Sustainable optimal investment & sustainable taxation

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Abstract

In (2) we extend the optimal investment problem under sustainability requirements stated in (1) to the
wider class of power utility functions. As a specific novelty, we further introduce an equilibrium framework
that consists of modifications of the market coefficients such that the unconstrained optimal portfolio process
already satisfies the sustainability constraint. In this way, investors can be steered towards holding ecologically responsible portfolios without requiring them to explicitly incorporate sustainability criteria into their
utility maximization process. Thus, the sustainability demand can be interpreted as a constraint imposed
by regulators or large institutional investors, which requires portfolios to meet certain sustainability criteria.
Our framework allows us to quantify how much drift coefficients need to be modified, essentially taxing or
subsidizing specific assets, to ensure compliance with these demands. This mirrors real-world fiscal tools
like the UK's Climate Change Levy environmental tax and Costa Rica's carbon tax which, once collected,
are used for supporting sustainable behaviour (4, 3). References
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