

Helsingin yliopisto - Helsingfors universitet - University of Helsinki ID 2003-2502

Tiedekunta-Fakultet-Faculty Valtiotieteellinen tiedekunta		Laitos-Institution-Department Department of Statistics	
Tekijä-Författare-Author Kaliva, Kasimir			
Työn nimi-Arbetets titel-Title Osakesijoituksen riskin mallintaminen			
Oppiaine-Läroämne-Subject Statistics			
Työn laji-Arbetets art-Level Licentiate thesis		Aika-Datum-Month and year 2003-12-03	Sivumäärä-Sidantal-Number of pages 104 + 4 + 4
<p>Tiivistelmä-Referat-Abstract</p> <p>This thesis concerns the modelling of stock investment risk in short and long horizon. The starting point of study is a long run equilibrium relationship between stock prices and dividends. This assumption is based on the efficient market hypothesis, which claims that the stock price determine according rational expectations of future dividends. However many previous studies indicate that rational expectation cannot fully explain variation of the stock price.</p> <p>Based on those studies it is goal to building statistical model for the stock price that include both large short run variation and long run equilibrium relationship between stock price and dividends. Statistical models was estimated using stock price indices of USA and UK. A first step was to estimate linear model for the data. Unfortunately this model fitted data badly. Especially the linear model fail to fit market crashes of data period.</p> <p>A second step was to estimate nonlinear two-regime model for the data. This model fitted data remarkably better than the linear model. By a statistical analysis I ended almost similar model structure in the case of USA and UK. This is very interesting result because linear models diverged significantly in the case of these countries.</p> <p>The two-regime model have also clear interpretation. In the first regime the stock price follow indendent Random Walk. In the second regime stock price depend on the log price dividend ratio. By the first regime it can generate stock price bubbles, when the stock price is very high level compared with dividends. A switch from the first regime to the second regime can generate a market crash, which is typical for the stock price. The regimes of model it is assume to non-observable, but the probability of regimes depends on the inflation. This model is a special case of so called LMARX -model. The use of the inflation as the explanatory variable based on the previous studies, which claim that the inflation influence to expectations and discount factor of the market agencies. This thesis give a strong support for that inflation have very strong sigfinicance to the stock price.</p>			
Avainsanat-Nyckelord-Keywords bubbles market crashes LMARX-model equilibrium relationships			
Säilytyspaikka-Förvaringsställe-Where deposited			
Muita tietoja-Övriga uppgifter-Additional information			