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Spanish stock market sensitivity to real interest and inflation rates: an extension of the Stone two-factor model with factors of the Fama and French three-factor model

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Abstract

This study is focussed on estimating the real interest and inflation sensitivity in Spanish market, proposing an extension of the Stone (1974) two-factor model and controlling for size and growth of the companies [Fama and French (1993) three-factor model], because of its importance in the stock sensitivity shown by previous literature. I also study the classical explanatory factors of the stock sensitivity: leverage and liquidity level of the firms. The Spanish stock response is similar to the response in other markets, and the 'size' is higher than 'growth' effect.

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Notes

[1] To avoid the possible existence of multicollinearity between the explanatory variables, it is usually used some orthogonalization procedure. Following Lynge and Zumwalt (1980), Flannery and James (1984), Sweeney (1998) and Fraser et al . (2002), the market return has been regressed on a constant and the series of real interest and inflation rates using OLS (ordinary least squares) estimation. Thus, the effect of each factor is isolated and the movement that remains is captured by the residuals.

[2] I adjust stock prices by splits.

[3] I take into account that the last day of the month for which I have information about prices must not be previous than seven days before to the last calendar day of the month.

[4] These models, in contrast to structural models, do not need additional information for doing forecasts, because they use lagged inflation values. I have repeated this procedure until the end of sample, with one-step-ahead forecast, obtaining the expected component of inflation rate.

[5] Unit root tests confirm that inflation rate is a I(1) series, so this result is consistent with shortsightedness expectations.

[6] I have conducted a historical unbiasedness test, because of the limited yearly sample.

[7] Unit root tests confirm the stationarity of the variables included in the proposed model.

[8] This result is consistent with a previous study (Jareño, 2005), in which ‘Oil and energy’ shows a high flow-through capability.

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