LTA 4/97

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The Stock Market and Macroeconomy in Finland in the APT Framework

We believe that by modifying the set ofpre-specified macrovariables and utilizing some new time series analytical methods there would be room for the Arbitrage Pricing Theory (APT) by Ross (1976) to work as a theoretical background in evaluating the connections between the stock market and macroeconomy in Finland. In this paper we give an overview of recent Finnish studies considering the relationships between macroeconomic variables and stock market returns. We are especially concentrating on the studies utilizing the APT and more specifically, the studies where the role of macroeconomic variables in the return generating process has been examined. In addition to giving an overview of the previous Finnish studies we propose some routes to follow in order to possibly improve the empirical results in forthcoming Finnish research in this area.

Most of the studies investigating the stock market in the APT framework in Finland have applied the factor analytic approach where the asset sensitivities and unknown factors are estimated simultaneously from the stock return data by factor (i.e. principal component) analysis. However, discussion of these studies shows that the interpretation of the results obtained is very difficult. Therefore, referring to the international results the prespecified macrovariable approach in mimicking the APT factors might be more fruitful than factor analysis also with respect to the Finnish data. After overviewing the Finnish results of the effects of macrovariables on the stock return generating process, it would seem that the explanatory power of individual pre-specified macroeconomic variables in explaining the behaviour of stock returns is somewhat questionable. The most successful variable would seem to have been the rate of inflation, especially when expectations of it and/or unexpected inflation have been used in the analysis. Earlier results indicate that in general, macroeconomic variables have been poor determinants of stock returns especially for the data prior to the liberalization of the financial markets approximately in the mid- 1980's.

We suggest that the use of some new (aggregate) macrovariables, like the Monetary Conditions Index (MCI) might improve the empirical results in future research. In addition, already due to the differing nature of the analyzed time series (i.e. stock returns vs. macroeconomic data), utilizing modern unit root techniques and the analysis of structural changes could increase the explanatory power of macroeconomic variables in the return generating process of stock returns. This is because a richer analysis of economic structural relationships applying for example, a recursive estimation of the so-called Johansen procedure would incorporate both the examination of the relevant short- and long-run relationships and their sensitivity to structural breaks in the data.