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Skewness in the conditional distribution of daily equity returns

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Abstract

The conditional distribution of asset returns is important for a number of applications in finance, including financial risk management, asset pricing and option valuation. In the GARCH framework, it is typically assumed that returns are drawn from a symmetric conditional distribution such as the normal, Student-t or power exponential. However, the use of a symmetric distribution is inappropriate if the true conditional distribution of returns is skewed. This study models the conditional distribution of daily returns in five
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However, for three of these series – namely the US, Japan and the World index – this skewness can be explained by leverage effects, which are captured by the EGARCH model. For the remaining three series – the UK, Canada and Germany – the skewness in the conditional distribution of returns remains even after allowing for leverage effects.

Notes

1 See also Liu and Brorsen (1995), Mittnik et al. (1997, 1998a,b) and Mittnik and Rachev (2000).

2 The focus of Hansen (1994) is modelling time variation in the kurtosis and skewness of returns, but he also estimates models that have constant skewness and kurtosis.

3 To facilitate statistical inference, the table reports the transformed skewness parameter and its standard error. The true skewness parameter can be retrieved by inverting Equation 10.