

Rational Expectations and the Modigliani-Miller Theorem

By

Shin-Ichi Takekuma

The Graduate School of Economics

Hitotsubashi University

Abstract

In the paper a general model of dynamic economy is presented and the equilibrium of rational expectations for the economy is defined. In the model we re-examine the Modigliani-Miller theorem which asserts that the value of a firm is independent of the debt-equity ratio. We show in the context of a dynamic general equilibrium model that the M-M theorem holds in a much more general framework. The validity of the theorem depends heavily on the rationality of individuals' expectations.

In the proof of the M-M theorem, it was usually assumed that the gross returns of a firm depend only on the state of the world, since it was based on static equilibrium rather than dynamic analysis. In the dynamic economy, the profits of firms are determined in equilibrium depending on the behaviors of all economic agents, especially their expectations.

In the paper, we show that the M-M results are still valid in a dynamic equilibrium of rational expectations. Also, in a simplified model of economy where all the consumers are identical, we prove the existence of rational expectations equilibrium.