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Excess growth rate and axiomatic characterizations

The excess growth rate is a fundamental logarithmic functional in portfolio theory. After reviewing its financial definition and properties, we present three axiomatic characterization theorems in terms of (i) the relative entropy, (ii) the gap in Jensen's inequality, and (iii) the logarithmic divergence that generalizes the Bregman divergence. We also consider maximization of expected excess growth rate and compare its solution with the growth optimal portfolio. Joint work with Steven Campbell.