A Multi Period Equilibrium Pricing Model

Traian A. Pirvu, Huayue Zhang

(Submitted on 28 May 2012)

In this paper, we propose an equilibrium pricing model in a dynamic multi-period stochastic framework with uncertain income streams. In an incomplete market, there exist two traded risky assets (e.g. stock/commodity and weather derivative) and a non-traded underlying (e.g. temperature). The risk preferences are of exponential (CARA) type with a stochastic coefficient of risk aversion. Both time consistent and time inconsistent trading strategies are considered. We obtain the equilibriums prices of a contingent claim written on the risky asset and non-traded underlying. By running numerical experiments we examine how the equilibriums prices vary in response to changes in model parameters.

Subjects:	**Optimization and Control (math.OC)**; Trading and Market Microstructure (q-fin.TR)
Cite as:	**arXiv:1205.6193v1 [math.OC]**

Submission history

From: Traian Pirvu A [view email]

[v1] Mon, 28 May 2012 19:34:44 GMT (16kb)