

Competitive equilibria in markets with expected utility and dual utility

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Submission to the IME congress 2015 in Liverpool

April 13, 2015

Abstract

In this paper, we analyze risk sharing between agents that are endowed with an expected utility function and agents that are endowed with a dual utility function. Expected utility is often applied as preference relations for individuals, whereas dual utility is often applied to determine the preferences of firms. We do not argue that either expected utility or dual utility is better. We do not find any clear arguments why not both types of agents might coexist in the market. We find that Pareto optimal risk redistributions are obtained via bargaining with a representative agent of expected utility maximizers and a representative agent of dual utility maximizers. The representative agent of expected utility maximizers resembles an average risk-averse agent, whereas representative agent of dual utility maximizers resembles a least risk-averse agent. Given an allocation of the total risk to both groups, the solution to expected utility maximizers is proportional to their allocation, and the solution to dual utility maximizing agents is given by “tranching” of their allocation. Moreover, we derive an algorithm to derive equilibrium prices. We identify conditions under which prices are locally independent of the expected utility functions. Moreover, we provide three conditions that are jointly sufficient for uniqueness of the competitive equilibria.

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