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#### **ACCEPTED MANUSCRIPT**

## Arbitrage and equilibrium in economies with short-selling and ambiguity \*

Thai Ha-Huy; Cuong Le Van; Cuong Tran-Viet § February 5, 2018

#### Abstract

We consider a model with a finite number of states of nature where short sells are allowed. We present a notion of no-arbitrage price weaker than the one of Werner [24] that we call weak no-arbitrage price. We prove that in the case of maximin expected utility functions, the existence of one common weak no-arbitrage price is equivalent to the existence of an equilibrium.

**Keywords:** asset market equilibrium, individually rational attainable allocations, individually rational utility set, no-arbitrage prices, no-arbitrage condition, maximin expected utility.

JEL Classification: C62, D50, D81, D84, G1.

#### 1 Introduction

Equilibrium conditions on financial markets differ with the ones on good market when short-selling is accepted. This assumption makes useless traditional techniques using fixed point theory. In the finite dimension case, there is a huge

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