

# State-Level Determinants of Venture Capital Investments in India : An Econometric Analysis

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## Abstract

Despite being one of the top three startup industries globally, the Indian startup sector has been facing the grave challenge of a lack of finance, which is thwarting the industry from reaching its potential. Venture capital investments solve this problem of financial crunch and enable these startups to attain growth and scalability. Consequently, it becomes imperative to analyze and study factors that attract venture capital investment in a particular country. At present, no study has examined factors impacting venture capital investments in the context of the Indian states. Building on the scanty literature, the study attempts to empirically determine the state-level determinants that impact venture capital investments in startups in India. Using the two-step System Generalised Method of Moments (GMM) on panel data of 18 states from 2009 to 2023, the study has critically analysed the impact of select state-specific variables on venture capital investments.

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**JEL Code :** C1; G24; J8; L78

**Keywords :** Venture Capital; Investments; Startup; GMM; India

## I. Introduction

VCs HAVE TODAY become synonymous with high-risk, high-reward investments in nascent industries, fostering groundbreaking advancements. Venture capital (VC) has emerged as a linchpin of global economic transformation, enabling high-risk startups to commercialise disruptive technologies and scale rapidly. Traditional lenders, such as banks, often shy away from funding startups due to information asymmetry and lack of collateral. VC firms bridge this gap by combining risk capital with mentorship, governance oversight, and industry networks. The true significance of VC lies not merely in capital provision but in its multiplier effects: job creation, technological spillovers, and macroeconomic dynamism.

Countries that supported the expansion of the venture capital industry pioneered the creation of startup businesses, which enhanced innovative

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The study has significant social contributions as well. By pinpointing specific regional drivers-such as infrastructure and institutional quality-the study can significantly advance more equitable economic growth, providing a clear roadmap for currently underserved states to attract vital investment. This focused approach can stimulate diverse, local innovation directly addressing community-specific challenges and create widespread, quality employment opportunities, particularly for the youth, thereby improving livelihoods and fostering inclusive development. By highlighting pathways to increase funding, the study can assist in the formulation of more effective, nuanced regional strategies ensuring efficient public resource allocation. While this study holds immense promise for positive change, realising its full societal benefit requires careful application of its findings to guide holistic and regionally balanced interventions-supported by policymakers-that promote equitable opportunities amongst states, empower local communities, and improve livelihoods, thereby fostering truly balanced progress across all regions.

This study has explored the key factors influencing VC investments at the sub-national level in India. Given the critical role of VC in startup financing and growth, future research could expand this analysis to other regions and over extended time periods to provide broader insights and comparative perspectives. Studies can also include a wider range of variables to test, such as the fiscal deficit of the state for analysis. Additionally, a valuable direction for further study would be examining sector-specific determinants of VC investments, which could offer important guidance for shaping targeted sectoral VC policies.

Non-technical summary statement: Economic growth, Past VC activities, Financial development, Infrastructure level, and Institutional quality positively influence the current year's VC investments.

### References

Arellano, M. and S. Bond, (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *The Review of Economic Studies*, Vol. 58, No. 2, pp. 277-297.

Arellano, M. and O. Bover, (1995), "Another look at the instrumental variable estimation of error-components models", *Journal of Econometrics*, Vol. 68, No. 1, pp. 29-51.

Bernoth, K. and R. Colavecchio, (2014), "The macroeconomic determinants of private equity investment: A European comparison", *Applied Economics*, Vol. 46, No. 11, pp. 1170-1183.

Blundell, R. and S. Bond, (1998), "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics*, Vol. 87, No. 1, pp. 115-143.

Boateng, E., P. Owusu Junior, J.G. Gatsi, A.M. Anokye, M.J. Abeka, and E. Asafo-Adjei, (2024), "Institutions and venture capital market development in Sub-Saharan Africa", *Journal of International Development*, Vol. 36, No. 2, pp. 1381-1406.

Bonini, S. and S. Alkan, (2012), "The political and legal determinants of venture capital investments around the world", *Small Business Economics*, Vol. 39, No. 4, pp. 997-1016.

Bottazzi, L., M. Da Rin, and T. Hellmann, (2016), "The importance of trust for investment: Evidence from venture capital", *Review of Financial Studies*, Vol. 29, No. 9, pp. 2283-2318.

Cavallo, A., A. Ghezzi, and R. Balocco, (2019), "Entrepreneurial ecosystem research: Present debates and future directions", *International Entrepreneurship and Management Journal*, Vol. 15, No. 4, pp. 1291-1321.

Cheng, C., Y. Hua, and D. Tan, (2019), "Spatial dynamics and determinants of sustainable finance: Evidence from venture capital investment in China", *Journal of Cleaner Production*, Vol. 232, pp. 1148-1157.

Cumming, D.J., S. Kumar, W.M. Lim, and N.K. Pandey, (2022), "Mapping the venture capital and private equity research: A bibliometric review and future research agenda", *Small Business Economics*, Vol. 61, pp. 173-221.

Dalal, A., (2022), "Meta-analysis of determinants of venture capital activity", *Entrepreneurial Business and Economics Review*, Vol. 10, No. 1, pp. 113-128.

DIPP, (2019), "States' startup ranking 2019", Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Government of India. Delhi, India, September 2019, pp. 121-124.

Dossani, R. and M. Kenney, (2002), "Creating an environment for venture capital in India", *World Development*, Vol. 30, No. 2, pp. 227-253.

Du, D., J. Wang, and J. Li, (2024), "What drives intercity venture capital investment? A comparative analysis between multiple linear regression and random forest", *Humanities and Social Sciences Communications*, Vol. 11, No. 1, pp. 1-13.

Erdogan, S., T. Kantarci, and D.Ç. Yildirim, (2023), "Does economic policy uncertainty affect venture capital investments for OECD countries?", *Venture Capital*, Vol. 25, No. 4, pp. 427-454.

Félix, E.G.S. and J.C. Nunes, (2023), "The impact of concentration among venture capitalists: Revisiting the determinants of venture capital", *Venture Capital*, Vol. 24, No. 4, pp. 365-390.

Frimpong, F.A., E.K. Akwaa-Sekyi, I.S. Anyars, A. Peprah-Yeboah, and R.S. Sole, (2024), "Macroeconomic factors and venture capital market liquidity: Evidence from Europe", *Cogent Economics & Finance*, Vol. 12, No. 1, pp. 2401477.

Gök, R. and O. Peker, (2022), "Exploring the determinants of renewable energy innovation considering the institutional factors", *Environmental Science and Pollution Research*, Vol. 29, No. 17, pp. 25331-25345.

Gompers, P.A. and J. Lerner, (1999), "The venture capital cycle", The MIT Press, London, United Kingdom, 1999, pp. 23-25.

Gompers, P.A., W. Gornall, S.N. Kaplan, and I.A. Strebulaev, (2020), "How do venture capitalists make decisions?", *Journal of Financial Economics*, Vol. 135, No. 1, pp. 169-190.

GT, (2016), "Startups India: An overview", Grant Thornton, Delhi, India, 2016, pp. 25-28.

Greene, W.H., (2003), "*Econometric analysis*", Prentice Hall, New Jersey, USA, 2003, pp. 525-550.

Grilli, L., (2024), "*Institutional determinants of venture capital activity*", Springer International Publishing, London, United Kingdom, 2024, pp. 1-4.

Grilli, L., B. Mrkajic, and G. Latifi, (2018), "Venture capital in Europe: Social capital, formal institutions and mediation effects", *Small Business Economics*, Vol. 51, No. 2, pp. 393-410.

Guler, I. and M.F. Guillén, (2010), "Home country institutional effects on the internationalisation of firms: The case of venture capital", *Academy of Management Journal*, Vol. 53, No. 2, pp. 378-398.

Gupta, R. and A. Shukla, (2020), "Evaluation of factors that affect venture capital investment: Evidence from India", *Global Business Review*, Vol. 21, No. 6, pp. 1-18.

Hain, D., S. Johan, and D. Wang, (2016), "Determinants of cross-border venture capital investments in emerging and developed economies: The effects of relational and institutional trust", *Journal of Business Ethics*, Vol. 138, No. 4, pp. 743-764.

IBM, (2017), "*Entrepreneurial India: How startups redefine India's economic growth*", IBM Corporation, New York, USA, 2017, pp. 9-17.

Ismail, E.A. and M.I. Medhat, (2019), "What determines venture capital investment decisions? Evidence from the emerging VC market in Egypt", *The Journal of Entrepreneurial Finance*, Vol. 21, No. 2, pp. 1-25.

Jaoui, A., (2022), "Catch me if you can: On drivers of venture capital investment in Africa", *African Development Review*, Vol. 34, No. S1, pp. 8-23.

Jeng, L.A. and P.C. Wells, (2000), "The determinants of venture capital funding: Evidence across countries", *Journal of Corporate Finance*, Vol. 6, No. 3, pp. 241-289.

Kaur, S. and S. Malik, (2020), "Determinants of public-private partnerships: a state-level empirical analysis of India". *Property Management*, Vol. 38, No. 4, pp. 597-611.

Khan, M.I. and J.G. Hussain, (2024), "Informal venture capital in emerging economies: A case of Pakistan", *Venture Capital*, pp. 1-20.

Kim, M., S. Kim, and S. Lee, (2015), "Estimation of risk and return of venture capital investments in an emerging market: An iterative generalised method of moments approach", *Asia-Pacific Journal of Financial Studies*, Vol. 44, No. 3, pp. 475-495.

Kolokas, D., T. Vanacker, D. Veredas, and S.A. Zahra, (2022), "Venture capital, credit, and fintech startup formation: A cross-country study", *Entrepreneurship Theory and Practice*, Vol. 46, No. 5, pp. 1198-1230.

KPMG and HSBC, (2022), "*Emerging Giants in Asia Pacific Report*", KPMG, Singapore, 2022, pp. 9-70.

Lerner, J. and J. Tag, (2013), "Institutions and venture capital", *Industrial and Corporate Change*, Vol. 22, No. 1, pp. 153-182.

Li, W., D. Li, and S. Yang, (2022), "The impact of internet penetration on venture capital investments: Evidence from a quasi-natural experiment", *Journal of Corporate Finance*, Vol. 76, pp. 102281.

Malik, S. and S. Kaur, (2022), "Determinants of public-private partnerships: an empirical analysis of Asia", *Transforming Government: People, Process and Policy*, Vol. 16 No. 3, pp. 261-276.

Mehta, K., R. Sharma, V. Vyas, and J.S. Kuckreja, (2022), "Exit strategy decision by venture capital firms in India using fuzzy AHP", *Journal of Entrepreneurship in Emerging Economies*, Vol. 14, No. 4, pp. 643-669.

Milosevic, M., (2018), "Skills or networks? Success and fundraising determinants in a low performing venture capital market", *Research Policy*, Vol. 47, No. 1, pp. 49-60.

MoF, (2023), "Economic Survey of India", Ministry of Finance, Department of Economic Affairs Economic Division, Delhi, India, April 2023, pp. 1-432.

Murtinu, S., (2021), "The government whispering to entrepreneurs: Public venture capital, policy shifts, and firm productivity", *Strategic Entrepreneurship Journal*, Vol. 15, No. 2, pp. 279-308.

Mustafa, M. and S.S. Mazhar, (2020), "Determinants of venture capital investment in India: A time series analysis", *The Review of Finance and Banking*, Vol. 12, No. 1, pp. 19-30.

Ning, Y., G. Xu, and Z. Long, (2019), "What drives the venture capital investments in China?", *Chinese Management Studies*, Vol. 13, No. 3, pp. 574-602.

Pradhan, R.P., M.B. Arvin, M. Nair, and S.E. Bennett, (2017), "Venture capital investment, financial development, and economic growth: The case of European single market countries", *Venture Capital*, Vol. 19, No. 4, pp. 313-333.

Preqin, (2025), "Preqin 2025 Global Report: Venture capital", *Preqin Ltd., London, United Kingdom*, 2025, pp. 3-10.

Rehman, S., I. Ahmad, V. Singh, and A. Hasan, (2024), "An investigation into the determinants of venture capital investment: Evidence from emerging economies of Asia Pacific", *Journal of East-West Business*, Vol. 30, No. 2, pp. 157-177.

Seong, H.E. and B.Y. Kim, (2021), "Critical factors affecting venture capital investment decision on innovative startups: A case of South Korea", *International Journal of Management*, Vol. 12, No. 3, pp. 768-781.

Sheth, A., S. Krishnan, P.K. Addepalli, S. Deo, and A. Muralidhar, (2024), "India Venture Capital Report 2024", *Bain & Company Inc., India*, 2024, pp. 8-45.

Teker, D., S. Teker, and Ö. Teraman, (2016), "Venture capital markets: A cross-country analysis", *Procedia Economics and Finance*, Vol. 38, pp. 213-218.

Thillai, R.A., S.K. Jha, J. Thomas, and R. Chinchwadkar, (2021), "Shifting Orbits: Decoding the Trajectory of the Indian Startup Ecosystem", *Universities Press India Pvt. Ltd., Hyderabad, India*, 2021, pp. 10-15.

Wang, S., T. Wareewanich, and T. Chankoson, (2023), "Factors influencing venture capital performance in emerging technology: The case of China", *International Journal of Innovation Studies*, Vol. 7, No. 1, pp. 18-31.

Windmeijer, F., (2005), "A finite sample correction for the variance of linear efficient two-step GMM estimators", *Journal of Econometrics*, Vol. 126, No. 1, pp. 25-51.

Wooldridge, J.M., (2010), "*Econometric analysis of cross section and panel data*", The MIT Press, London, England, 2010, pp. 322-325.

Zinecker, M., M. Skalicka, A.P. Balcerzak, and M.B. Pietrzak, (2022), "Identifying the impact of external environment on business angel activity", *Economic Research-Ekonomska Istraživanja*, Vol. 35, No. 1, pp. 83-105.