





Institut f. Analysis und Computational Number Theory (Math. A)

VORSTELLUNGSVORTRAG Finanz- und Versicherungsmathematik - Assistentenstelle

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Seminarraum A306, TU Graz, Steyrerg.30, 3.Stock, Geodäsie

Optimal consumption in a deterministic framework

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Abstract: We consider an economic individual endowed with an initial wealth, having an income and consuming goods and services. The wealth development rate is assumed to be a deterministic continuous function of time. The objective is to maximize the accumulated discounted consumption over a finite time horizon. The development rate function can take positive as well as negative values and does not need to obey any monotonic behaviour. This feature is in contrast to existing results in the mathematical finance and insurance literature, which generally model the drift rate as a positive function of the state variable. The optimization problem can be examined in a purely analytical way which allows for a numerical treatment. But, one can do better, it is possible to derive an algorithm for explicit calculation of the value function and optimal strategy by balancing future prospects and immediate consumption. It turns out that the value function is in general not continuous. Finally the method is illustrated by two examples.

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