

Investigation of Herding Behaviour in Developed and Developing Countries: Does Country Governance Factor Matters?

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Abstract: Although numerous studies have been conducted on herding behaviours, only a limited number has focused on the governance factor that may influence herding activity. This paper examines whether countries' governance influences herding decisions among investors. Applying the cross-sectional absolute deviation (CSAD) method on data from 60 countries, the results on herding estimation based on the country level segmented into three panels reveal that the strict governance would help to minimize herding activity. Among countries with strict governance, only six report herding activity. However, the results show that herding activity is reported more often in countries with moderate or weak governance. Our results also suggest that herding activity will be practiced more in the country where the information dissemination is less efficient due to its less-strict governance level.

Keywords: Herding, governance, market efficiency.

JEL classification: G14, G15, G19

1. Introduction

Herding has been among the most discussed areas in behavioural finance-related subjects. Its study originally began with questions about investors' tendency to follow other people's decisions and has evolved into discussions of irrational decision making among investors (Banerjee, 1992; Bikhchandani *et al.*, 1992; Galariotis *et al.*, 2015; Holmes *et al.*, 2013; Lao and Singh, 2011). Herding is also influenced by information distortion that causes investors to behave irrationally in decision making.

Herding behaviour is evidence that investors are not always rational. Their intentional decision to herd proves that they are not confident in their information and do not trust their own analysis. Similar to other market anomalies, herding violates the efficient market hypothesis (EMH) assumption by being repeatable and predictable. A potential hazard from this activity exists as herding during market consensus swerves assets from their fundamental prices and most likely leads to bubbles and eventually financial crisis (Galariotis *et al.*, 2015; Holmes *et al.*, 2013; Park and Sabourian, 2011). Despite abundant studies on herding behaviour, none has really discussed the governance factor that may influence herding activity. Thus, to control any potential danger, every possible factor must be taken into consideration.

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Even at the earlier stage, researchers identified possible negative impacts that herding might have on financial stability. Basically, herding sees the majority of market participants following one similar trading decision (Galariotis *et al.*, 2015). Consider a situation in which the trend is buying a certain stock. If the market is full of herding activity, there will be a huge increase in the purchasing trend toward that stock, thus pushing the stock price to a certain value far away from its intrinsic value. This may lead to price bubbles and once the circumstance begins to correct itself, the price plummets and crashes along with all hopes and beliefs of investors. This situation creates havoc and nervousness, which often leads to greater financial instability (Hwang and Salmon, 2004; Lao and Singh, 2011). Undoubtedly, the detrimental effects of herding have been an extra motivation for researchers to dig deeper into this topic.

Previous researchers have proposed several factors that might influence herding decisions, including herding for reputational motives (Bikhchandani and Sharma, 2000; Scharfstein and Stein, 1992), herding as trading strategy (Froot *et al.*, 1992), herding as a response to agency problems (Lakonishok *et al.*, 1994), and herding into specific traits of stocks (Nofsinger and Sias, 1999). Unlike previous studies, first, this paper calculates the herding estimation for 61 countries with aid from an established worldwide indicator on governance, the Corruption Perspective Index (CPI), to determine whether herding propensities are affected by the level of countries' governance factors. Good governance enforcement brings benefits to countries and vitally – with regard to the financial sector – ensures smooth, clean, and efficient information dissemination. Nonetheless, the perception of clean and less corrupted governance will be the key as it shown the trust of investors on a particular market in disseminating information equally. Furthermore, we argue that information is a powerful stimulus in controlling investors' emotions and psychology. Having sufficient credible information is central to ensuring that investors trust their own analysis and feel more secure. This paper argues that herding is an effect of investors' inability to control their emotions and the psychology that compels people to follow other people's trading.

2. Review of Herding in the Global Market

Herding was seen as one of the most interesting concepts in behavioural finance. The existence of herding in any market indicates how investor can become irrational by blindly following other's trade and neglecting own information. The evidences of irrationality make herding among popular tools in challenging the efficient market hypothesis and other conventional theories (Sias, 2004). It also gains attention from scholars for its detrimental effect on asset's value (Lao and Singh, 2011).

Herding can be practice by either following the trading of a certain market participant (leaders, institutional and analyst) or by succumbing to the dominant trend in the market. The measurement of herding thus will be different according to the practice of herding under examination. The practice of herding among selected informed market participant is often referred as localized herding. Detecting investors localized herding was pioneered by Lakonishok *et al.* (1992). Their test was named LSV using the first letter in their last name respectively (Lakonishok, Shleifer and Vishny) and was initially conducted on pension fund managers which however, only managed to show limited evidence of herding. More research using the LSV techniques follows which include the work by Grinblatt *et al.* (1995), who looked for evidence of momentum trading and herding transactions among mutual fund managers. They found that momentum trading exists, especially in buying past winner but less so in selling past loser. They also claimed that while herding exists, it is not significantly related to momentum trading. Likewise, Wermers (1999) also tested herding

transactions by mutual fund managers by employing the LSV method. The findings revealed little evidence of herding, especially in trades of small stocks.

Another herding measure that uses micro data with the purpose of investigating localized herding was initiated by Sias (2004). He conducted his test on institutional investors by examining cross-sectional temporal dependence in their demand. His study reveals that while institutional investors do herd, they do not do so every time which lead to the understandings that herding could occur due to several conditions and factors. It also implied that investors are not always rational (irrational). Other notable studies conducted using micro data include Badrinath and Wahal (2002), Choi and Sias (2009), Gleason *et al.* (2004), Nofsinger and Sias (1999), and Wylie (2005). Both methodological tools here however could only serve to answer if the samples in the participant groups engaged in herding. It could not be used to generalize if herding is practiced dominantly in the market. In other words, even if these kinds of groups show a herding tendency, it does not necessarily lead to any financial issue as they do not represent the market consensus; rather, they only prove that herding is practiced even among professional groups.

To consummate and cater for the market consensus, the market-wide herding will be the better alternatives. By using stock market trading activity, market wide herding requires analysis on the secondary data which would give hindsight if herding were dominantly practiced by participants of that particular market. If herding is spreading among the majority players in the market, the chances of its becoming a financial crisis are higher. Thus, the aggregate market data will be employed in this kind of study. At first, market-wide study used the cross-section standard deviation (CSSD), but many are now moving into the more advanced cross-sectional absolute deviation (CSAD) as it proved to be a better tool in capturing herding. Nonetheless, the CSSD method has been widely used by numerous authors with various findings (Bhaduri and Mahapatra, 2013; Caparrelli *et al.*, 2004; Demirel *et al.*, 2010; Gębka and Wohar, 2013; Gleason *et al.*, 2003, 2004; Lin and Swanson, 2003).

CSAD was developed and initially tested by Chang *et al.* (2000). They believe that due to its limitation as being a linear equation, CSSD cannot capture the whole herding activity. The CSAD method assumes that both return dispersion and market return increase in linearity. However, in the case of herding, the aggregate market does not follow this assumption; instead, the relationship may be non-linear decreasing or increasing but at a decreasing pace data. In their study, they tested both models and proven that CSAD is better in capturing herding activity. Their study found that herding can be detected in South Korea and Taiwan but cannot be captured in the more advanced markets represented by the US and Hong Kong. Other notable research applying this model includes Choi and Sias (2009), Demirel *et al.* (2010), Goodfellow *et al.* (2009), Lao and Singh (2011), and Sias (2004).

The new direction for herding study pointed towards study on herding across country. Again, the study by Chang *et al.* (2000) leads the way as they were the first notable study which tried to examine herding across country (US, Japan, Hong Kong, South Korea and Taiwan). They found significant evidence of herding in South Korea and Taiwan, fractional evidence in Japan, but nothing in the US and Hong Kong. Chiang and Zheng (2010) also conducted herding study on multiple countries, employing the same methodology with added purpose on the effect of US as herding moderator. Their study found that herding is practice in several developed market but not in Latin countries. They also recognized the facts that a certain country could reported for herding during one economic condition but did not manage to find similar tendency during different economic condition. In summary, their findings prove that herding is practice worldwide, but seems to have different magnitude depending on the study period and several macroeconomics factors. It also

proves that macroeconomics factors are more influential in investor's herding decision than firm-specific factors.

Questions remain on why herding will result differently under different conditions. Also, what is the effect of not having information of the macroeconomics factors on herding decision? Empirical findings have suggested that herding is associated with preserving reputation (Bikhchandani and Sharma, 2000; Scharfstein and Stein, 1990), a short trading strategy (Froot *et al.*, 1992), agency problems (Lakonishok *et al.*, 1992, 1994), and stock characteristics (Nofsinger and Sias, 1999). Compiling these previous works, we conclude that herding is closely associated with information released with regard to investor protection and the governance issue. In line with Galariotis *et al.* (2015), Tan *et al.* (2008), and Bikhchandani and Sharma (2000), we believe the most important element in herding decisions is investors' emotions. Investors need to have confidence and feel protected while making their own decisions. A country with good governance would not only prosper from economic growth but also raise investors' confidence. Thus, the perceptions on the country governance are vital in ensuring that herding can be minimized.

3. Governance and Perception

Any investment decision of an investor serves as a statement representing his belief, knowledge and choices. Indirectly, their decision to trade or to hold is an indication of his perception and assessment on the market. While conventional finance would relate this to the some fundamental analysis, the rise of behavioural finance leads to a new paradigm thinking. Behavioural finance reveals that the irrationality of investors should also be an important consideration in their decision. Their emotions and psychology could be the real reason behind their trading decision. This leads us to the relation between herding and governance and its perception.

According to La Porta *et al.* (2000), governance is a set of mechanisms by which outside investors protect themselves against expropriation by insiders. The needs to protect themselves could actually play a significant role in investment decision. Investors would feel more freely and confidence to invest according to their own information in a country where the governance are efficient and effective. Theoretically, good governance also increases the financial transparency in any given organization or country (Prommin *et al.*, 2014). Correspondingly, it also helps to reduce herding as it allows investors to improve their decision making upon receipt of all available information. In their study of US markets, Chung *et al.* (2011) noted that strong governance implementation improves transparency and increase shareholders confidence. Aman and Nguyen (2008) believes that the price performance of a stock is a reflection of how good the firms are governed. A better governed firm would generate positive perceptions and helps increase investor's confidence. The same could be expected from a country. If a country is well governed, the possibility of having a smooth and efficient market is certainly better.

Good governance also helps eradicate corruption. Despite being more associated with political and ethical issues, corruption also brings major harm to the economic sector (Ahmed and Duellman, 2007). In fact, according to Haß *et al.* (2014), corruption is an indicator of a country having a governance issue. The image of corruption in a country is also an important indicator of its governance implementation.

Previously, herding existence was consensually reported in developing markets such as China, India, South Korea and Taiwan by Chang *et al.* (2000), Chiang and Zheng (2010), Lao and Singh (2011) and Tan *et al.* (2008). As Lao and Singh (2011) explains, the lack of governance implementation and enforcement in most developing country leads to information asymmetry and trust issue among the investors. The perceptions among the public often perceived their market as incapable of providing them enough information and

protection. The rising issues such as insider trading and corruption further raised their concerns and lead them to herding decision. In developed market, the perceptions and the trust on their market respectively is much better. The good governance helps to eradicate any information dissemination issues. Concurrently, the herding activity reported by past researcher in the developed market is still inconclusive. Could this indicate the effect of having good governance on controlling herding?

Following the works by Haß *et al.* (2014), we hypothesize that herding will be lower (higher) in a country with strong (weak) governance implementation as the governances are capable (not capable) to instil confidence among the investors. With confidence and positive perceptions, we believe that the hazardous effect of herding would be under control.

4. Research Methodology

4.1 Data Collection

The study utilizes the data of governance from the Corruption Perspective Index (CPI) which listed and ranked countries according to the survey of perceptions on each countries governance. The CPI was established in 1995 by Transparency International. With the goal of a corruption-free world, Transparency International worked diligently to erase corruption in numerous areas of governance, including education, oil and gas, the private sector, sports, politics and government, the judiciary, defence and security, forestry, health, water, and poverty. However, this study was only concerned with corruption perspectives in terms of access to information which would influence the herding direction. As the name itself suggests, the CPI was built on the public's perception of a country's governance and corruption. Previously, the CPI was applied in various studies, including Haß *et al.* (2014), Wilhelm (2002), and Wu (2005).

With aid from the indexes, the study partitioned herding by level of governance. We placed countries with a score equal to or greater than 70 in Panel A of strict governance. Those countries whose average score was between 40 and 69 were categorized as moderate while the others were considered to have less strict governance. Next, daily returns for each country's major index were calculated by using its closing price. The closing price data were collected from DataStream International and the data collected were daily data from January 2, 2010, until December 31, 2014.

4.2 Methodology

With the aim of measuring herding as a tendency of a whole market, the market wide approach must be taken. The approach is either using CSSD or CSAD.

The establishment of CSSD by Christie and Huang (1995) has helped researchers understand different ways of measuring herding. Their testing was developed on the idea that herding occurs when dispersion in the market is low. Dispersion in the market refers to the difference between individual security returns and market aggregate returns. A smaller dispersion indicates that the trend in buying stocks between individuals and the market is not much different, indicating the possible impact of herding activity. Among subscribers to this methodology are Demirer *et al.* (2010), Gleason *et al.* (2003), and Lin and Swanson (2003). Discussion of their findings is in the previous chapter. The proposed formula is expressed as:

$$CSSD_t = \frac{\sqrt{\sum_{i=1}^N (R_{i,t} - R_{m,t})^2}}{(N-1)} \quad (1)$$

where N is the number of firms in the portfolios, $R_{i,t}$ is the individual stock returns i at time t , and $R_{m,t}$ is the average of the market at time t .

Critics however found some limitations of CSSD especially in capturing herding beyond linear equation. Chang *et al.* (2000) proposed that if investors continue to mimic the average market movement, then the linear and increasing relation between dispersion and return from the market would not continue. Instead, a non-linear relationship might exist between dispersion and market return which could increase at a decreasing rate or even decrease. Thus, they suggested a new non-linear regression to estimate the possible relationship which is called CSAD.

The idea of utilizing CSAD originates from the theory of efficient market. According to the theory, rational investors will respond to any relevant information efficiently pertaining to their knowledge and investment skills. This creates a wider dispersion as the trading of investors in the market is not similar. Chang *et al.* (2000) demonstrated that according to the rational asset pricing model, return dispersion is an increasing function of market average return and that their relationship will always be linear. During an uncertain market, investors are expected to ignore their own information and decide to trade by following the market consensus. If herding occurs, the dispersion is smaller and the function of being linear and increasing between return dispersion and market average return no longer holds. Replacing CSSD with CSAD is beneficial due to CSAD's non-linearity, which allows return dispersion to move along with market return. The equation for CSAD is as follows:

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

where γ_1 is the coefficient of $|R_{m,t}|$, $R_{m,t}^2$ is the square of $|R_{m,t}|$, and γ_2 is the coefficient of $R_{m,t}^2$. Herding would be represented by a negative and statistically significant γ_2 coefficient which indicate the non-linear relationship between CSAD and $R_{m,t}$.

5. Analysis of Herding Estimates

CPI was built up on surveys done among investors. The surveys focused on the perceptions of global investors on corruption and transparency of country's regulators. The CPI list provides the perspective of corruption related to governance of each market and, thus, enabled us to create a different list for each panel.

The table resulting from CPI ranked was prepared on three different windows; Windows 1 covering from January 2000 until December 2004, Window 2 for January 2005 until December 2009 while Window 3 is from January 2010 until December 2014. Again, similar benchmark was setup to classify the countries according to its governance level. Countries with score higher than 80 points are considered as SG. Those between 79 and 55 were considered as MG while the others will be the WG. The result presented will focus on the γ_2 coefficient. A negative γ_2 coefficient indicated a diminished relationship between market return (r_{mt}) and daily return (r_i). It also explained the inverse relationship between CSAD and r_{mt} . If the market participant's practise herding, the different between r_{mt} and r_i is narrow; which is against the rational asset pricing model where investors selling and buying could move the price wider.

5.1 Herding Estimates in Window 1

Table 1 revealed herding estimation for countries in Panel A, B and C covering the first five years of the study; January 2000 until December 2004. Herding was scientifically proven in each panel although their percentages were different from one to another.

In panel A, a total of six countries from the total 19 were found practising herding. It included Finland, Singapore, Sweden, Canada, Chile and Japan. Although these countries were perceived for having less corruption-indicating a good governance practise-herding

seemed to be practised by the participant. However, the study believed that this percentage is an exception rather than rules. Herding in these markets was expected to reduce by time.

Table 1: Herding estimation for Window 1 (2000-2004)

Panel A (Strict Governance)		Panel B (Moderate Governance)		Panel C (Weak Governance)	
Market	γ_2	Market	γ_2	Market	γ_2
Fin	-0.097* (-1.454)	Por	0.545*** (5.508)	Mor	-0.183*** (-6.052)
NZ	-0.038 (-0.637)	Bah	0.906*** (18.144)	Bul	0.012*** (4.374)
Sin	-0.080*** (-2.392)	Tai	-0.139*** (-5.172)	Pol	-0.163*** (-3.074)
Swe	-0.109*** (-2.514)	UAE	-0.144 (-1.145)	Cro	-0.491*** (-4.954)
Can	-0.224*** (-2.385)	Qat	0.873*** (7.360)	Col	0.104*** (5.475)
Net	-0.039 (-1.070)	Ita	0.829*** (16.896)	Mex	0.381*** (19.315)
Swi	0.024 (0.471)	Tun	-0.014** (-1.854)	Sri	-0.135*** (-9.281)
Aus	0.096 (0.753)	Mal	0.018 (0.413)	Tur	-0.059*** (-4.501)
UK	0.350*** (4.067)	Hun	0.246*** (4.856)	Chi	-0.162*** (-7.823)
HK	0.063*** (14.708)	Jor	-0.538*** (-4.986)	Egy	0.376*** (20.018)
Aust	0.346*** (11.316)	SA	-0.189*** (-2.064)	Thai	-0.182*** (-4.696)
Ger	0.004 (0.119)	Gre	-0.234*** (-5.541)	Arg	-0.030*** (-2.952)
US	0.103*** (2.028)	Kor	-0.012 (-0.690)	Rom	-0.223*** (-2.659)
Chil	-0.267** (-1.703)	Cze	0.390*** (10.002)	Ind	-0.057* (-1.498)
Spa	0.192*** (4.684)	Sau	-0.214*** (-7.220)	Phi	0.089*** (5.164)
Bel	0.243*** (3.169)	Bra	0.699*** (18.175)	Kaz	-0.064* (-2.093)
Isr	0.031 (1.224)			Rus	0.665*** (15.699)
Jap	-0.074*** (-1.814)			Pak	0.095*** (47.347)
Fra	0.775*** (13.966)			Ecu	0.006 (1.077)
				Ukr	-0.062*** (-2.981)
				Ken	-0.031* (-1.923)
				Indo	-0.111*** (-4.247)
				Nig	-1.922*** (-2.818)
				Ban	0.015*** (7.345)

The number of herding reported in Panel B was similar to Panel A where six countries were found having significant negative γ_2 coefficient. The countries were Taiwan, Tunisia, Jordan, South Africa, Greece and Saudi Arabia. In addition to that, Korea and UAE also showed negative coefficient of γ_2 . However, the number was not statistically significant thus not considered as herding. Nevertheless, herding activity in Panel A and B suggested how herding would be an option if they feel less protected or in doubt of themselves; regardless of whichever market they are trading.

The highest number of herding reported was in the WG panel. The highest number of herding reported was in the WG panel, that built upon countries that often perceived by global investors as corrupted. Participants in the market were not expecting a set of governance tools in ensuing an equivalent information dissemination or protection on their investment. The tendency to herd was thus very high as shown by 15 out of total 24 countries in the panel. The countries include Morocco, Poland, Croatia, Sri Lanka, Turkey, China, Thailand, Argentina, Romania, India, Kazakhstan, Ukraine, Kenya, Indonesia and Nigeria.

5.2 Herding Estimates in Window 2

Table 2 disclosed the γ_2 coefficient for every market covering the period from January 2005 until December 2009. Contrasting discoveries were made about the significantly reduced number of herding activity in the WG market. Only ten out of total 27 reported for herding; a significant drop from the previous window where 15 countries were found practising herding. It could be declined due to investor's decision to reduce the investment during these periods which consequently lower the temptation and needs to herd.

The decline in WG for this window occurred simultaneously with the SG panel list. Only four countries in SG panel recorded herding which included New Zealand, Sweden, Finland and Netherland. The number was insignificantly lesser and still lower than both MG and WG during the same windows. The number of negative but insignificantly statistic for countries was relatively higher during this period. Eight other countries which included Singapore, Australia, Canada, Japan, US, Belgium, France and Chile all recorded negative coefficient but not statistically significant. The insignificantly negative γ_2 coefficient indicated a tendency of herding exist in these market but not at significant scale. Since this study used market indices closing price as indicators, the herding results indicated the tendency to imitate other people's trading in the market and reflected the buying and selling of the stocks. Herding incline a higher number of stocks traded similarly; not the number of participant practising it. Thus, the insignificantly negative coefficient should be understood as the results of insufficient stocks traded similarly during study period; but not necessarily means it is not widely practise by the participants. In fact, the participants might herd, but the volume in which they are trading, is not sufficient to be considered as herding. Nevertheless, Window 2 shown that herding is most likely to happen in MG. More than half of the country in panel reported for herding including Portugal, Qatar, UAE, Taiwan, Jordon, Malaysia, Czech, Italy, Greece, Tunisia and Poland; which included representative from all regions. The number was increased from the previous panel, unlike both SG and WG. In fact, MG had higher herding activity herding activity reported during this period. Perhaps, the uncertainty over economic condition along with inefficient governance enforcement led to uncertainty that influenced investor's confident.

Table 2: Herding estimation for Window 2 (2005-2009)

Panel A (Strict Governance)		Panel B (Moderate Governance)		Panel C (Weak Governance)	
Market	γ_2	Market	γ_2	Market	γ_2
NZ	-0.263*** (-4.644)	Por	-0.089*** (-4.577)	Bul	-0.041 (-0.934)
Fin	-0.076*** (-3.084)	Qat	-0.137*** (-4.937)	Cro	0.017* (1.431)
Sin	-0.006 (-0.314)	UAE	-0.164 (-6.068)***	Col	-0.013 (1.042)
Swe	-0.055*** (-2.244)	Isr	0.123*** (10.208)	Gha	0.748*** (3.907)
Swi	0.024 (0.736)	Tai	-0.055*** (-2.399)	Sau	0.041*** (1.963)
Net	-0.041* (-1.510)	Bah	0.906*** (18.144)	Bra	0.000 (0.014)
Aus	-0.031 (-0.861)	Kor	0.047*** (2.261)	Tha	0.027*** (2.170)
Can	-0.068 (-1.354)	Jor	-0.438*** (-4.656)	Rom	0.238*** (34.741)
Aust	0.414*** (28.249)	Hun	0.108*** (5.631)	Chi	-0.090*** (-4.518)
HK	0.176*** (12.295)	Mal	-0.139*** (-2.748)	Mex	-0.023 (-0.431)
UK	0.020 (0.585)	Cze	-0.120*** (-5.897)	Mor	-0.448*** (-6.433)
Ger	0.344*** (21.867)	Ita	-0.115*** (-3.682)	Ind	-0.045*** (-2.145)
Jap	-0.003 (-0.284)	SA	0.232*** (3.121)	Sri	-0.041 (-0.781)
US	-0.007 (-0.417)	Gre	-0.098*** (-3.924)	Egy	-0.067*** (-4.762)
Bel	-0.039 (-1.111)	Tun	-0.012** (-1.784)	Arg	-0.049 (-0.989)
Fra	-0.023 (-0.911)	Pol	-0.045 (-1.196)	Vie	-0.440*** (-6.202)
Chil	-0.043 (-1.334)	Tur	-0.057 (-1.303)	Ukr	-0.042*** (-2.714)
Spa	0.063*** (2.269)			Indo	-0.006 (-0.436)
				Phi	-0.110*** (-3.809)
				Kaz	-0.054* (-1.993)
				Pak	-0.062** (-1.685)
				Nig	-1.464*** (-2.538)
				Rus	0.074*** (3.873)
				Zim	0.154*** (5.119)
				Ecu	0.389*** (12.967)
				Ken	0.253*** (42.141)

5.3 Herding Estimates in Window 3

The findings for each panel covering the period between January 2010 and December 2014 are showed in the Table 3. WG provided the most countries with herding while SG accounted for the least number with only six countries reported.

Table 3: Herding estimation for Window 3 (2010-2014)

Panel A (Strict Governance)		Panel B (Moderate Governance)		Panel C (Weak Governance)	
Market	γ_2	Market	γ_2	Market	γ_2
NZ	0.012 (0.105)	UAE	-0.144*** (-7.230)	Bul	0.213*** (9.428)
Fin	-0.087*** (-2.747)	Por	0.110*** (4.548)	Gre	0.066*** (11.349)
Swe	0.014 (0.394)	Spa	0.152*** (3.706)	Chi	-0.139*** (-5.250)
Sin	0.955*** (17.519)	Tai	-0.029 (-0.831)	Mor	-1.474*** (-8.982)
Swit	-0.058*** (-1.988)	Isr	-0.103*** (-3.748)	Sri	-0.244*** (-2.041)
Net	0.104*** (2.388)	Pol	0.264*** (5.961)	Tha	-0.082*** (-2.263)
Can	-0.206*** (-2.018)	Kor	0.035 (0.654)	Col	0.029 (0.356)
Aus	-0.107* (-1.296)	Hun	0.305*** (7.645)	Ind	-0.144*** (-2.394)
Ger	-0.011 (-0.416)	Bah	0.061*** (4.904)	Mex	-0.026 (-0.396)
HK	0.161*** (28.012)	Cze	0.714*** (8.135)	Arg	-0.043 (-0.876)
Jap	0.011 (0.898)	Mal	0.454*** (15.589)	Egy	-0.136*** (-4.779)
UK	0.040 (0.563)	Jor	0.288*** (3.235)	Phi	-0.087*** (-2.241)
Bel	-0.021 (-0.664)	Sau	-0.119*** (-5.655)	Indo	-0.080*** (-3.404)
Austr	-0.078** (-1.748)	Tur	-0.254*** (-5.183)	Ecu	0.133*** (30.212)
US	0.030* (1.653)	Cro	-0.410*** (-4.554)	Vie	-0.491*** (-10.266)
Chil	-0.065 (-0.930)	Gha	0.584*** (33.649)	Kaz	0.110*** (2.905)
Qat	-0.186*** (-2.747)	SA	0.797*** (6.308)	Pak	-0.420*** (-5.687)
Fra	0.155*** (4.860)	Italy	0.099*** (2.597)	Ban	-0.229*** (-7.115)
		Bra	-0.057 (-1.128)	Nig	-0.111*** (-4.637)
		Rom	-0.477*** (-9.233)	Rus	0.096*** (2.229)
		Tun	-0.06*** (-3.145)	Ukr	-0.077*** (-3.646)
				Ken	-0.003 (-0.063)
				Zim	0.072*** (12.870)

Interestingly, herding in SG increased since the last window. At first glance, it could be mistakenly view as the result of governance imperfection even in countries with better governance enforcement. However, the higher number of countries with herding activity in WG would have suggested differently. Similar to SG panel, WG also recorded an improvement. In fact, the improvement in WG was much rapid and it became the highest panel with herding recorded for this period; repeating the feat they achieve using WGI classification. Thus, it is safe to say that herding is still potentially more propel in countries with lower governance as compare to those with better governance.

In the meantime, MG recorded lower number of countries with γ_2 negative coefficient comparable to previous window. Seven countries out of total 21 were found with herding activity which included UAE, Israel, Saudi Arabia, Turkey, Croatia, Romania and Tunisia. Given the pressure from participant in the market and advancement of technology, it forced regulators to improve the enforcement of their market governance. This would instil confidence among investors and made them believed in their own analysis again. As a result, herding was reduced during this specific window for panel MG.

5.4 Summary of the Herding Estimates

The test on governance potential influence on herding decision was conducted using the yearly data compiled by Transparency International in establishment of their CPI survey which was used as an indicator to gauge investor's perception on corruption and transparent practise - so often the vital issues with regards to governance - would prompt investors to herd and imitative behaviour.

The findings were presented in three different windows and the countries were grouped into different panel of governance based on marks provided by CPI. In total, evidence suggested that herding was less practised in a market regulated by good governance such as SG panel list. On average, the percentage of herding practised in this panel for the three windows was only 29%; the lowest average of all panel. The highest average percentage, as presented by table 5.4 came from WG panel with 52% herding reported. While MG reported for 43.2% average. Overall results are provided in Table 4.

Table 4: Percentage of countries involved in herding.

Window/ Panel	Panel A (SG)		Panel B (MG)		Panel C (WG)	
	Numbers of countries	% of countries	Numbers of countries	% of countries	Numbers of countries	% of countries
2000-2004	6/19	31.6%	6/16	37.5%	15/24	62.5%
2005-2009	4/18	22.2%	10/17	58.8%	10/27	37%
2010-2014	6/18	33.3%	7/21	33.3%	13/23	56.5%
Average		29%		43.2%		52%

5. Conclusion and Discussions

In summary, our findings proved that our earlier hypothesize on the inverse relationship between governance levels and herding is to be upheld. Herding is clearly practiced more in countries where the perceptions of governance are lower; represented in our study by panel MG and WG.

Despite repetitively changing our panel list, our result still reveals the same findings. The inability or perceptions of not securing enough information and protection, as in the case of moderate and less strict governance would likely to persuade investors to practice herding activity.

Several implications can be seen from the study. The findings should serve as a reminder to regulators in each country in ensuring that their country is maintaining a clean and healthy image from corruption and other governance issues. Inability to deal with this issue

could prompt herding and lead to serious financial crisis. Second, while problems associated with other information like insider trading can be contained through laws and regulations, it seems unlikely that any legal action can be taken regarding investors practicing herding. After all, it is a choice made by investors. Thus, to prevent investors' herding activity, regulators should look back into herding's impetus, market uncertainty and investor assurance of having enough credible information and sound knowledge in making their investment decision.

With that in mind, future study could embark on the effect of having enough knowledgeable investors in the market on herding. Considering that having a rational and knowledgeable investors are part of efficient market hypothesis, the future research could also embark on the potential violation argument.

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