

Does Overconfidence Bias Exist in the Indian Stock Market? An Empirical Investigation¹

MD QAMAR AZAM*
MIRZA ALLIM BAIG**

Abstract

The paper explores the existence of overconfidence bias in the Indian Stock Market. An empirical analysis is conducted in a VAR environment, following the methodology given by Statman et al. (2006). The study uses daily data for the period 1st January 2001 to 30th June 2020. The results show that the impact of past market return on current turnover in the market is significant. The study indicates that Indian investors are ill-informed about any market return movement and market turnover. This suggests that investors are overconfident in the Indian Stock Market. The market volatility used as the measure for market risk impacts market turnover significantly. The granger causality result shows that there is bi-directional causality between exchange rate and market return. The findings may help investors' / researcher to formulate a new behavioural concept to reduce overconfidence bias, and hence reducing investors' losses in the stock market.

JEL Code : C32, D53, G40, G41,

Keywords : Overconfidence Bias; VAR Model; Stock Market; India

I. Introduction

THE INFLUENCE OF psychology on financial decision-making is not new to the area of research in economics. Keynes, along-with neo-classical economists, also wrote about the influence of psychology on economic decision making. However in 1990s, a renewed interest developed in study of behavioural economics in general and behavioural finance in particular. In study of behavioural finance, behavioural biases are the essence of the discipline. Presence of behavioural biases among the traders in stock market results in suboptimal decisions (Chordia, Roll and Subrahmanyam, 2002; Chen, 2012).

1 Presented at IPE Conference under MoU signed with IPE, Osmania University (India) in 2021

* Doctoral (Ph.D.) Research Scholar, Jamia Millia Islamia, Department of Economics, Mohammad Ali Jauhar Marg, Jamia Nagar, Delhi 110025, INDIA.

** Professor, Jamia Millia Islamia, Department of Economics, Mohammad Ali Jauhar Marg, Jamia Nagar, Delhi 110025, INDIA.

It may be inferred from the study that Indian investors are perhaps not fully informed about the movement in return and volume. As a result, they might be making ill-informed investment decisions. The investors within the market are proven to be overconfident, as past market return affect the current turnover, indicating some degree of market inefficiency. Usually, the overconfident investors trade more aggressively in the market. Therefore, players in India's stock market may restrain themselves from overconfidence bias to avoid risk in the market. The regulatory authorities, like Securities Exchange Board of India (SEBI) may be guided to play role in educating investors to manage their decisions particularly during the crisis period and help investors avoiding potentially high risk in the stock market. However, the study can be extended with redefining overconfidence bias; using other control variables like interest rates, Gross Domestic Product (GDP), and Economic Policy Uncertainty Index (EPU); and using high frequency data for further research.

References

- Agarwal, J.D. and Aman Agarwal, (2004), "*Literature in Finance Vol IV : Financial Systems and Markets*", IIF Publications, Delhi
- Ashraf, S. and M.A. Baig, (2015), "Investment and Trading Strategies in Indian Stock Market", *International Journal of Arts and Commerce*, Vol. 4, No. 3, pp. 1-15.
- Ashraf, S. and M.A. Baig, (2019), "Is the Indian Stock Market Efficiently Inefficient? An Empirical Investigation", *Indian Journal of Finance*, Vol. 13, No. 7, pp. 7-28.
- Barber, B.M. and T. Odean, (2001), "Boys will be Boys: Gender, Overconfidence, and Common Stock Investment", *The Quarterly Journal of Economics*, Vol. 116, No. 1, pp. 261-292.
- Baker, H. K., S. Kumar, N. Goyal and V. Gaur, (2019), "How Financial Literacy and Demographic Variables Relate to Behavioral Biases", *Managerial Finance*, Vol. 45, No. 1, pp. 146-168.
- Chen, S.S., (2012), "Revisiting the Empirical Linkages between Stock Returns and Trading Volume", *Journal of Banking and Finance*, Vol. 36, No. 6, pp. 1781-1788.
- Chhapra, I. U., M. Kashif, R. Rehan and A. Bai, (2018), "An Empirical Investigation of Investor's Behavioral Biases on Financial Decision Making", *Asian Journal of Empirical Research*, Vol. 8, No. 3, pp. 99-109.
- Chittedi, K. R., (2011), "Dynamic Relationship Between Exchange Rates and Stock Prices: Empirical Evidence From India", *Journal of Applied Research in Finance*, Vol. 3 No. 6, pp. 162-169.
- Chordia, T., R. Roll and A. Subrahmanyam, (2002), "Order Imbalance, Liquidity, and Market Returns", *Journal of Financial Economics*, Vol. 65, No. 1, pp. 111-130.
- Chuang, W. I. and B.S. Lee, (2006), "An Empirical Evaluation of the Overconfidence Hypothesis", *Journal of Banking and Finance*, Vol. 30, No. 9, pp. 2489-2515.
- Chuang, W.I. and R. Susmel, (2011), "Who is the More Overconfident Trader? Individual vs. Institutional Investors", *Journal of Banking and Finance*, Vol. 35, No. 7, pp. 1626-1644.

Constantinos, K., L.A. Ektor and M. Dimitrios, (2010), "Oil Price and Stock Market Linkages in a Small and Oil Dependent Economy: The Case of Greece", *Journal of Applied Business Research*, Vol. 26, No. 4, pp. 55-64.

Daniel, K., D. Hirshleifer and A. Subrahmanyam, (1998), "Investor Psychology and Security Market Under- and Overreactions", *Journal of Finance*, Vol. 53, No. 6, pp. 1839-1885.

Daniel, K., D. Hirshleifer and A. Subrahmanyam, (2001), "Overconfidence, Arbitrage and Equilibrium Asset Pricing", *Journal of Finance*, Vol. 56, No. 3, pp. 921-965.

Daniel, K. and D. Hirshleifer, (2015), "Overconfident Investors, Predictable Returns, and Excessive Trading", *Journal of Economic Perspectives*, Vol. 29, No. 4, pp. 61-88.

De Bondt, W.F. and R. Thaler, (1985), "Does the Stock Market Overreact?", *The Journal of Finance*, Vol. 40, No. 3, pp. 793-805.

Duxbury, D., (2015), "Behavioral finance: Insights from Experiments II: Biases, Moods and Emotions", *Review of Behavioral Finance*, Vol. 7, No. 2, pp. 151-175.

Gervais, S. and T. Odean, (2001), "Learning to be Overconfident", *Review of Financial Studies*, Vol. 14, No. 1, pp. 1-27.

Glaser, M. and M. Weber, (2007), "Overconfidence and Trading Volume", *The Geneva Risk and Insurance Review*, Vol. 32, No. 1, pp. 1-36.

Glaser, M. and M. Weber, (2009), "Which Past Returns Affect Trading Volume?", *Journal of Financial Markets*, Vol. 12, No. 1, pp. 1-31.

GOI-MoF, (2019), "Economic Survey", Ministry of Finance, Department of Economic Affairs, Government of India, Delhi, India, Vol. I.

Griffin, J. M., F. Nardari and R.M. Stulz, (2007), "Do Investors Trade More when Stocks have Performed Well? Evidence from 46 Countries", *Review of Financial Studies*, Vol. 20, No. 3, pp. 905-951.

Gupta, S., V. Goyal, V. K. Kalakbandi and S. Basu, (2018), "Overconfidence, Trading Volume and Liquidity Effect in Asia's Giants: Evidence from Pre-, During- and Post-global Recession", *Decision*, Vol. 45, No. 3, pp. 235-257.

Hamilton, J.D., (1994), "Time Series Analysis", Princeton University Press, New Jersey, USA.

Hsu, Y. and C.Y. Shiu, (2010), "The Overconfidence of Investors in the Primary Market", *Pacific-Basin Finance Journal*, Vol. 18, No. 2, pp. 217-239.

Ho, C.M., (2011), "Does overconfidence harm individual investors? An empirical analysis of the Taiwanese market", *Asia Pacific Journal of Financial Studies*, Vol. 40, No. 2, pp. 658-682.

Jlassi, M., K. Naoui and W. Mansour, (2014), "Overconfidence Behavior and Dynamic Market Volatility: Evidence from International Data", *Procedia Economics and Finance*, Vol. 13, pp. 128-142.

Karpoff, J. M., (1987), "The Relation Between Price Changes and Trading Volume: A Survey", *The Journal of Financial and Quantitative Analysis*, Vol. 22, No. 1, pp. 109-126.

Kim, K.A. and J.R. Nofsinger, (2007), "The Behavior of Japanese Individual Investors During Bull and Bear Markets", *Journal of Behavioral Finance*, Vol. 8, No. 3, pp. 138-153.

- Kinari, Y., (2016), "Properties of Expectation Biases: Optimism and Overconfidence", *Journal of Behavioral and Experimental Finance*, Vol. 10, pp. 32-49.
- Kumar, M., (2010), "A Time-Varying Parameter Vector Autoregression Model for Forecasting Emerging Market Exchange Rates", *International Journal of Economic Sciences and Applied Research*, Vol. III, No. 2, pp. 21-39.
- Kumar, S., (2019), "The Relationship between Trading Volume and Exchange Rate Volatility: Linear or Nonlinear?", *International Journal of Managerial Finance*, Vol. 15, No. 1, pp. 19-38.
- Kourtidis, D., Z. Sevic and P. Chatzoglou, (2015), "Overconfidence and Stock Returns: A Behavioural Perspective", *International Journal of Behavioural Accounting and Finance*, Vol. 5, No. 1, pp. 57-81.
- Kurihara, Y., (2006), "Relationship between Exchange Rate and Stock Prices during Quantitative Easing Policy in Japan", *International Journal of Business*, Vol. 11, No. 4, pp. 29-39.
- Lee, J.W., Yates, F.J., Sninotsuka, H., Singh, R., Onglatcc, M.L., Yen, N., Gupta, M., Bhatnagar, D., (1995), "Cross-national differences in Overconfidence", *Asian Journal of Social Psychology*, Vol. 1, pp. 63-69.
- Liu, H.H., W.I. Chuang, J.J. Huang and Y.H. Chen, (2016), "The Overconfident Trading Behavior of Individual versus Institutional investors", *International Review of Economics & Finance*, Vol. 45, pp. 518-539.
- Lin, X. and L. Zhang, (2013), "The Investment Manifesto", *Journal of Monetary Economics*, Vol. 60, No. 3, pp. 351-366.
- Lo, A.W. and J. Wang, (2000), "Trading Volume: Definitions, Data Analysis, and Implications of Portfolio Theory", *The Review of Financial Studies*, Vol. 13, No. 2, pp. 257-300.
- Lütkepohl, H. and D.S. Poskitt, (1991), "Estimating Orthogonal Impulse Responses via Vector Autoregressive Models", *Econometric Theory*, Vol. 7, No. 4, pp. 487-496.
- Maysami, R.C. and T.S. Koh, (2000), "A Vector Error Correction Model of the Singapore Stock Market", *International Review of Economics & Finance*, Vol. 9, No. 1, pp. 79-96.
- Merkle, C., (2017), "Financial Overconfidence over Time: Foresight, Hindsight, and insight of Investors", *Journal of Banking & Finance*, Vol. 84, pp. 68-87.
- Metwally, A. and O. Darwish, (2015), "Evidence of the Overconfidence Bias in the Egyptian Stock Market in Different Market States", *The Business and Management Review*, Vol. 6, No. 4, pp. 178-198.
- Mushinada, V.N.C. and V.S.S. Veluri, (2018), "Investors Overconfidence Behaviour at Bombay Stock Exchange", *International Journal of Managerial Finance*, Vol. 14, No. 5, pp. 613-632.
- Mushinada, V.N.C. and V.S.S. Veluri, (2020), "Self-attribution, Overconfidence and Dynamic Market Volatility in Indian stock market", *Global Business Review*, Vol. 21, No. 4, pp. 970-989.
- Odean, T., (1998), "Volume, Volatility, Price and Profit when all Traders are above Average", *Journal of Finance*, Vol. 53, No. 6, pp. 1887-1934.
- Pan, M.S., R.C.W. Fok and Y.A. Liu, (2007), "Dynamic Linkages between Exchange Rates and Stock Prices: Evidence from East Asian Markets", *International Review of Economics & Finance*, Vol. 16, No. 4, pp. 503-520.

Phan, D.T.T., V.H.T. Le and T.T. Nguyen, (2020), "Overconfidence Bias, Comparative Evidences between Vietnam and Selected ASEAN Countries", *Journal of Asian Finance, Economics, and Business*, Vol. 7, No. 3, pp. 101-113.

Prosad, J.M., S. Kapoor, J. Sengupta and S. Roychoudhary, (2018), "Overconfidence and Disposition Effect in Indian Equity Market: An Empirical Evidence", *Global Business Review*, Vol. 19, No. 5, pp. 1303-1321.

Rahman, M.L. and J. Uddin, (2009), "Dynamic Relationship between Stock Prices and Exchange Rates: Evidence from Three South Asian Countries", *International Business Research*, Vol. 2, No. 2, pp. 167-174.

Rasheed, S., Q.B. Baloch and Y. Raheem, (2014), "Effect of Exchange Rate on Shares Turnover of Karachi Stock Exchange", *Abasyn University Journal of Social Sciences*, Vol. 7, No. 2, pp. 229-240.

Shah, M.D., (2020), "Impact of Behavioral Aspects in Mergers and Acquisitions: An Overview", *Finance India*, Vol. 34, No. 1, pp. 127-140.

Statman, M., S. Thorley and K. Vorkink, (2006), "Investor Overconfidence and Trading Volume", *Review of Financial Studies*, Vol. 19, No. 4, pp. 1531-1565.

Tekce, B. and N. Yılmaz, (2015), "Are Individual Stock Investors Overconfident?" ,Evidence from an Emerging Market, *Journal of Behavioral and Experimental Finance*, Vol. 5, pp. 35-45.

Trivers, R., (1991), "Deceit and Self-deception: The Relationship between Communication and Consciousness Man and Beast Revisited", SSRN Network, pp. 175-191.

Yang, X. and L. Zhu, (2016), "Ambiguity vs Risk: An Experimental Study of Overconfidence, Gender and Trading Activity", *Journal of Behavioral and Experimental Finance*, Vol. 9, pp. 125-131.

Yates, J.F., J.W. Lee and J.G. Bush, (1997), "General Knowledge Overconfidence: Crossnational Variations, Response Style, and Reality", *Organizational Behavior and Human Decision Processes*, Vol. 70, No. 2, pp. 87-94.

Yates, J. F., J.W. Lee, H. Shinotsuka, A.L. Patalano and W.R. Sieck, (1998), "Cross-cultural Variations in Probability Judgment Accuracy: Beyond General Knowledge Overconfidence"?, *Organizational Behavior and Human Decision Processes*, Vol. 74, No. 2, pp. 89-117.

Yilmaz, N., (2015), "The Effect of CEO Overconfidence on Product Market Performance. *International Journal of Applied Behavioral Economics*, Vol. 4, No. 1, pp. 1-19.

Zaiane, S., (2013), "Overconfidence, Trading Volume and the Disposition Effect: Evidence from the Shenzhen Stock Market of China", *Issues in Business Management and Economics*, Vol. 1, No. 7, pp. 163-175.

Zaiane, S. and E. Abaoub, (2009), "Investor Overconfidence and Trading Volume: The Case of an Emergent Market", *International Review of Business Research Papers*, Vol. 5, No. 2, pp. 213-222.

Zhang, X., J. Liang and F. He, (2019), "Private Information Advantage or Overconfidence?", Performance of Intraday Arbitrage Speculators in the Chinese Stock Market", *Pacific-Basin Finance Journal*, Vol. 58, pp. 101215.

Zia, L., M.I. Sindhu and S. Hashmi, (2017), "Testing Overconfidence Bias in Pakistani Stock Market", *Cogent Economics and Finance*, Vol. 5, No. 1, pp. 1-8