DOI: 10.20472/IAC.2019.045.028

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HERDING BEHAVIOURS IN POLAND AND TANZANIA

Abstract:

Over the years the USA markets have shown a strong resilient to herding behaviours while mixed results or consistent herding behaviours have been observed in other markets around the world. This study aimed at providing the most recent evidence of herding behaviours in two of such markets. Using data from Poland and Tanzania and CSAD approach, the findings showed no significant market herding behaviours in Poland during the period and during the up and down markets. Except for Informatics, all other industries showed significant industry herding behaviours and during the up and down markets. On the other hand, no market herding behaviours were observed in Tanzania during the period, during the up and down markets. No industrial herding behaviours were observed in the two industries. During this period Poland had experienced an increase in industry herding behaviours while Tanzania have experienced a decline in market herding behaviours in the market.

Keywords:

Herding Behaviours, Behavioural Finance, Up and Down Markets, Trade Volume, Industry Portfolios, Poland Stock Market, Tanzania Stock Market

JEL Classification: G02, G10, G12

1. Introduction

Herding is the action of imitating the action of others. According to Ganesh et al., (2016) herding can be both unintentional or intentional act. Herding is considered unintentional act when the investor act according to their beliefs after their analysis of the new information(s). This act is considered rational as it is consistent with the principle of maximising the expected utility. On the other hand, an intentional act can be both rational or irrational. Intentional rational herding occurs when the investors are in the assumption of being less informed than others in the market. In acting to this, the investors tend to observe the actions of those in their beliefs are more informed and thus imitating their actions. While intentional irrational herding, the investors completely ignore their information(s) and choose to follow the actions of other investors. The investors follow blindly the actions of other investors.

Herding behaviours has been observed in different markets around the world. In the study of Litimi et al.,(2016) herding behaviour were observed in the US stock market, together with trading volume turnover, and investor sentiment they had a significant contribution to the price bubbles arising in the market. Similarly Phillipas et al., (2013) found herding behaviour in the US Equity Real Investment Trust (REIT) market. Herding behaviour was also observed by Economou et al., (2011) in Greece, Spain and Italy, Messis and Zapranis (2014) in Athens stock market, Caparrelli et al., (2004) in Italy and Indārs et al.,(2018) in Moscow, Russia. Similarly, herding behaviours were observed in other markets such as cryptocurrency by Bouri et al., (2018), in Islamic Gulf Cooperation and Council (GCC) by Chaffai and Medhioub (2018) and in lottery-type stock of Chinese market by Gong and Dai (2018). In Taiwan, Demirer et al., (2010) observed significant herding behaviours which were more prominent when the markets incurred some losses. But ant-herding behaviours were observed on the future markets of precious metals of Aluminium, copper, gold, lead, nickel, platinum, zinc and silver by Babalos and Stavroyiannis (2015).

Several mixed results have also been reported in the market around the world. Example in China market, the study of Tan et al.,(2008) during the period between July 12,1994 to December 31,2003 observed herding behaviours in both share A and B markets but in the study of Chiang et al., (2010) from January 1,1996 to April 30, 2007 observed herding behaviours in share A market in both up and down market trend and only herding behaviours in share B markets when there was a downward market trend. This was also supported by the study of Yao et al.,(2014) in the period between1999-2008 observed herding behaviours in share B markets during a downward trend. Luo and Schinckus (2015) for the period between 2006-2012 observed quite the opposite where herding behaviours were observed in share B during bullish markets while share A markets experienced herding behaviours in bearish markets. Mahmud & Tiniç (2018) observed significant herding behaviours in share A and were rather extreme during low and high trending and weak evidence was observed for share B markets during the period 2003-2014. Lao and Singh,(2011) for a period between July 1,1999 to June 30,2009 in 300 large cap Market observed

herding behaviours while Demirer and Kutan,(2010) examined a total of 375 individual firms during the period between January 1999 to December 2002 and observed no herding behaviours in Chinese markets.

Similarly, Lao and Singh, (2011) observed herding behaviour in India for a period between July 1, 1999 to June 30,2009 and so was Dutta et al.,(2016) during the period between 2006 to 2016. On the other hand, Ganesh et al.,(2016) for the period between April 1, 2005 to March 31, 2015 observed no herding in the India markets. During the period between 2003 -2011 Simões Vieira and Valente Pereira (2015) observed no effect of investors' sentiments of herding behaviours on Portugal markets and mixed results were observed by Economou et al.,(2011) from the period between January 1998 to December 2008.Tung,(2018) between the period 2008-2017 observed a significant herding behaviours in the Vietnamese market during the period 2009-2016, while no herding behaviours were observed in 2008 and between 2016-2017. Mixed result were also observed in developed markets for example in the work of Economou et al., (2018) no herding behaviours were observed in the US, UK and Germany markets for the period between January 2004 and July 2014 but for the period between May 25,1988 to April,24, 2008 with the exception of the USA, Germany, UK and also Australia showed significant herding behaviours.

In Poland research by Filip et al., (2015) observed no herding behaviours in Poland between the period of January 2008 to December, 2010 similarly Angela-Maria (2015) from the period January 2, 2003 to December 31,2013 observed no herding. On the other hand, Goodfellow et al.,(2009)for the period between July,9 1996 and November,2000 observed significant herding in Poland. In Tanzania only the study by Komba, (2016) and Guney et al., (2017) examined the herding behaviours in Tanzania market and showed it to be persistent during the period between January 2000 to July 15,2015.

This study aimed at providing the most recent evidence regarding herding behaviours in Poland and Tanzania. Evidence regarding herding behaviours in Poland market are mixed there is a need to further examine the market to provide more evidence regarding herding behaviours of the investors in the market. Very few studies have been conducted regarding herding behaviours in Tanzania, as by the current literature herding behaviours are persistent in this market. This study aimed at examining the market in recent times at both market levels and industry level. As there is no study that had examined the industrial herding in Tanzania, this study aimed at contributing to this part of literature.

2. Literature Review

Tan et al.,(2008) examined herding behaviours in Shanghai and Shenzhen market by looking both share A and B markets. In both markets, herding behaviours were observed. Herding behaviours in share A was attributed to rising in markets, high trading volume and volatility. Share B market herding behaviours were attributed to information asymmetry. Moreover, the researchers observe that share A investors

were lacking in knowledge and experience resulting them to make suboptimal options while in market B share market the investors were far more knowledgeable and rather sophisticated. Lao and Singh, (2011) examine the herding behaviours in 300 large cap market in both India and China in the period between July 1,1999 to June 30, 2009. In both market herding behaviours were observed for the shares of these companies.

Chiang et al., (2010) observed significant herding behaviours in the share A. The herding behaviours were far prominent in both upward and downward market trends. Compared to Tan et al.,(2008) herding behaviours in share B were only persistent during the downward market trends. The existence herding behaviours during the downward trend period of share B market was also observed by Yao et al.,(2014) in the period between 1999-2008. Mahmud and Tiniç, (2018) on the other hand only observed more herding behaviours in share A market and weak one in share B market. Contrary to the finding of Chiang et al., (2010);Yao et al.,(2014) and Mahmud and Tiniç, (2018); Luo and Schinckus, (2015) in the period between 2006-2012 observed herding behaviours in share B market during bullish markets and herding behaviours in share A market during the bearish markets.

Gong and Dai (2018) examine herding behaviours in the lottery type stock in the Chinese markets, significant herding behaviours were observed, were stocks with high skewness experience herding behaviours under up markets and stock with low skewness experience herding behaviours under down markets. Demirer and Kutan (2010) find no significant herding behaviours in both the Shanghai and Shenzhen market during period of January 1999 to December 2002. The findings were obtained from examining 375 firms with share traded in both markets individual ad sector wise. Li et al.,(2017) tested the differences in herding behaviours between institutional (informed) investors and individual(uninformed) investors during the period between July,1 2002 to December 31,2004. Individual investors were observed to trade more than institutional investors, but more herding behaviours were observed by the institutional investors.

Litimi et al.,(2016) examine the relationship between herding behaviours and stock price volatility and price bubbles in the US market. Factors for trading volume turnover, investor sentiments and herding behaviours had a significant positive relationship with the price bubble. Phillipas et al., (2013) examine herding behaviours in the US REIT market for period between January 2004 to December 2011 and observe a decrease in the investors' sentiments and adverse macro shocks were attribute to the herding behaviours of REIT investors. The market was also observed to be resilient to the shock of the financial crisis as no herding behaviours were accounted for during the shocks brought by the financial crisis. Similarly Simões Vieira and Valente Pereira (2015) during the period 2003-2011observed investors in the companies which were mainly the constituent of the Portuguese Stock PSI-20 index herding behaviours were significant influenced by their sentiments.

Indārs et al., (2018) in the period between April,4, 2008 to December 30,2015 examine the existence of herding behaviours in the Moscow market and investigated

the factors behind the herding behaviours. They observe a persistent herding behaviour mostly significantly when the market was giving negative returns, there is an extreme upward movement of oil and during the period when the country was suffering major turmoil. In their account macroeconomics factors, new information release, government sanctions announcements and high liquidity days were the major attributes to the herding behaviours in the Moscow market. Caparrelli et al.,(2004) during the period between September 1,1998 to January 8,1994 observed herding behaviours in the Large Cap Italian companies compare to the small cap companies.

Ganesh et al.,(2016) examine herding behaviours of the company in the Nifty 50 index in India for the period between April 1,2005 to March 31, 2015 observed no herding behaviours in these companies during this period. Dutta et al.,(2016) also examined 50 companies in India national stock market for the period 2006 to 2016 compare to Ganesh et al.,(2016) were able to observed herding behaviours leading to research conclusion of Indian markets to be rather semi strong efficient rather than being strong. Messis and Zapranis, (2014) during the period between 1995 to 2010 examine herding behaviours in the Athens stock market. Herding behaviours were observed during this period. On the other hand Demirer et al.,(2010) examine herding behaviours in the Taiwanese market. The investor in this market were also susceptible to herding behaviours.

Filip et al., (2015) did a cross country research in the Central and South Eastern Europe in the country of Czech republic, Poland, Hungary, Romania and Bulgaria. Where all the countries showed significant herding behaviours in the markets during the period of January 2008 to December 2010, except for Poland whose investors showed significant resilient to herding behaviours. It was speculated to be of a result of high knowledge, experience and awareness of Poland's investors.

Similarly, Angela-Maria et al.,(2015) examined herding behaviours during the global financial markets to the ten country of Central and Eastern Europe CEE which include Bulgaria, Croatia, Czech republic, Estonia, Hungary, Latvia, Lithuania, Slovenia, Poland and Romania. A total of 384 corporation form these countries were examined, herding behaviours were observed in the countries of Croatia, Hungary, Latvia, Lithuania and Slovenia

Economou et al., (2018) observed no herding behaviours during the period between January, 2004 to July, 2014 in the countries of USA, UK and Germany. Their previous study Economou et al.,(2011) in the country of Greece, Spain, Italy and Portugal during the period between January,1998 to December, 2008 observe herding behaviours in the country of Greece and Italy. Mixed results were observed in Portugal and no herding behaviours were observed in Spain. Information asymmetry, day of the week and the stock volatility accounted for the herding behaviours in these markets.

Chiang and Zheng (2010) examined the herding behaviours in different market segments around the world during the period between May 25,1988 to April 24, 2009. The first segment was the advanced market made up of stock market of the countries, Germany, UK, USA and Australia. The Asian market consisting of Hong Kong, Japan,

China, Korea, Taiwan, Indonesia, Malaysia, Singapore and Thailand and the Latin America market in countries of Argentina, Brazil, Chile and Mexico. Their finding showed herding behaviours in all the Asian market countries, while Germany, UK and Australia in the advanced market and no significant evidence was observed to support herding behaviours in the Latin America markets.

Bouri, (2018) tested the existence of herding behaviours in the cryptocurrency market. Taking a total of 14 cryptocurrencies from April 28, 2013 to May 2, 2018, they observed herding behaviours in these markets. Compare to cryptocurrency market, in precious metals markets a non-existence of herding behaviours was observed by Babalos and Stavroyiannis (2015). The market showed more of ant-herding behaviours during the period between January 6,1995 to December 31,2013.

3. Data and Methodology

3.1. Data

Daily data were collected in the two markets as suggested by Vo and Phan, (2017) . Daily data was used because herding behaviours is short-lived and using this data can help in accurately capturing the phenomena. In Poland data for a period between January 1, 2014 to December 31,2018 including the Warsaw Market Index (WIG) which act as proxy for the market index and WIG-Banking, WIG-Construction, WIG-Chemicals, WIG-Cosmetics, WIG-Energy, WIG-IT, WIG-Media, WIG-Food, WIG-Telecommunication for their respectful industries. In Tanzania data covered the period between May 16, 2013 to December 31, 2018, Tanzania All Share Index (DSEI) was used as the proxy market index while Bank, Finance and Investment Index (BI) and Industry and Allied index (AI) for the respectful industries.

3.2. Methodology

Chang et al.,(2000) model was used, the following equation was used to examine market herding behaviours in the two markets during the specified period.

$$\mathrm{CSAD_t} = \beta_0 + \beta_1 \left|\mathrm{R_{m,t}}\right| + \beta_2 \mathrm{R_{m,t}^2} + \varepsilon_t \quad (1)$$

Where $CSAD_t$ is the Cross-Sectional Absolute Deviation and was calculated as follows:

$$\mathrm{CSAD_t} = \frac{1}{\mathrm{N}} \sum_{\mathrm{i=1}}^{\mathrm{N}} \left|\mathrm{R_{i,t}} - \mathrm{R_{m,t}}\right| \quad (2)$$

$R_{m,t}$ is the market return at time t measured by the market index, N is number of shares in the portfolio $R_{i,t}$ is the return of share i at time t measured by:

$$\mathrm{R_{i,t}} = 100 \times \left(\mathrm{Ln}\left(\frac{\mathrm{P_t}}{\mathrm{P_{t-1}}}\right)\right) \quad (3)$$

P_t and P_{t-1} are the daily closing share price at time t and t-1. In the non-existence of herding behaviours according to Chang et al.,(2000) it is expected the value of $\beta_1 > 0$ following the rational asset pricing model and the value of $\beta_2 = 0$. In case of herding behaviours in the market then it can be expected a significant value of $\beta_2 < 0$.

The study follow the idea of Balcilar and Demirer (2015) and the findings of Shah et al., (2017) of considering herding behaviour within the industry rather than only with the market index. In their study they were able to observe herding behaviours were prone with respect to the industry rather than the market itself. To account for this phenomena Balcilar and Demirer (2015) argued that the investors in the same industry can observe the action of others and thus imitate their actions moreover, they are faced with most similar decisions regarding their investment in the industry. In this study two classes of industries banking and manufacturing in Tanzania were examined while in Poland a total of 12 industries were examine which include banking, chemicals, construction, cosmetics, energy, food, IT, pharmaceutical media, Motor Vehicle, Real Estate and Telecommunication industry.

To test for asymmetric herding behaviours, two different market conditions were examined. First the up market was examined followed by the down market. The following models were used to estimate for herding behaviours during these market condition as suggested by Vo and Phan, (2017):

$$CSAD_t^{UP} = \beta_0 + \beta_1^{UP}\left|R_{m,t}^{UP}\right| + \beta_2^{UP}\left(R_{m,t}^{UP}\right)^2 + \varepsilon_t \qquad R_{m,t} > 0 \tag{4}$$

$$CSAD_t^{DOWN} = \beta_0 + \beta_1^{DOWN}\left|R_{m,t}^{DOWN}\right| + \beta_2^{DOWN}\left(R_{m,t}^{DOWN}\right)^2 + \varepsilon_t \qquad R_{m,t} < 0 \tag{5}$$

Where $R_{m,t}^{UP}$ and $R_{m,t}^{DOWN}$is the market return at time t when the market is in up or down respectively. Similar in the existence of herding behaviours we expect β_2^{UP} or $\beta_2^{DOWN} < 0$

4. Results and Discussions

4.1. Market Herding Behaviours

Table 1 show the regression results for the full sample with the market index during the whole period covered and during the period of up and the down markets. During the whole period no herding behaviours were observed in the Poland market, similarly no herding behaviours were observed during the up and down markets. The relationship was not statically significant as pointed out by the low value of F test. Similarly, in Tanzania no herding behaviours were observed during the whole period and up market though non-significant herding behaviour were observed during the period of down markets. Compare to Poland, the relationship was statically significant during the whole period and during the up and down

The study has observed no significant market herding behaviours both Poland and Tanzania during the whole period and during the up and down markets. In Poland, these results are in coherent with the findings by Angela-Maria et al., (2015) and Filip et al., (2015) who observed no significant herding behaviours in the market and even during the period of the financial crisis. The results contradict the finding by Goodfellow et al., (2009) who observed herding behaviours in the Polish market during the down markets. In Tanzania the results contradict the findings of Komba,

(2016) and Guney et al.,(2017) who observed significant herding behaviours in Tanzania Markets.

Table 1: Regression Results for the full sample during the whole period and Up and Down Markets

	Whole Period		Up Market		Down Market	
	Coefficient	t-Statistics	Coefficient	t-Statistics	Coefficient	t-Statistics
Poland						
β_0	1.8364*	5.75	1.9117*	4.11	1.6354*	4.56
β_1	0.0016	0.02	0.0420	0.18	0.0024	0.01
β_2	-0.0001	-0.08	-0.0002	-0.20	-0.0001	-0.03
R^2		0.0000		0.0001		0.0002
Adj R^2		-0.0016		-0.0024		-0.0046
F test		0.0300		0.0200		0.0500
Prob>F		0.9744		0.9758		0.9534
Tanzania						
β_0	0.1010*	2.72	0.1831*	2.52	0.0229***	1.67
β_1	0.9409*	22.8	0.8717*	10.72	1.0012*	63.34
β_2	0.0042	0.95	0.0085	1.12	-0.0003	-0.12
R^2		0.5682		0.3892	0.9567	
Adj R^2		0.5676		0.3874	0.9565	
F test		838.99		210.62		6747.27
Prob>F		0.0000		0.0000		0.0000

*Source: Regression results for where the equation (1) provide the model for the whole period and (4) and (5) for the up and down market respectively. Note: *, **, and *** denote significant level of 1%, 5% and 10% respectively*.

4.2. Industry Herding Behaviours

Table 2 and 3 present the industry herding behaviours results for the two countries covering the whole period and during the up and down markets. At the industry level the relationship was more statically significant in Poland as compared to in Tanzania. Except for energy, IT and Telecommunication all other industries in Poland had a statistically significant relationship while a non- statistically significant relationship was observed in the two industries in Tanzania. In examining the asymmetric herding behaviours in the Poland industries, a significant herding behaviour were observed during the whole period and during the up and down markets in Banking, Construction, Pharmaceutical and Motor vehicle industries. Only during the whole period and up markets in Chemicals, Cosmetics and telecommunication industries. While herding behaviours were observed during the whole period and down market in the Energy, Food, Media, and Real Estate industry and no herding behaviours were observed in the IT industries. In Tanzania no herding behaviours were observed in the Manufacturing industry, though non-statistically significant herding behaviours were observed in the Banking industry during the whole period and up market. This result

was also rejected by non-existence of statically significant relationship between the dependent and independent variables

Industrial herding behaviours were more prominent in the Polish market than in Tanzania. This is in conformity by the analysis by Shah et al., (2017) and Balcilar and Demirer, (2015) rather than herding towards the market index , investors herd toward their industry's index through observing and imitating the actions of other investors. Compare to the findings of Filip et al.,(2015) who observed no herding behaviours in the Construction, Energy, Pharmaceutical and Hotels industry even during the up and down market. This study in other hand have observed significant herding behaviours in both the Construction and pharmaceutical industries during the whole period and during the up and down markets while only the up market and whole period in the Energy industry.

During the period between January 1, 2014 to December 31,2018 Poland have experienced and increase in herding behaviours in its industries as compare to the period between January 2008 to December 2010. The herding behaviours were also prone to the conditions of the market both during the up and down markets. There was no significant change in market herding as observed between the period January 2008 to December 31, 2013 which confirm the argument of non-existence of herding behaviours in Poland markets

In Tanzania, a decline in herding behaviours were observed during the period between July 16, 2015 to December 31,2018. Within its industries, a strong resilient to herding behaviours were also observed. These can be attributed the broad change in the market in 2015 where it moved from being a non- profit, member-owned to profit making and public-owned. Moreover in 2017, the leading cellular network in the country, Vodacom did its Initial Public Offering with a massive media coverage. These events were accounted for by the investors which lead to a decline in herding behaviours.

Table 2: Regression results for each industry during the all covered period, up and down markets

	β_0	β_1	β_2	R^2	Adj R^2	F test	Prob>F
POLAND							
Banking							
All	0.0897*	0.0204*	-0.0027*	0.6943	0.6938	1405.72	0.0000
	(9.84)	(40.50)	(-24.97)				
Up	0.7800*	0.8023*	-0.0024**	0.7330	0.7323	1121.36	0.0000
	(8.23)	(6.44)	(-2.52)				
Down	1.1081*	0.8159*	-0.0026*	0.6790	0.6774	442.04	0.0000
	(4.86)	(23.86)	(-15.66)				
Chemicals							
All	-0.35000	3.5768*	-0.0266*	0.4997	0.4989	618.32	0.0000
	(-1.54)	(33.47)	(-27.69)				
Up	-1.3630*	4.0384*	-0.0300*	0.5157	0.5147	488.85	0.0000
	(-4.47)	(30.07)	(-25.73)				
Down	1.5175*	-1.7552	0.995*	0.9119	0.9114	1640.99	0.0000
	(22.3)	(-0.61)	(57.34)				
Construction							
All	1.0338*	0.2764*	-0.0006*	0.6641	0.6635	1223.74	0.0000
	(22.0)	(18.54)	(-11.6)				
Up	1.0620*	0.1541*	-0.0002*	0.6157	0.6147	637.69	0.0000
	(18.39)	(8.40)	(-3.6)				
Down	1.1314*	0.4585*	-0.0010*	0.9804	0.9803	10987.31	0.0000
	(52.40)	(66.87)	(-35.86)				
Cosmetics							
All	0.5123*	1.0525*	-0.0042*	0.5305	0.5297	699.37	0.0000
	(5.47)	(29.22)	(-24.45)				
Up	-0.3487*	1.6921*	-0.0070*	0.7202	0.7196	1159.65	0.0000
	(-4.56)	(38.10)	(-35.01)				
Down	1.3284*	-0.0948	0.0036*	0.4652	0.4620	145.27	0.0000
	(5.10)	(-0.26))	(17.01)				
Pharmaceutical							
All	0.5449*	1.8887*	-0.0059*	0.5683	0.5676	815.00	0.0000
	(3.95)	(32.95)	(-28.46)				
Up	0.3253***	1.9327*	-0.0062*	0.5628	0.5619	594.08	0.0000
	(1.76)	(22.44)	(-17.72)				
Down	1.0781*	2.2479*	-0.0071*	0.7108	0.7089	383.37	0.0000
	(10.12)	(25.82)	(-25.06)				
Energy							
All	-0.8704*	3.3458*	-0.0267*	0.6447	0.6441	1123.29	0.0000
	(-4.67)	(29.07)	(-18.88)				
Up	0.9819*	0.1169	-0.0138	0.0028	0.0007	1.32	0.2689
	(15.00)	(1.05)	(-0.41)				
Down	0.9349	4.1907*	-0.0371*	0.7123	0.7104	386.14	0.0000
	(1.53)	(18.44)	(-13.29)				
Food							
All	-0.1969	1.8204*	-0.0093*	0.5096	0.5088	643.29	0.0000
	(-0.72)	(29.59)	(-21.98)				
Up	1.1152*	-0.0532***	0.0026	0.7295	0.7290	1495.29	0.0000
	(22.11)	(-1.77)	(13.69)				
Down	1.1963*	4.2686*	-0.0345*	0.9574	0.9567	1415.29	0.0000
	(3.21)	(50.73)	(-41.57)				

*Source: Regression results for where the equation (1) provide the model for the all period and (4) and (5) for the up and down market respectively. Note: *, **, and *** denote significant level of 1%, 5% and 10% respectively*.

Table 3: Regression results for each industry during the all covered period, up and down markets

	β_0	β_1	β_2	R^2	Adj R^2	F test	Prob>F
POLAND							
IT							
All	1.5438*	-0.0330	0.0002	0.0004	-0.0012	0.23	0.7964
	(13.85)	(-0.66)	(0.67)				
Up	1.5787*	-0.0932	-0.0001	0.0005	-0.0018	0.21	0.8069
	(7.71)	(-0.31)	(0.00)				
Down	1.5795*	-0.0245	0.0001	0.0005	-0.0053	0.09	0.9182
	(6.74)	(-0.4)	(0.41)				
Media							
All	0.9837*	0.5396*	-0.0017*	0.1719	0.1706	128.51	0.0000
	(8.26)	(15.3)	(-12.69)				
Up	1.4312*	-0.7597*	0.2532*	0.8816	0.8813	3397.51	0.0000
	(22.45)	(-11.67)	(55.68)				
Down	1.3416*	0.3699*	-0.0011*	0.1796	0.1745	35.25	0.0000
	(4.49)	(7.64)	(-6.04)				
Motor vehicle							
All	-0.6977**	3.8978*	-0.0232*	0.5608	0.5601	790.31	0.0000
	(-2.43)	(26.60)	(-20.46)				
Up	-1.8349*	4.4847*	-0.0269*	0.5482	0.5472	544.77	0.0000
	(-4.63)	(23.58)	(-18.82)				
Down	1.0881*	3.7725*	-0.0256*	0.9712	0.9710	5679.05	0.0000
	(14.2)	(51.17)	(-39.17)				
Real Estate							
All	1.0673*	0.3548*	-0.0016*	0.1304	0.1290	92.82	0.0000
	(15.65)	(13.16)	(-11.51)				
Up	1.2020*	-0.0063	0.0211*	0.1188	0.1167	56.47	0.0000
	(11.54)	(-0.06)	(5.68)				
Down	1.3100*	0.3348*	-0.0015*	0.2036	0.1996	50.74	0.0000
	(9.62)	(9.67)	(-8.53)				
Telecommunication							
All	0.8836*	1.0816*	-0.0056*	0.1607	0.1594	118.55	0.0000
	(5.62)	(10.58)	(-8.73)				
Up	0.3353*	1.2962*	0.0069*	0.5836	0.5826	569.78	0.0000
	(3.45)	(24.40)	(-20.81)				
Down	1.6444	-0.3565	0.0188	0.0001	-0.0047	0.01	0.9880
	(4.20)	(-0.09)	(0.07)				
TANZANIA							
Banking							
All	0.8445*	0.0144	-0.0003	0.0002	-0.0013	0.14	0.8672
	(25.46)	(0.44)	(-0.26)				
Up	0.8995*	0.0006	-0.0004	0.0008	-0.0042	0.16	0.8482
	(13.55)	(0.01)	(-0.24)				
Down	0.8272*	0.0052	0.0006	0.0013	-0.0009	0.58	0.5583
	(21.61)	(0.11)	(0.37)				
Manufacturing							
All	0.8742*	0.0039	0.0244	0.0074	0.0059	4.78	0.0086
	(17.21)	(0.04)	(1.39)				
Up	0.7551*	0.1037	0.0083	0.0285	0.0231	5.20	0.0059
	(8.41)	(0.93)	(0.46)				
Down	0.9040*	-0.0519	0.0428	0.0048	0.0026	2.22	0.1097
	14.87	(-0.33)	(1.26)				

*Source: Regression results for where the equation (1) provide the model for the all period and (4) and (5) for the up and down market respectively. Note: *, **, and *** denote significant level of 1%, 5% and 10% respectively.*

5. Conclusion

This study aimed at providing the most recent evidence of herding behaviours in the Poland and Tanzania Markets. While in Poland the findings regarding herding behaviours are mixed, on the other hand consistent herding behaviours have been observed in the Tanzania markets. The study follows the approach of Chang et al.,(2000) and that of Vo and Phan, (2017) to test the existence of herding behaviours in the two markets.

In Poland, the findings have shown herding behaviours to be rather persistent towards the industry rather than the market and they occur also during the up a down market. In examining the asymmetrical herding behaviours in the industries of banking, Motor vehicle, construction and pharmaceutical industries a significant herding behaviour during both up and down markets was observed. They investors in these industry trade in the market irrespective of whether the market is up or down. In Chemicals, Cosmetics and Telecommunication industries significant herding behaviours were observed during the up market. The investors opted to trade their share as their price increases while in that of Construction, Energy, Food, Media and Real estate the investor get rid of the share when their prices go down. The down market can be explained by the need of the investors to get rid of the loosing stock. On the other hand, no herding behaviours were observed in Tanzania during both the up and down markets and within the industries

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