

Asset Market Games of Survival: A Synthesis of Evolutionary and Dynamic Games

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The paper examines a game-theoretic model of an asset market in which asset prices are determined endogenously in terms of a short-run equilibrium. Investors use general, adaptive strategies (portfolio rules) depending on the exogenous states of the world and the observed history of the game. The main goal is to identify portfolio rules, allowing an investor to "survive," i.e. to possess a positive, bounded away from zero, share of market wealth over an infinite time horizon. The model under consideration combines a strategic framework characteristic for stochastic dynamic games with an evolutionary solution concept (survival strategies), thereby linking two fundamental paradigms of game theory.