complete offer of financial products that **stick closely to household needs**.
2. But their complexity may also **exploit the "cognitive biases"** of savers that result in judgment errors or irrationality (see the sheet "Have savers lost their minds?").
3. Finally, their artificial sophistication can be used to **"make the difference"** with competitors.

Claire Célérier and Boris Vallée propose a metric to measure the degree of complexity of products, depending on the

number of parameters used in the calculation formula of the return delivered to investors. They apply this metric to all products issued since 1996 (47 000 prospectus).

Existing studies run in different European countries (Germany, Netherlands, Switzerland and Denmark) show that prices of structured products sold to individuals are over-evaluated by about 2 to 6%, depending on the country. While no study has yet been conducted on the French market, **Philippe Bertrand and Jean-Luc Prigent** evaluated price formula funds most commonly issued by institutions in the French financial market. Their empirical results show that guaranteed products are over-valued by 2.4% on average. A second study by the same authors aims to assess the suitability of the structured products sold to individuals.

The authors seek to define the most suitable product for a given customer, taking into account their specific characteristics, and to calculate the "fair price" of these products. They adopt a "fundamental" approach of decision theory based on maximization of expected utility in order to simulate the behavior of an investor willing to hedge their portfolio and of an intermediate providing structured products.

The authors then introduce the concept of compensating variation (CV), which measures the utility loss resulting from the non-perfect match of the portfolio to preferences of the investor. Compensating variation for an investor is obtained by determining the initial capital surplus that they would be willing to invest to achieve the same utility level as that achieved when the portfolio is optimal.

Lessons for savers and financial intermediaries

The average excess cost of structured products sold to individuals relative to the theoretical value of provided guarantees varies from 2 to 6%, depending on the country.

This cost is 2.4% in France.

Lessons for savers

Structured products with a warranty clause are interesting for an investor in rising markets.

Lessons for intermediaries

Products should be offered to investors only when they correspond to the profile (risk aversion) and financial literacy of investors, according to MIFID.

Research done for the OEE

Philippe Bertrand & Jean-Luc Prigent, "Assurance de Portefeuille : contribution des études empiriques et théoriques au "fair pricing" et à l'adéquation des produits structurés avec clause de garantie", September 2011

Philippe Bertrand & Jean-Luc Prigent, "Equilibrium of Financial Derivatives Market and Compensating Variations under Portfolio Constraints", July 2011

Boris Vallée & Claire Célérier, "Le marché européen des produits structurés : innovation, concurrence et complexité", June 2011