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Industry herd behaviour in financing decision making

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ABSTRACT

Utilizing a panel data, I examined herd behavior in capital structure of firms for four major US industries (Manufacturing, Construction, Wholesale and Services), specifically regarding their propensity to exhibit herd behavior around industry median capital structure and industry-leader capital structure respectively. I followed existing methodology in the extant literature by using cross-sectional absolute dispersion (CSAD) to detect industry-wide herding and industry leader-follower herding, as well as the herding behavior during economic expansion and contraction during the sample period 1996–2015. Using industry median capital structure measurement, statistically significant evidence of herding in Services industry is found in the bear market, whilst statistically significant evidence of herding in the bull market is found in Manufacturing industry when industry-leader capital structure measurement is used. Given the relatively high procyclical nature of services industry, it is not all surprising that corporate financial managers may herd around industry median capital structure during economic contraction for reasons such as indemnity against sub-optimal performance and reputational costs. On the other hand, in a bull market coupled with information asymmetry, firms may engage in free-riding and this might explain herd behavior exhibited by manufacturing industry. Regarding inter-industry herd behavior, all three industries are found to herd around the Wholesale industry; two are found to herd around manufacturing and construction industries. With the exception of manufacturing industry, none of the other three industries exhibit within-industry herding behavior using both industry median and industry leader capital structure measurements.

1. Introduction

Recently there has been much interest in behavioral finance, particularly in the area of herd behavior. Herd behavior whether spurious or true is the decision to disregard one's private information to follow the behavior of others (Bikhchandani & Sharma, 2001; Hirshleifer & Teoh, 2003). In his seminal paper, Banerjee (1992, pg.798) defines herding as "everyone doing what everyone else is doing, even when their private information suggests doing something quite different." This generalized form of herding can be applied to various situations including corporate financing decision making. In adopting the definition of Hwang and Salmon (2004, pg, 1) that "Herding arises when investors decide to imitate the observed decisions of others or movements in the market rather than follow their own beliefs and information", this paper extend such definition of herding to the environment of corporate financing decision making.

Akin to individuals in non-economic settings, corporate financial managers are known to be influenced by peers in their decision making process, particularly in conforming to industry expectations and norms. In an effort not to be perceived

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as an outsider, firms within the same industry may exhibit homogeneity regarding essential financial metrics in order to avoid added scrutiny by financial market participants (MacKay & Phillips, 2005). This phenomenon is generally referred to as herd behavior, and it may arise as a result of informational cascade or exuberance devoid of sufficient rational deliberation. Several capital structure studies have implied a positive value proposition of optimal financing mix; therefore it is necessary to understand the influence of industry on financing decision making process particularly with respect to herding. Capital structure mutation maybe susceptible to herd behavior especially during changing periods of macroeconomic conditions in which the cost of debt and equity issuance may vary.

Pioneers of theoretical research on herd behavior may be attributed to researchers such as Bikhchandani, Hirshleifer, and Welch, (1992), Welch (1992) and Banerjee (1992). These papers examined herd behavior in which a decision by finite number of agents with private information influenced their counterparty agents to disregard their own private information and follow the decision of the former. As observed in other academic literatures, there are two tracks of research regarding herd behavior; the theoretical and empirical. Although theoretical literature of herd behavior is significant for identification of mechanisms leading to herd behavior, nevertheless, distinguishing between spurious and true herd behavior is an empirical question (Bikhchandani & Sharma, 2001; Hirshleifer & Teoh, 2003), for example, due to publicly announced information, firms are likely to take similar actions. However, through empirical testing, the significance of the presence and stability of herding can be estimated cross-sectionally and over time. Herd behavior among corporate financing decision makers may be divided into intentional herding and spurious herding. The former is the result of the intent by financing decision makers to replicate the decisions of other's. This type of herding may lead to inefficient market outcomes (Bikhchandani et al., 1992) and it also suggests irrationality. Spurious herding on the other hand is a situation where financing decision makers are confronted with similar sets of information and decision problems. In a theoretically efficient market, one would expect financing decision makers to have equal access to similar information set, but in practice, this is rarely realized, which therefore minimizes the plausibility of spurious herding. Another problem for theoretical literature in distinguishing spurious from intentional herding is that, several previous papers found the influence of asset structure and other firm specific factors on financing decision making (Margaritis & Psillaki, 2007; Margaritis & Psillaki, 2010; Ozkan, 2001; Titman & Wessels, 1988), all of which implicitly suggest herding behavior effectively constitutes sub-optimal decision and has a potential to create underinvestment and asset substitution.

Identifying the causes of herding is outside the scope of this paper, thus, by keeping the theoretical underpinnings of herding in mind, I followed the methodology of Chiang and Zheng (2010) by analyzing the presence of herd behavior in industry capital structure through empirical and statistical analysis of clustering in financing decision making process using panel data. In the past, Shiller (2003), Khan, Hassairi, and Viviani (2011), and Cipriani and Guarino (2005) have employed similar empirical investigation of herd behavior in financial markets, however their results are rather mixed. The essence of studying herd behavior in corporate financing decision making may as well reside in the very foundation and efficiency of financial markets. In terms of relevance, corporate financing decision account for a large portion of all financing and investment decisions within the US economy, thus herding in corporate financing decisions is expected to have a significant impact on cost of debt and equity, thereby shifting prices from intrinsic values, generating excess volatility and inefficiency in the financial market.

The primary objective of this paper is to address the fundamental questions: Do firm's capital structure herd around and across industry median capital structure, and do firms capital

structure exhibit industry leader −follower path, and how does the macroeconomic conditions influence capital structure herding behavior. As such, my paper differs from previous studies in that prior studies mainly focused on investor herd behavior. To my knowledge, prior papers have not directly tests herd behavior of financing decision making both within and across the four major industries, by simultaneously testing herd behavior under different economic conditions over the last twenty years using CSAD methodology. The sample period 1996–2015 is particularly interesting because it includes some of the major bubbles and burst in history of US financial.

2. Literature review

The impression from the literature is such that, behavioral finance in a general form is characterized as a conflation or an overlap of psychological factors and rational financial considerations used by decision makers in understanding the dynamics of decision making process. This phenomenon maybe observed with individuals such as investors, or with corporations. Findings from prior research highlighted convincing evidences that decision makers often diverge from rational evaluations for many reasons and these reasons cannot be explained by traditional financial theories which are based on the theory of market efficiency, rational behavior, and capital asset pricing model (Olsen, 1998; Shefrin, 2001).

In their studies in the field of experimental psychology, influenced by prospect theory, Kahneman and Tversky (1979) found that individuals tend to avoid distress and regret which likely occur as a result of a wrong decision. Their finding contradicts rationality-based model of risk-return relationship. They showed that decision makers tend to avoid regret because the cost of regret is stronger than the utility of winning. Thus the detection of this behavioral tendency may influence individuals to engage in herd behavior. It is perceived that such herd behavior may have a dilutive effect on the cost of regret been shared by the herd. The corollary is that, market-driven punitive reactions will be indiscriminate and therefore no single individual or firm may be individually-blameworthy. In this paper, herd behavior in industry capital structure is defined as an act of firms within the industry following the industry median capital structure or the capital structure of industry leader.