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Institutional herding in international markets

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ABSTRACT

This paper studies herding behavior of institutional investors in international markets. First, we document the existence of wide-spread herding in 41 countries (referred to as "target countries" hereafter) in the sample. We then examine the relation between contemporaneous institutional demand and future returns and find that institutional herding stabilizes prices. Next, we examine the relation between institutional investors' herding behavior and the level of information asymmetry in the target countries. We measure the degree of information asymmetry in each target country along five dimensions: (1) stock market development, (2) ease of access to information, (3) corporate transparency, (4) investor rights, and (5) macroeconomic factors that relate to the information environment. We find evidence that institutional investors herd more in markets characterized by low levels of information asymmetry (high level of information transparency). This result suggests that institutional investors' herding behavior is likely driven by correlated signals from fundamental information. Lastly, we show that price adjustment is faster in informationally transparent markets.

1. Introduction

Extant literature has documented a tendency of individual and institutional investors to herd, or to follow each other in and out of the same securities. As a result, investors' demand for a security is positively correlated with demand for the same security in the previous time period. This herding behavior has been mainly documented in investors' trades at the security level in a single market setting (Lakonishok et al., 1992; Sias, 2004; Barber et al., 2009). Choi and Sias (2009) document that herding also occurs at the industry level, so that institutional investors' demand for securities in a certain industry is positively correlated with demand for that industry in the previous period, after adjusting for size and book-to-market characteristics of the securities.

Researchers have provided several explanations for herding, but much debate still exists for the reasons why individuals and institutions follow each other's trades. Often herding is viewed as negative behavior that destabilizes prices, as the herds chase hot markets and securities, and flee them as soon as the investment environment turns cold. The herds are thus believed to increase volatility and inefficiencies of the financial markets. For example, the herding behaviors that may drive prices away from fundamentals include: Reputational herding (Trueman, 1994), characteristic herding (Falkenstein, 1996), and fads (Friedman, 1984).

However, it is also entirely possible that the empirically observed herding is at least partially spurious, unintentional, or driven by fundamental information. If herding is spurious, it means that investors do not actually follow each other's trades, but they trade similarly because they investigate the same information and derive similar conclusions about securities' fundamental values. For example, it may appear that a herd is buying the same security, but if fundamental information drives the buying decision, the herd will only buy the security until the security's market value is equal to its fundamental value. In the case of this "investigative herding" that is based on signals from fundamental information, the herding behavior will lead to a faster adjustment of fundamental information into securities and more efficient markets (Bikhchandani and Sharma, 2000; Froot et al., 1992). Also, even if herding is intentional, it may still have a price stabilizing effect on securities if it is based on informational cascades (Sias, 2004). When investors cascade, they ignore their private signals about securities' fundamental values, but instead infer information from others' trades (Bikhchandani et al., 1992).

The contribution of our paper is to study investors' herding behavior in the global environment, in a multi-market setting, using comprehensive holdings data. We believe that the multi-market setting provides us with a unique environment to test (1) if herding in international markets occurs, (2) what drives the

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behavior, and (3) what are the consequences of herding behavior to market stability.

First, we compute herding propensities for 41 international markets. We use an extensive holdings dataset that allows us to investigate herding behavior on a large scale. Using the holdings data of international institutional investors, we are able to compute the herding measures directly. The few existing international herding studies apply market return data instead of holdings data (Chiang and Zheng, 2010, for example) to compute herding propensities indirectly. Also, most studies investigate herding at the security level and in a single market setting, usually in the US market with a few exceptions. To our knowledge, no other study has investigated herding across international markets using holdings data of the underlying investors.

The international holdings data, provided by the Factset Company, are the most comprehensive holdings data of which we are aware. The data, for example, contain the US 13-F filings for institutional investors, and similar public filings from other countries' regulatory agencies. After applying several filters to the data, there are 25,204 institutions that trade in 16,883 securities in 41 target countries. The filters require reliable market level information proxies and sufficient investment by institutions to compute the herding propensities.

Second, we test whether herding behavior stabilizes prices. We conjecture that institutional investors' herding is more likely to stabilize prices if it is driven by fundamental information and to destabilize prices if it is irrational behavior. When investors herd based on fundamental information, the herd will only buy/sell the security until the security's market value is equal to its fundamental value. As a consequence, there are no price reversals in future periods. On the contrary, if herding is driven by non-information based reasons, security values may be driven well above/below their fundamental values, which causes future price reversals and thus less stable prices. To test whether herding behavior stabilizes prices, we compute the relation between contemporaneous institutional demand and current and future stock returns.

Third, we examine whether target country information asymmetry is related to the target country herding propensity. We measure the degree of information asymmetry in each target country along five dimensions: (1) stock market development, (2) ease of access to information, (3) corporate transparency, (4) investor independence, and (5) macroeconomic factors that relate to information environment. In addition to testing whether there is a significant relation between herding propensity and information asymmetry, we believe that the direction of the result will shed light on the underlying reasons for herding. Specifically, an inverse relation between herding and information asymmetry (i.e., higher herding propensity in countries with lower level of information transparency) would support investigative herding. In other words, if information about securities' fundamental values is more available and easier to access and interpret, then investors are more likely to make similar decisions independently from other investors (e.g., Wermers, 1999; Kim and Nofsinger, 2005; Bikhchandani and Sharma, 2000).

Finally, we test if price adjustment to fundamental levels is faster in target countries characterized by low levels of information asymmetry.

Our results provide strong support for herding that is driven by fundamental information, appears unintentional, and leads to more efficient markets. First, we find a statistically significant positive relation between current institutional demand and current quarter returns. We also find a positive, but only marginally significant to an insignificant, relation between the current institutional demand and the next quarter, 6-month, and 1-year returns in most target countries. Lack of return reversal indicates that institutional herding is a mechanism through which fundamental information is incorporated into security prices. This result indicates that herding stabilizes prices and therefore is most likely driven by information (investigative herding or informational cascade).

Second, the country-specific information asymmetry measures explain variation in herding propensities across target countries. Information asymmetry measures across the five categories are statistically and economically significant in the majority of our analyses. The direction of the results indicates that herding occurs more in target countries that are characterized by low levels of information asymmetry. The results provide evidence for herding behavior in international markets that is likely based on fundamental information about the underlying securities and markets, which institutions are discovering independent of each other, and not because of psychological reasons or cascading.

Third, we find that herding increases the speed of price adjustment to fundamental levels more so in informationally transparent markets. We find a positive relation between institutional demand and concurrent returns to securities in most countries in the sample. When we split the target countries into informationally transparent and asymmetric samples, we find that the fundamental information that drives herding is incorporated into security prices faster in transparent markets.

Some existing studies provide complementary results to our study. These existing papers show that there is a positive relation between institutional demand and current returns in the US, accompanied by a lack of significant return reversals. The authors of these studies offer the results to be evidence for institutional trading that is based on fundamental information that consequently moves prices toward equilibrium (e.g., Nofsinger and Sias, 1999; Choi and Sias, 2009; Puckett and Yan, 2008; Sias, 2004; Gutierrez and Kelley, 2009).

Our study makes several contributions to the existing literature. First, our study is the first to our knowledge to investigate herding in a multi-market setting using actual holdings data of the investors and thus allow for a more detailed investigation of investor behavior compared to prior studies. Second, we shed light on fundamental reasons for institutional investors' herding and provide evidence that herding behavior is based on correlated signals. Third, institutional investors comprise a large part of global portfolio investments, and understanding the decision-making of these institutions is important in highly integrated global equity markets. If these institutions in fact herd based on fundamental information, they are likely to stabilize security prices, especially in more informationally transparent markets.

The rest of the paper is organized as following: Section 2 discusses related literature and testable hypotheses. Section 3 reviews the dataset and the methodology in detail. Section 4 presents the results, and Section 5 concludes.

2. Related literature and hypotheses

2.1. Herding in financial markets

Herding is convergence of behavior, which in financial markets results in investors following each other from security to security and from market to market. Many recent works in the finance literature attempt to explain herd behavior. Some argue that herding behavior is not based on fundamental information and destabilizes security prices. Others argue that herding is driven by fundamental information and actually makes security markets more efficient because prices adjust faster to new information (see, for example, Hirshleifer and Teoh (2003) for an extensive review of herding behavior).

Information based explanations for herding in financial markets include investigative herding and informational cascades. Investigative herding occurs when investors react similarly to