



Testing for herding in the Athens Stock Exchange during the crisis period



Fotini Economou^{a,*}, Epameinondas Katsikas^b, Gregory Vickers^c

^a Centre of Planning and Economic Research and Hellenic Open University, 11, Amerikis str. 106 72 Athens, Greece

^b Kent Business School, University of Kent, Parkwood Road, Canterbury, Kent, CT2 7PE, UK

^c Durham University Business School, Mill Hill Lane, Durham DH1 3LB, UK

ARTICLE INFO

Article history:

Received 27 January 2016

Revised 12 April 2016

Accepted 15 May 2016

Available online 16 May 2016

JEL classification:

G10

G14

G15

Keywords:

Herding

Cross sectional dispersion

Athens stock exchange

ABSTRACT

This paper investigates herding behavior in the Athens Stock Exchange focusing on the recent crisis period. We employ a survivor bias free dataset of all listed stocks from 2007 to May 2015. We apply the cross sectional dispersion approach and provide results that extend and are comparable with previous studies regarding the Greek stock market. The empirical results indicate the presence of herding under different market states. Employing the quantile regression method, there is herding in the high quantiles of the cross sectional return dispersion. Finally, we document the impact of size effect on herding estimations.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

Crises and periods of extreme market conditions facilitate market anomalies and deviations from the Efficient Market Hypothesis. Under these circumstances a herd, i.e., a crowd converging in its actions and beliefs (Hirshleifer and Teoh, 2003), is more likely to form having important implications for portfolio diversification and market stability (Chang et al., 2000; Demirer and Kutan, 2006; Chiang and Zheng, 2010; Economou et al., 2011). Despite the lack of conclusiveness in the empirical results both in emerging and developed markets, herding is expected to be more pronounced under extreme market conditions (Christie and Huang, 1995; Chang et al., 2000; Chiang and Zheng, 2010; Economou et al., 2011) when individual investors are more likely to follow the crowd instead of their own beliefs/knowledge (Christie and Huang, 1995). Mobarek et al. (2014) provide evidence of significant herding effects in various European stock markets during the global financial crisis and the Eurozone crisis, while Peltomäki and Vähämaa (2015) document that herding effects in the EMU markets affected herding in the non-EMU markets from September 2008 to January 2014. The Greek stock market provides an interesting setting for analysis due to the unprecedented debt crisis that occurred in recent years and the potential spill-over effects on other Eurozone markets.

* Corresponding author.

E-mail addresses: feconom@kepe.gr (F. Economou), E.Katsikas@kent.ac.uk (E. Katsikas), gregory.vickers@durham.ac.uk (G. Vickers).

This paper investigates herding behavior in the Athens Stock Exchange (ASE) focusing on the recent crisis period. To this end we employ a survivor bias free dataset from January 2007 to May 2015. We apply the cross sectional dispersion approach and provide results that extend and are comparable with previous studies regarding the Greek stock market. Caporale et al. (2008) were the first to investigate herding in the ASE from 1998 to 2007. The authors identified evidence of herding which is much stronger using daily instead of weekly or monthly data. Moreover, herding was more pronounced during rising market days and was also present during the stock market bubble of 1999. Tassaromatis and Thomas (2009) also confirmed strong evidence of herding for the period 1998–2004. Herding in the ASE has been extensively examined by Economou et al. (2011) for the period 1998–2008, testing for potential herding asymmetries with reference to different market states as well as for cross market effects in four South European stock markets, i.e., Greece, Italy, Spain and Portugal. The authors provide evidence of herding that is more pronounced on days with positive market returns, while there is no evidence of asymmetries regarding trading volume and stock market volatility. Mobarek et al. (2014) examined a large number of European stock markets from 2001 to 2012 and identified herding in Greece during the Eurozone crisis (from May 2010 to February 2012). Their dataset differs from previous studies since it only includes the ATHEX Composite constituent stocks instead of all listed stocks in the ASE. In this paper, we extend the work of Economou et al. (2011) for the recent Greek debt crisis period. Our empirical results indicate the presence of herding under different market states. These findings provide insight into investors' behavior, especially in the light of the unprecedented events of the Greek crisis and are in line with the main findings of previous studies that identify herding in the ASE.

The rest of the paper is organized as follows: Section 2 presents the dataset and methodology employed, Section 3 reports the empirical results and Section 4 concludes.

2. Methodology and data

Christie and Huang (1995) and Chang et al. (2000) proposed a cross sectional dispersion approach to capture herding, employing the cross sectional dispersion of individual asset returns as follows:

$$CSAD_t = \frac{1}{N} \sum_{i=1}^N |R_{i,t} - R_{m,t}| \quad (1)$$

where $R_{i,t}$ is the return of stock i on day t , $R_{m,t}$ is the stock market return on day t and N is the number of all listed stocks in the stock market on day t . The non-linear model proposed by Chang et al. (2000) estimates the relationship between the CSAD and the stock market return in order to capture herding as follows:

$$CSAD_t = a + \gamma_1 |R_{m,t}| + \gamma_2 R_{m,t}^2 + \varepsilon_t \quad (2)$$

Under rational asset pricing models, this relationship is expected to be positive and linear, i.e., under extreme market conditions the CSAD is expected to increase since the individual stocks differ in sensitivity to the stock market returns. If herding effects are present this relationship is non linear and coefficient γ_2 is expected to be negative and statistically significant. The Chang et al. (2000) model is quite influential in the aggregate data studies of herd behavior. Chiang and Zheng (2010) proposed an adaptation of this model adding $R_{m,t}$ to the standard equation, which permits the interpretation of asymmetric effects by estimating a single model, which is more streamlined than the initial regression of Chang et al. (2000). It also permits greater analysis of the asymmetries present in up and down markets and it is specified as follows:

$$CSAD_t = a + \gamma_1 R_{m,t} + \gamma_2 |R_{m,t}| + \gamma_3 R_{m,t}^2 + \varepsilon_t \quad (3)$$

In Eq. (3), the relationship between return dispersion and stock market return is captured by $(\gamma_1 + \gamma_2)$ when market returns are positive, and by $(\gamma_2 - \gamma_1)$ when they are negative or zero. Thus, the asymmetric relationship between stock return dispersion and stock market return can be presented by the ratio $(\gamma_1 + \gamma_2)/(\gamma_2 - \gamma_1)$ (Duffee, 2001). Following Chang et al. (2000), $R_{m,t}^2$ is used to identify a non-linear relationship and a negative and statistically significant coefficient γ_3 will indicate the presence of herding.

Apart from the traditional OLS method, we also employ the quantile regression method following Chiang et al. (2010) and Zhou and Anderson (2013). This is a popular approach, originally introduced by Koenker and Bassett (1978). In this case we examine the coefficients of model (3) for different quantiles of the dependent variable.¹ The τ -th conditional quantile function of the dependent variable distribution is defined as follows:

$$QY_i(\tau/x) = x_i' \beta \quad (4)$$

where Y_i is a dependent variable, x_i is a vector of independent variables and β is a vector of coefficients. The $\hat{\beta}_{(quantile\tau)}$ estimator results from the following weighted minimization:

$$\hat{\beta}_{(quantile\tau)} = \arg \min \sum_{i=1}^n \rho_\tau(y_i - x_i' \beta) \quad (5)$$

¹ See Koenker (2005) for a more technical presentation of the method.

Download English Version:

<https://daneshyari.com/en/article/5069378>

Download Persian Version:

<https://daneshyari.com/article/5069378>

[Daneshyari.com](https://daneshyari.com)