

Conference Name: BuPol London 2024– International Conference on Business, Economics & Policy, 20-21 February  
Conference Dates: 20-21 February 2024  
Conference Venue: The Tomlinson Centre, Queensbridge Road, London, UK  
Appears in: PEOPLE: International Journal of Social Sciences (ISSN 2454-5899)  
Publication year: 2024

Christopher Rosenqvist, 2024

Volume 2024, pp. 191

DOI- <https://doi.org/10.20319/icssh.2024.191>

This paper can be cited as: Rosenqvist, C. (2024). Private Equity Fund Selection - A Machine Learning Approach. BuPol London 2024 - International Conference on Business, Economics & Policy, 20-21 February, 2024. Proceedings of Social Science and Humanities Research Association (SSHRA), 2024, 191.

## PRIVATE EQUITY FUND SELECTION - A MACHINE LEARNING APPROACH

**Christopher Rosenqvist**

Department of Strategy and Marketing, Stockholm School of Economics, Stockholm, Sweden  
[christopher.rosenqvist@hhs.se](mailto:christopher.rosenqvist@hhs.se)

---

### Abstract

*The following aims to train a range of supervised machine learning models to predict the probability of a private equity (PE) fund exceeding a public market equivalent (PME) measure of 1 based on the information the PE investor would have at the time of fundraising. Past literature has studied a range of factors that appear to drive the performance of PE funds such as targeted fund size, management experience, fund specialization level, state of the industry, and the overall economy. The article investigates the predictive power of these factors. The models are based on a sample of 1,233 Buyout (BO) funds and 689 are Venture Capital (VC) funds sourced from Preqin. The results suggest some degree of predictability in VC funds with the top performing models reaching an out of sample accuracy score of 75% vs a base rate of 70%. For BO funds, the results are less promising with the top models only reaching an out of sample accuracy score of 60%, while failing to surpass the base rate of 61%. Overall, complex machine learning models, such as boosted decision tree-based algorithms and feedforward neural networks, fail to consistently outperform simpler models in both fund categories, which can be attributed to the limited sample size. Many macroeconomic and fund-specific in the variables analysis look to be valuable performance indicators for both the categories of funds. The impact is more profound and statistically significant for VC funds, especially in the case of macroeconomic factors.*