

價值投資與隨機優勢模式之實證分析

—以臺灣 50 指數成分股為例

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中文摘要

在失靈的年代中歷史不斷在重演，例如：西元 1987 年 10 月 19 日之黑色星期一、西元 2008 年 9 月 29 日之次貸風暴危機以及自西元 2009 年 12 月起發生的歐債危機。黑色星期一導致美國股票市場在短時間內出現崩跌；道瓊指數下跌 508 點，跌到 1738.74 點，下降了 22.61%。再者，由於房貸者之延遲繳款與違約，導致美國次貸風暴發生，進而造成銀行、房屋貸款公司以及抵押保險公司承擔巨大損失。因此，對於投資人而言，在艱鉅經濟環境中如何獲得異常報酬是一個重要的議題。

本研究將探討透過基本面分析之價值投資(Value Investment)以及技術面分析之隨機優勢理論(Stochastic Dominance Theory,SD)二大模型的投資原則及策略，進行實證研究，以「臺灣 50 指數」之成分股票為研究樣本對象，自西元 2003 年至西元 2010 年期間為樣本資料。實證結果發現不論價值投資或隨機優勢理論，自「臺灣 50 指數」之成分股票所挑選的最適股票皆相同。此結果隱含在西元 2003 年至西元 2010 年期間不論是基本面分析之價值投資或是技術面分析之隨機優勢理論似乎可獲得相同的投資策略與報酬；而且價值型選股模式與 SD 選股模式，能選出最佳股票並擊敗大盤獲得超額報酬。因此，建議投資者可將價值投資或隨機優勢理論運用於投資決策之參考，以期獲得優於大盤的投資報酬率。

關鍵詞：隨機優勢理論、價值型投資、臺灣 50 指數成分股

Value Investment and Stochastic Dominance Rule Analyses : Evidence in Taiwan 50 Component Stocks

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Abstract

The failing of financial economic over the time always happen, such as US Black Monday at October 19, 1987, US subprime mortgage crisis at September 29, 2008 and European debt crisis since December, 2009. The Black Monday when stock markets around the world crashed, shedding a huge value in a very short time. The DJIA dropped by 508 points to 1738.74 (22.61%). Due to subprime mortgage crisis triggered by a dramatic rise in mortgage delinquencies and foreclosures in the US with major adverse consequences for financial markets many banks, mortgage lenders and mortgage insurer have sustained tremendous losses. Hence, how to obtain the abnormal profit in such extremely difficult environment is an important issue for the investors.

This study uses value investment strategy (fundamental analysis) and stochastic dominance theory (technology analysis) to choose the optimal asset. The sample comes from Taiwan 50 Index Constituents and the data covers from 2001 to 2010, with totally 10 years. The empirical results show that whether value investment strategy or stochastic dominance theory, the optimal and the best stock is the same. This result implies that, during the period of 2001 and 2010, using fundamental analysis or technology analysis seems to can obtain the same investor strategy and returns.

Keywords: stochastic dominance theory, value investment strategy, Taiwan 50 Index Constituents

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參考文獻

- Benjamin Graham & David L. Dodd(2002)著，黃嘉斌譯，證券分析，寰宇股份有限公司出版。
- 吳璟昇(1997)，價值型與成長型股票投資績效之研究，國立政治大學財務管理研究所未出版碩士論文。
- 李佳玲(1992)，運用隨機優勢探討本益比資訊內容，國立中山大學企業管理研究所未出版碩士論文。
- 林淑鈴(1991)，隨機優勢與資本資產訂價模式之比較，國立政治大學企業管理研究所未出版碩士論文。
- 陳政德(2009)，修正隨機優勢理論—以台灣股票市場進行實證，國立成功大學企業管理系未出版博士論文。
- 劉秉龍(2002)，「成長型與價值型投資策略之實證分析—以台灣股票市場為例」，靜宜大學企業管理研究所未出版碩士論文。
- Bauman, Conover and Miller (1998), Growth versus Value and Large-Cap versus Small-Cap Stocks in International Markets, *Financial Analysts Journal*, March/April, pp-89.
- Bauman, W. S. and Miller, R. E. (1997) , Investor Expectations and the Performance of Value Stocks Versus Growth Stocks, *Journal of Portfolio Management*, 23, pp. 57-68.
- Bawa, V. S. (1975), Optimal Rules for Ordering Uncertain Prospects, *Journal of Financial Economics*, 2, pp. 95-121.
- Bawa, V. S. and E. B. Lingenberg(1977), Capital Market Equilibrium in a Mean-lower PartialMoment Framework, *Journal of Financial Economics*, 5, pp189-200.

- Baucells, M. and F. H. Heukamp (2006), Stochastic Dominance and Cumulative Prospect Theory, *Management Science*, 52(9), pp1409-1423.
- Capual, C., I. Rowley, and W. Sharpe (1993), International Value and Growth Stock Returns, *Financial Analysts Journal*, no. 49, pp27-36.
- Cowell, F. A. and M. P. Victoria-Feser (2007), Robust Stochastic Dominance: A Semi-parametric Approach," *Journal of Economic Inequality*, 5(1), pp21-37,.
- Fishburn, P. C. (1964), *Decision and Value Theory*, John Wiley and Sons, New York,.
- Fishburn, P. C. (1980), Stochastic Dominance and Moments of Distributions, *Mathematics of Operations Research*, 5(1), pp 94-100,.
- Fama, E. F. & French K. R. (1992), The Cross-Section Expected Stock Returns, *Journal of Finance*, 47, pp 427-465.
- Fama, E. F. (1970), Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance*, 25, pp.383-417.
- Fama, E. F. (1976), *Foundations of Finance*, Basic Books, New York.
- Graves, S. B. and J. L. Ringuest (2009), Probabilistic Dominance Criteria for Comparing Uncertain Alternatives: A tutorial, *ppOmega*, 37(2), pp346-357.
- Hadar, J. & Russell, W. R. (1969), Rules for Ordering Uncertain Prospects, *American Economic Review*, 59(1), pp. 25-34.
- Hanoch, W. C. & Levy, H. (1969), The Efficiency Analysis of Choice Involving Risk, *Review of Economics Studies*, 36(3), pp.335-346.
- Hodges, P. E., P. J. Haensly and J. Theis (2007), On Computing Complete Distributions for American and European Standard and Exotic Options on Stocks Paying Discrete Dividends with Applications to Stochastic Dominance Analysis, *Quarterly Journal of Business and Economics*, 46(3), pp45-64.
- Hunter, W. C. & Timme, S. G. (1992), A Stochastic Dominance Approach to Evaluating

- Foreign Exchange Hedging Strategies, *Financial Management*, 21(3), pp.104-112.
- Kuosmanen(2004),T., Efficient Diversification According to Stochastic Dominance Criteria,” *Management Science*, 50(10),pp 1390-1406.
- Ke, M. C., Y. C. Chiang and T. L. Liao(2007), Day-of-the-week Effect in the Taiwan Foreign Exchange Market,” *Journal of Banking & Finance*, 31(9), pp2847-2865,.
- Kroll, Y. & Levy, H. (1980), Stochastic Dominance: A Review and Some New Evidence, *Research in Finance*, 2, pp163-227.
- Kuosmanen(2004), T., Efficient Diversification According to Stochastic Dominance Criteria, *Management Science*, 50(10), 1390-1406.
- Lakonishol, J., A. Shleifer(1994), and R. Vishny, Contrarian Investment, Extrapolation, and Risk, *Journal of Finance*, vol.49, no. 5, 1541-1578.
- Laderman(1992), J, Growth vs. Value: Tips for the intrepid investor. *Business Week*, June 15, pp136-137.
- Levy H., & M. Sarnat (1970), International Diversification of Investment Portfolios, *American Economic Review*, 60, pp. 668-675.
- Levy, H. & A. Levy (1982), Stochastic Dominance and Investment Horizon with Riskless Assets, *The Review of Economic Studies*, 49, pp.427-438.
- Levy, H. & Kroll, Y. (1976), Stochastic Dominance with Riskless Assets, *Journal of Financial and Quantitative Analysis*, 11(5), pp.743-773.
- Levy, H. & Kroll, Y. (1978), Ordering Uncertain Options with Borrowing and Lending, *Journal of Finance*, 33(2), pp. 553-574.
- Levy, H. & Kroll, Y. (1979), Efficiency Analysis with Borrowing and Lending: Criteria and Their Effectiveness, *Review of Economics and Statistics*, 61(1), pp.125-130.
- Levy, H. & Lerman Z. (1985), Testing P/E Ratios Filters with Stochastic Dominance. *Journal of Portfolio Management*, 11(2), pp.31-40.
- Levy, H. (1992), Stochastic Dominance and Expected Utility: Survey and Analysis,

- Management Science, 38(4),pp. 555-593.
- Levy, H. (1998), Stochastic Dominance: Investment Decision Making Under Uncertainty, Kluwer Academic Publishers, The Netherlands.
- Levy, H., & Hanoch, G. (1970), Relative effectiveness of efficiency criteria for portfolio selection, Journal of Financial and Quantitative Analysis, 5,pp. 63-76.
- Levy, H., & M. Levy (2002), Experimental Test of the Prospect Theory Value Function: A Stochastic Dominance Approach, Organizational Behavior and Human Decision Processes, 89(2), pp.1058-1081.
- Levy, M. (1997), Computer-assisted language learning: Context and conceptualization, New York: Oxford University Press.
- Lintner, J. (1965), The Valuation of Risky Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets, Review of Economics and Statistics, 47, pp.13-37.
- Markowitz, H. M. (1952), Portfolio Selection, Journal of Finance, 12, pp. 77-91
- Meyer(2005), T. O., X-M. Li and L. C. Rose, “Comparing Mean Variance Tests with Stochastic Dominance Tests When Assessing International Portfolio Diversification Benefits,” Financial Services Review, 14 (2),pp 149-168.
- Mossion, J. (1966), Equilibrium in a Capital Asset Market, Econometrica, 34(4), pp. 768-783.
- O’ Shaughnessy, and James P , (1997) , What Works on Wall Street” New York : McGraw-Hill,c.
- Porter(1972), R. B. and J. E. Gaumitz,Stochastic Dominance vs. Mean-Variance PortfolioAnalysis: An Empirical Valuation,” American Economic Review, 62(3), pp438-446.
- Post, T. and P. Versijp(2004), GMM Tests for the SD Efficiency of a Given Portfolio, Erasmus Research Institute of Management (ERIM) Working Paper, Report

ERS-2004-0X-F&A.

- Ramaswami, M. (1994). Return Enhancement Through Size and Style Management, Blending Quantitative and Traditional Equity Analysis,
- Roman (2006), D., K. Darby-Dowman and G. Mitra, Portfolio Construction Based on Stochastic Dominance and Target Return Distributions," Math. Program, Ser. B 108, pp541-569,.
- Roll, R. (1977), A Critique of the Asset Pricing Theory's Tests' Part I: On Past and Potential Testability of the Theory, Journal of Financial Economics, 4, pp.129-176.
- Sharpe, W. F. (1964), Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, Journal of Finance, 19, pp. 425-442.
- Tversky (1992), A. and D. Kahneman, Advances in Prospect Theory: Cumulative Representation of Uncertainty," Journal of Risk and Uncertainty, 5(4), pp297-323,.
- Vickson R. G. and X. Lu (1979), Optimal Product and Server Locations in One-dimensional Storage Racks, Journal of Applied Mathematics, 37(3), pp539-560,.
- Vinod (2004), H. D. Ranking Mutual Funds Using Unconventional Utility Theory and Stochastic Dominance, Journal of Empirical Finance, 11(3), pp353-377.
- Whitmore (1970), G. A., Third Degree Stochastic Dominance, American Economic Review, 60(3), 457-459,
- Weeks, J. K. (1985), Stochastic Dominance: A Methodological Approach to Enhancing the Conceptual Foundations of Operations Management Theory, Academy of Management Review, 10(1), pp31-38,.
- Wong (1990), P. L., S. K. Neoh, K. H. Lee and T. S. Thong, Seasonality in Malaysian Stock Market," Asia Pacific Journal of Management, 7(1), pp43-62,.

Wong(2008), W. K., K. F. Phoon and H. H. Lean, “Stochastic Dominance Analysis of AsianHedge Funds,” Pacific-Basin Finance Journal, 16(3), pp204-223,.

