



## GOAL-BASED INVESTING

# Tailoring products for individuals

Technology can play an important role to develop mass-customised products for investors.

**W**ith the shift from defined benefit to defined contribution pension systems and the need to supplement retirement savings via voluntary contributions, individuals are increasingly responsible for their own saving and investment decisions. This global trend poses a substantial challenge as individual investors suffer from behavioral limitations and typically lack the expertise needed to make educated investment decisions.

Addressing this challenge requires a whole new investment paradigm, relying upon liability-informed investment decisions rather than investment decisions based on conventional asset-only investment return or capital-based measures of performance. Meeting the retirement investing challenge emphasises the importance of individualised, or at least mass-customised, investment solutions, tailored to meet the need of specific individuals or sufficiently homogenous groups of individuals.

While such objectives might have seemed out of reach a few years ago, recent advances in risk management technologies and distribution through robo-advice channels have made them possible as part of a major paradigm shift impacting how the industry will function and the value it will add.

## Towards improved retirement investment solutions

Currently available investment options hardly provide a satisfying answer to the retirement investment challenge. Most individuals are left with strategies not engineered to generate the kind of *target* replacement income they need in retirement, while securing *minimum* levels of replacement income.

A new investment framework has emerged, labelled goal-based investing (GBI) in individual money management (see Deguest et al, 2015), where investors' problems can be fully characterised in terms of their lifetime meaningful goals, just as liability-driven investing (LDI) has become the relevant paradigm in institutional money management, where investors' problems are broadly

summarised in terms of their liabilities.

The benefits of switching to a dynamic goal-based investing process are extremely substantial when measured in terms of improvement in probability to achieve meaningful goals. For example, the probability to reach target levels of replacement income can be increased for reasonable parameter values by a factor up to 100%, e.g., taking them from 35% to 70%. (See Martellini and Milhau, 2015).

From a principle standpoint, the framework is well-grounded in asset-pricing theory and builds upon a comprehensive and holistic integration of the three forms of risk management; hedging for efficiently protecting minimum levels of replacement income; diversification for efficiently harvesting risk premia as required to reach target levels of replacement income; and insurance for efficiently combining the dual requirements of downside protection and upside potential.

This stands in contrast with existing products or approaches used in institutional or individual money management, which are only based on selected risk management principles.

## Mass customisation versus mass production

Mass production (as in product) has happened a long time ago in investment management through the introduction of mutual funds and more recently exchange-traded funds. The new frontier in retirement investing is mass customisation (as in customised solution), which by definition is a manufacturing and distribution technique combining the flexibility and personalisation of "custom-made" with the low unit costs associated with mass production. The true challenge is indeed to find a way to provide a large number of individual investors with meaningful dedicated investment solutions.

Different investors have different goals, as discussed above. Therefore the safe

goal-hedging building blocks should be (mass) customised. Besides, the allocation to the safe versus risky building blocks should also be engineered to secure each investor's *essential* goals (e.g. *minimum* levels of replacement income) while generating a relatively high probability to achieve their aspirational goals (e.g. *target* levels of replacement income).

That mass customisation is the key challenge has been recognised long ago, but only recently have we developed the actual capacity to provide such dedicated investment solutions to individuals. There are two distinct dimensions of scalability; scalability with respect to the cross-sectional dimension

(designing a dynamic strategy that can approximately accommodate the needs of different investors entering at the same point in time); and scalability with respect to the time-series dimension (designing a dynamic strategy that can approximately accommodate the needs of different investors entering at different points in time). Good

news is that financial engineering can be used to meet these challenges.

Addressing the mass customisation challenge will be facilitated by the convergence of powerful forces. On the one hand production costs are strongly reduced, due to the emergence of passive alternatives to active managers for efficient risk premia harvesting. On the other hand, distribution costs are bound to go down as the trend towards disintermediation is accelerating through the development of robo-advice initiatives.

Risk management, defined as the ability for investors, or asset and wealth managers acting on their behalf, to efficiently spend their dollar and risk budgets to enhance the probability to reach their meaningful goals, will play a central role in an industrial revolution that will eventually lead to scalable, cost-efficient, investor-centric, welfare-improving retirement investment solutions. ■

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