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Stochastic discount factors

Constantinos Kardaras

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The valuation process that economic agents undergo for investments with uncertain payoff typically depends on their statistical views on possible future outcomes, their attitudes toward risk, and, of course, the payoff structure itself. Yields vary across different investment opportunities and their interrelations are difficult to explain. For the same agent, a different discounting factor has to be used for every separate valuation occasion. If, however, one is ready to accept discounting that varies randomly with the possible outcomes, and therefore accepts the concept of a stochastic discount factor, then an economically consistent theory can be developed. Asset valuation becomes a matter of randomly discounting payoffs under different states of nature and weighing them according to the agent's probability structure. The advantages of this approach are obvious, since a single discounting mechanism suffices to describe how any asset is priced by the agent.

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