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Investigation of stock price Herding in Tehran Stock Exchange

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EXTENDED ABSTRACT

INTRODUCTION

Although herding behavior is mainly defined on the basis of imitation and repetition in existing theories, it is difficult to provide a mathematical model which is able to identify this phenomenon.

METHODOLOGY

Therefore, in this paper, using the Monte Carlo method and stock price data of Tehran Stock Exchange and OTC companies, during the years 2011 to 2019, the herding behavior among the sample companies is investigated. Given that the Iranian capital market is facing the phenomenon of closure, and this can affect the values of price herding, the results are examined with the New York Stock Exchange as a market developed.

FINDINGS

The first finding indicates the presence of herding behavior in 29.6% of possible cases in the sample. The second finding indicates the presence of herding at an average of 4.07%. The third finding reflects the increase in the amount of herding along with the increase in absolute return, which shows that as the stock prices change, the values of herding also increases.

Also, the results show that the herding behaves almost symmetrically with increasing the absolute amount of stock returns, the amount of herding behavior is first decreasing and then increasing. Accordingly, when price change are slight, the amount of herding is small; But with drastic increases,

the average herding behavior also becomes positive and upwards, reaching 16%. This means that as the price of one stock rises, the prices of other stocks also tend to rise, and the sharper the price increase, the greater the amount of imitation of price behavior. A similar trend is observed when prices fall. As prices fall and negative returns intensify, the average rate of herding behavior also increases, and the higher the decline in prices, the higher the rate of herding behavior. As a result, the higher the absolute amount of price return, the greater the amount of herding behavior.

The fourth finding of the study indicates the possibility of a relationship between the herding and trading volume. To examine this relationship in the face of a sharp increase in the volume and number of trades, price data are classified into 20 groups based on the number and volume of trades. Then the amount of herding behavior of each group was calculated. The results show that the relationship between both indices of trading and herding is positive and significant and with a sharp increase in the number or volume of trades, herding measure approaches its maximum value. Similar results on the New York Stock Exchange are described below.

CONCLUSION

Evidence of herding behavior in the New York Stock Exchange also shows that this phenomenon occurs almost twice as much as in the Iranian capital market. Faster and more coordinated dissemination of news and faster reactions to them in NYSE can be the main reasons for this. These results are consistent with a study by Hwang and Salmon (2004) in which the amount of herding behavior in the US market was higher than the South Korean stock exchange. It seems that due to the less trading halts in NYSE, the significant values of price herding in that market mean that the values obtained for the Tehran market are probably not affected by the trading halts and the results can be reliable.

Reference

- Alda, M. (2018). Do the most skillful managers herd? *Journal of Pension Economics & Finance*, 17(4), 488-512.
- Arjoon, V., & Bhatnagar, C. S. (2017). Dynamic herding analysis in a frontier market. *Research in International Business and Finance*, 42, 496-508.
- Babajani, J., Ebadi, J., Moradi, N. (2014). Investigating collective behavior in joint investment funds in Tehran Stock Exchange, *Financial*

- Accounting Empirical Studies, 12(47), 47-71 .
doi: 10.22054/QJMA.2015.2536 [in Persian].
- Babalos, V., Balcilar, M., & Gupta, R. (2015). Herding behavior in real estate markets: novel evidence from a Markov-switching model. *Journal of Behavioral and Experimental Finance*, 8, 40-43.
- Banerjee, A. V. (1992). A simple model of herd behavior. *The quarterly journal of economics*, 107(3), 797-817.
- Barberis, N., & Shleifer, A. (2003). Style investing. *Journal of financial Economics*, 68(2), 161-199.
- Bellando, R. (2010). Measuring herding intensity: a hard task. Available at SSRN 1622700.
- Bikhchandani, S., Hirshleifer, D., & Welch, I. (1992). A theory of fads, fashion, custom, and cultural change as informational cascades. *Journal of political Economy*, 100(5), 992-1026.
- Bikhchandani, S., Hirshleifer, D., & Welch, I. (1998). Learning from the behavior of others: Conformity, fads, and informational cascades. *Journal of economic perspectives*, 12(3), 151-170.
- Bikhchandani, S., & Sharma, S. (2000). Herd behavior in financial markets. *IMF Staff papers*, 47(3), 279-310.
- Bohl, M. T., Branger, N., & Trede, M. (2017). The case for herding is stronger than you think. *Journal of Banking & Finance*, 85, 30-40.
- Chamley, C. (2004). *Rational herds: Economic models of social learning*. Cambridge University Press.
- Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. *Journal of Banking & Finance*, 24(10), 1651-1679.
- Chen, J.-J., Tan, L., & Zheng, B. (2015). Agent-based model with multi-level herding for complex financial systems. *Scientific Reports*, 5(1), 8399.
- Chen, T. (2013). Do investors herd in global stock markets? *Journal of Behavioral Finance*, 14(3), 230-239.
- Chiang, T. C., Li, J., Tan, L., & Nelling, E. (2013). Dynamic herding behavior in Pacific-Basin markets: Evidence and implications. *Multinational Finance Journal*, 17(3/4), 165-200.
- Chiang, T. C., & Zheng, D. (2010). An empirical analysis of herd behavior in global stock markets. *Journal of Banking & Finance*, 34(8), 1911-1921.
- Christie, W. G., & Huang, R. D. (1995). Following the pied piper: do individual returns herd around the market? *Financial Analysts Journal*, 51(4), 31-37.

- Clement, M. B., & Tse, S. Y. (2005). Financial analyst characteristics and herding behavior in forecasting. *The Journal of finance*, 60(1), 307-341.
- Costantini, D., Donadio, S., Garibaldi, U., & Viarengo, P. (2005). Herding and clustering: Ewens vs. Simon–Yule models. *Physica A: Statistical Mechanics and its Applications*, 355(1), 224-231.
- Demirer, R., & Zhang, H. (2019). Do firm characteristics matter in explaining the herding effect on returns? *Review of Financial Economics*, 37(2), 256-271.
- Dmouj, A. (2006). Stock price modelling: Theory and Practice. Masters Degree Thesis, Vrije Universiteit.
- Eslami Bidgoli, Gh., & Shahriari, S. (2008). Investigating and testing the collective behavior of investors using the deviations of stock returns from the total market return in Tehran Stock Exchange during the years 2004 to 2006. *Accounting and Auditing Review*, 14(30) [in Persian].
- Fagiolo, G., Guerini, M., Lamperti, F., Moneta, A., & Roventini, A. (2019). Validation of agent-based models in economics and finance. *Computer simulation validation: fundamental concepts, methodological frameworks, and philosophical perspectives*, 763-787.
- Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1992). Herd on the street: Informational inefficiencies in a market with short-term speculation. *The Journal of finance*, 47(4), 1461-1484.
- Galariotis, E. C., Rong, W., & Spyrou, S. I. (2015). Herding on fundamental information: A comparative study. *Journal of Banking & Finance*, 50, 589-598.
- Gompers, P. A., & Metrick, A. (2001). Institutional investors and equity prices. *The quarterly journal of economics*, 116(1), 229-259.
- Graham, J. R. (1999). Herding among investment newsletters: Theory and evidence. *The Journal of finance*, 54(1), 237-268.
- Hazem, K., & Mhamed-Ali, E.-A. (2018). Artificial stock markets with different maturity levels: simulation of information asymmetry and herd behavior using agent-based and network models. *Journal of Economic Interaction and Coordination*, 13(3), 511-535. <https://doi.org/10.1007/s11403-017-0191-6> (Journal of Economic Interaction and Coordination)
- Hirshleifer, D., Subrahmanyam, A., & Titman, S. (1994). Security analysis and trading patterns when some investors receive information before others. *The Journal of finance*, 49(5), 1665-1698.

- Hwang, S., Rubesam, A., & Salmon, M. (2021). Beta herding through overconfidence: A behavioral explanation of the low-beta anomaly. *Journal of International Money and Finance*, 111, 102318.
- Hwang, S., & Salmon, M. (2004). Market stress and herding. *Journal of Empirical Finance*, 11(4), 585-616.
- Izadi, M., Shakeri Hosein Abad, A., Milani, M., & Mohammadi, T. (2023). The Formation of Bubble Price in the Stock Market and Its effect on the Iran Business Cycles. *Quarterly Journal of Quantitative Economics*, 20(2), 72-99. doi: 10.22055/jqe.2021.37190.2371
- Jiang, H., & Verardo, M. (2018). Does herding behavior reveal skill? An analysis of mutual fund performance. *The Journal of finance*, 73(5), 2229-2269.
- Jlassi, M., & Bensaïda, A. (2014). Herding behavior and trading volume: Evidence from the American indexes. *International Review of Management and Business Research*, 3(2), 705-722.
- Júnior, G. d. S. R., Palazzi, R. B., Klotzle, M. C., & Pinto, A. C. F. (2020). Analyzing herding behavior in commodities markets – an empirical approach. *Finance Research Letters*, 35(C). <https://doi.org/10.1016/j.frl.2019.08.033> (Finance Research Letters)
- Kobari, M., Fadaeinejad, M., Asadi, G. H., & Hamidizadeh, M. (2016). Herd Behavioral in Tehran Stock Exchange Based on Market Microstructure (case study:Mokhaberat Company). *Financial Research Journal*, 18(3), 519-540. doi: 10.22059/jfr.2016.62454 [in Persian].
- Lakonishok, J., Shleifer, A., & Vishny, R. W. (1992). The impact of institutional trading on stock prices. *Journal of financial Economics*, 32(1), 23-43.
- Lan, Q. Q., & Lai, R. N. (2011). Herding and trading volume. Available at SSRN 1914208.
- Lee, K. (2017). Herd behavior of the overall market: Evidence based on the cross-sectional comovement of returns. *The North American Journal of Economics and Finance*, 42, 266-284.
- Li, Y., Liu, F., Fan, W., Lim, E. T., & Liu, Y. (2018). Early Winner Takes All: Exploring the Impact of Initial Herd on Overfunding in Crowdfunding Context.
- Litimi, H. (2017). Herd behavior in the French stock market. *Review of Accounting and Finance*, 16(4), 497-515.
- Litimi, H., BenSaïda, A., & Bouraoui, O. (2016). Herding and excessive risk in the American stock market: A sectoral analysis. *Research in International Business and Finance*, 38, 6-21.

- Mergner, S., & Bulla, J. (2008). Time-varying beta risk of Pan-European industry portfolios: A comparison of alternative modeling techniques. *The European Journal of Finance*, 14(8), 771-802.
- Nofsinger, J. R., & Sias, R. W. (1999). Herding and feedback trading by institutional and individual investors. *The Journal of finance*, 54(6), 2263-2295.
- Park, A., & Sgroggi, D. (2012). Herding, contrarianism and delay in financial market trading. *European Economic Review*, 56(6), 1020-1037.
- Peter Chung, Y., & Thomas Kim, S. (2017). Extreme returns and herding of trade imbalances. *Review of Finance*, 21(6), 2379-2399.
- Pourzmani, Z. (2011). Appraising the Herding Behavior on Institutional Investors with Christie and Huang Model in Tehran Stock Exchange, *Investment knowledge*, (1)3, 147-16 [in Persian].
- Puckett, A., & Yan, X. (2007). The determinants and impact of short-term institutional herding.
- Raafat, R. M., Chater, N., & Frith, C. (2009). Herding in humans. *Trends in cognitive sciences*, 13(10), 420-428.
- Rezagholizadeh, M., elmi, Z., & mohammadi majd, S. (2023). The Effect of Financial Stress on the Stock Return of Accepted Industries in Tehran Stock Exchange. *Quarterly Journal of Quantitative Economics*, 20(1), 32-73. doi: 10.22055/jqe.2021.35405.2284
- Sharma, V. (2004). Two essays on herding in financial markets. Virginia Polytechnic Institute and State University.
- Shen, C. (2018). Testing for herding behaviour among energy sectors in Chinese stock exchange. *Journal of Physics: Conference Series*,
- Shiller, R. J., Fischer, S., & Friedman, B. M. (1984). Stock prices and social dynamics. *Brookings papers on economic activity*, 1984(2), 457-510.
- Spyrou, S. (2013). Herding in financial markets: a review of the literature. *Review of Behavioral Finance*, 5(2), 175-194.
- Stavroyiannis, S., Babalos, V., Bekiros, S., & Lahmiri, S. (2019). Is anti-herding behavior spurious? *Finance Research Letters*, 29, 379-383.
- Tan, L., Chiang, T. C., Mason, J. R., & Nelling, E. (2008). Herding behavior in Chinese stock markets: An examination of A and B shares. *Pacific-Basin finance journal*, 16(1-2), 61-77.
- Trueman, B. (1994). Analyst Forecasts and Herding Behavior. *The Review of Financial Studies*, 7(1), 97-124. <https://doi.org/10.1093/rfs/7.1.97>
- Vidal-Tomás, D., Ibáñez, A. M., & Farinós, J. E. (2019). Herding in the cryptocurrency market: CSSD and CSAD approaches. *Finance Research Letters*, 30, 181-186.

- Vieito, J. P., Espinosa, C., Wong, W.-K., Batmunkh, M.-U., Choijil, E., & Hussien, M. (2023). Herding behavior in integrated financial markets: the case of MILA. *International Journal of Emerging Markets*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/IJOEM-08-2021-1202>
- Walter, A., & Moritz Weber, F. (2006). Herding in the German mutual fund industry. *European Financial Management*, 12(3), 375-406.
- Welch, I. (1992). Sequential sales, learning, and cascades. *The Journal of finance*, 47(2), 695-732.
- Welch, I. (2000). Herding among security analysts. *Journal of financial Economics*, 58(3), 369-396.
- Wermers, R. (1999). Mutual fund herding and the impact on stock prices. *The Journal of finance*, 54(2), 581-622.
- Wray, C. M., & Bishop, S. R. (2016). A financial market model incorporating herd behaviour. *PloS one*, 11(3), e0151790.
- Xie, T., Xu, Y., & Zhang, X. (2015). A new method of measuring herding in stock market and its empirical results in Chinese A-share market. *International Review of Economics & Finance*, 37, 324-339.
- Yao, J., Ma, C., & He, W. P. (2014). Investor herding behaviour of Chinese stock market. *International Review of Economics & Finance*, 29, 12-29.
- Zhou, G. (2018). Measuring investor sentiment. *Annual Review of Financial Economics*, 10, 239-259.