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Cross-country effects in herding behaviour: Evidence from four south European markets

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ABSTRACT

This study provides comprehensive evidence testing for the existence of herding effects in the Portuguese, Italian, Spanish and Greek market, constructing a survivor-bias-free dataset of daily stock returns during the period January 1998–December 2008. Moreover, it examines the potential asymmetries of herding effects with respect to the sign of the market return, trading activity and volatility. A novel feature of this study, with implications for financial stability in the Eurozone and international portfolio diversification, is to examine whether the cross-sectional dispersion of returns in one market is affected by the cross-sectional dispersion of returns in the rest three markets. Finally, it tests whether herding effects became more intense during the recent global financial crisis of 2007–2008.

1. Introduction

The recent global financial crisis clearly demonstrated that market prices may considerably deviate from fundamental values for prolonged periods. Liquidity constraints, asymmetric information, limits to arbitrage and other frictions are the commonly cited culprits for this phenomenon (see Shleifer, 2000; Brunnermeier, 2001 for an introduction). These features pose a constant threat to financial stability exposing market participants and financial institutions to unhedgeable systemic risk. A well documented behaviour encountered in such extreme market conditions is herding, defined as the mutual imitation leading to a convergence of action (Shefrin, 2000; Welch, 2000; Hirshleifer and

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Teoh, 2003).[1] In their seminal study, Bikhchandani et al. (1992) showed that herding behaviour may result in correlated patterns of actions across individuals incurring huge welfare losses. Moreover, this phenomenon provides a characteristic example of the impact of higher order beliefs on asset prices (see De Long et al., 1990; Morris and Shin, 2003).

There are a series of reasons why herding behaviour in financial markets is worth examining and documenting. From a regulatory perspective, correlated patterns of trades may well undermine financial stability (Demirer and Kutan, 2006). Pedersen (2009) provides a detailed analysis of the stability risk arising when all investors simultaneously "run for the exit". In his account of the financial crisis, Brunnermeier (2009) identifies "fire sales" as an amplification mechanism for the propagation of initial negative shocks across the system. For investors, an increase in the degree of co-movement among asset returns reduces the benefits of portfolio diversification. As a result, it may be necessary to hold a larger number of assets to achieve the desirable reduction of idiosyncratic risk, while in the extreme case that asset returns become almost perfectly correlated, risk reduction via diversification may become unattainable (Chang et al., 2000; Baur, 2006; Chiang and Zheng, 2010; Morelli, 2010). Moreover, mispricings resulting from this behaviour reduce the effectiveness of the market mechanism to reveal assets' "fair values", undermining the fundamental principle of market efficiency (Devenow and Welch, 1996) and potentially creating profitable trading opportunities (Hwang and Salmon, 2004; Tan et al., 2008). To the extent that these mispricings lead to suboptimal decision making by institutional investors and corporations as well as erroneous reactions from policy makers, it becomes evident that herding behaviour may cause huge reduction in social welfare.[2]

There is a well established and extensive strand of the literature that examines contagion effects in the transmission of adverse economic and financial shocks across international markets (see for example Karolyi and Stulz, 1996; Bae et al., 2003). On the other hand, our study contributes to the strand of the literature that focuses on the cross-sectional dispersion of stock returns in extreme market conditions. The pioneering studies of Christie and Huang (1995) and Chang et al. (2000) introduced, respectively, the statistical measures of cross-sectional standard deviation (CSSD) and cross-sectional absolute deviation (CSAD) of individual stock returns for the detection of herding effects. As Christie and Huang (1995) note, it is more likely for a "herd" to be developed in extreme market conditions, because individuals tend to suppress their own beliefs and follow the market consensus. The latter study examined this phenomenon in the US market, while Chang et al. (2000) provided further evidence considering also a series of Asian markets and documenting the existence of herding behaviour in emerging markets, notably South Korea and Taiwan.

Utilizing these statistical measures, a series of studies have attempted to provide further international evidence, especially from emerging markets where herding is more likely to be encountered due to their particular characteristics: underdeveloped financial system and regulatory framework, dominance of relatively few institutional investors, exposure to highly volatile international capital flows, thin trading, suboptimal market microstructure mechanisms and non-sophisticated small stockholders.[3] For example, Demirer and Kutan (2006) test for herding in the Chinese stock market. They analyze individual firm-level returns as well as sector returns using daily stock return data from 1999 to 2002 and find no evidence of such behaviour. Along the same lines, Tan et al. (2008) examined this issue in dual-listed Chinese A-shares and B-shares from 1996 to 2003. According to their results, there is evidence of herding in both the Shanghai and the Shenzhen A-share markets that are dominated by domestic individual investors as well as in both B-share markets that are dominated by foreign institutional investors. Evidence for herding behaviour is reported to be much stronger using daily data, revealing the short-term nature of the phenomenon. On the other hand, Baur (2006) found no evidence of herding in a sample of eleven developed stock markets during periods of extreme market conditions.

More recently, Chiang and Zheng (2010) provided comprehensive evidence from 18 markets during the period 1988–2009. They found evidence of herding in developed markets (except the US)

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[1] In the same spirit, Nofsinger and Sias (1999) characterize herding as the trading in the same direction by a group of investors for a period of time.

[2] Wermers (1999) provides evidence for herding behaviour by US mutual funds, especially in trades of small cap stocks.

[3] Bohl and Brzeszczynski (2006) make a similar argument for the case of the Polish stock market.