Test of intertemporal variability of APT in a volatile economy

Abstract

The main objective of this study provides test of APT for Tehran stock market and also attempt to find the relevant factors that price the stock returns over time. Tests conducted using the principal component analysis and canonical correlation model showed that at least one to three factors can explain the cross-section of expected returns in this market. In full sample test, the evidence identifies 22 factors in sample and only 13 are priced. Again, in second sub period, there are 24 common factors from the smallest to largest samples and only 15 are priced. This study discovers that the sources of systematic risk are dissimilar due to the different periods in TSE. In full period the sources of risk are export of crude oil and interest rate proxy. In second sub periods money supply (M2), money supply (M1), consumer price index and GDP are sources of risk. So, the so urces of systematic risks in TSE are dissimilar and not quantified. The important macroeconomic variables could be affected by stock returns changes during times. Therefore, it is hard to identify exactly which is the source of risk in TSE.

Keyword: Principal component factor analysis; Time variability; Canonical correlation and arbitrage pricing theory