

# 油價、股價與基金淨值之關連性探討

## -以貝萊德世界礦業基金為例

學生:張玉佩

指導老師:簡美瑟 博士

國立高雄應用科技大學金融資訊研究所碩士班

### 摘要

本文主要是探討油價、股價指數及貝萊德世界礦業基金淨值間之因果關係與長短期動態關係研究。實證資料期間為 2000 年 1 月 5 日至 2010 年 6 月 30 日，共 2207 筆日資料樣本，進行原油價格、黃金價格、股價指數與基金淨值間之關連性的研究。由 Toda and Yamamoto(1995)之因果關係檢定結果得知，原油價格與美國紐約道瓊工業平均數指數單向領先貝萊德世界礦業基金淨值；澳洲雪梨綜合股價指數與貝萊德世界礦業基金淨值互為因果，彼此存在雙向回饋關係。從衝擊反應函數分析檢定，可以發現貝萊德世界礦業基金淨值面對原油價格、黃金價格及股價指數衝擊反應時，初期反應皆為正向關係。在預測誤差變異數分解之結果，可以得知貝萊德世界礦業基金淨值之初期受到美國紐約道瓊工業平均數指數、油價及波羅的海乾貨指數影響較明顯。在短期間之投資，投資者在貝萊德世界礦業基金之申購及贖回，可以藉由當日油價、澳洲雪梨綜合股價指數與美國紐約道瓊工業平均數指數之漲跌觀察，以瞭解當日貝萊德世界礦業基金淨值之漲跌，作為判斷申購及贖回時點，以求得更穩定的投資獲益。

關鍵字：油價、共同基金、TY 因果檢定、衝擊反應函數、變異數分解

# **The Relationship among Oil Price, Stock Price and the Price of Mutual Fund—An Empirical Study of the BlackRock Global Funds - World Mining Fund**

**Student : Yu-Pei,Chang**

**Advisors : Dr. Mei-Se, Chien**

**Institute of Finance and Information  
National Kaohsiung University of Applied Sciences**

## **ABSTRACT**

This paper is to examine the dynamic linkages among crude oil prices, stock index, and the Net asset value (NAV) of BlackRock Global Funds-World Mining Fund, applying. The method of Toda and Yamamoto (1995) Granger causality test, the generalized impulse response approach , and variance decompositions. Using daily data over the period of January 5, 2000, to June 26, 2010, the empirical results find a unidirectional relationship running from oil prices and Dow Jones Industrial Average Index to the Net asset value (NAV) of BlackRock Global Funds-World Mining Fund. There feedback causality between Australia All Ordinaries Index and the NAV of BlackRock Global Funds-World Mining Fund. Besides, according to the empirical results of the Variance Decomposition, the NAV of BlackRock Global Funds-World Mining Fund account for a quite large percentage of the forecast error variance in oil prices , Dow Jones Industrial Average Index and Baltic Dry Index.

**Keywords :** Oil price, Mutual Fund, Toda and Yamamoto Granger causality,Impulse response, Variance Decomposition

## 目錄

摘要.....	I
ABSTRACT.....	II
誌 謝.....	III
目錄.....	IV
圖目錄.....	VI
第一章 緒論.....	1
第一節 研究背景與動機.....	1
第二節 研究目的.....	2
第三節 研究流程與架構.....	3
第二章 市場介紹與文獻回顧 .....	5
第一節 貝萊德世界礦業基金相關商品簡介與比較 .....	5
第二節 油價、金價對股票市場之相關文獻 .....	9
第三節 共同基金之相關文獻 .....	18
第三章 研究方法 .....	27
第一節 單根檢定 .....	27
第二節 共整合檢定 .....	33
第三節 TY 因果檢定(TODA AND YAMAMOTO GRANGER CAUSALITY TEST) .....	36
第四節 衝擊反應函數分析.....	38
第五節 預測誤差變異數分解.....	40
第四章 實證結果與分析 .....	41
第一節 資料來源與說明 .....	41
第二節 實證結果與分析 .....	50
第五章 結論與建議 .....	68
第一節 結論.....	68
第二節 建議.....	69
參考文獻.....	70
中文部份.....	70
英文部份.....	71

## 參考文獻

### 中文部份

1. 吳彰祐(2010)，油價與主要農產品價格之關連性探討，高雄應用科技大學金融資訊所碩士論文。
2. 邱奕純(2008)，油價與股價之關連性—金磚四國之實證研究，高雄應用科技大學金融資訊所碩士論文。
3. 邱雋生(2008)，股價指數與西德州原油價格關係之探討-以中、港、台為例，屏東科技大學財務金融所碩士論文。
4. 周震宇(2010)，原油價格與台灣股票市場關聯性之研究，中正大學財務金融所碩士論文。
5. 林建智(2006)，原油價格與股價關係之探討—以美國及台灣為例，世新大學財務金融學研究所碩士論文。
6. 林繼遠(2010)，原油價格與亞洲主要股市之關聯性研究，台北大學國際財務金融碩士論文。
7. 陳淑玲(2005)，石油價格與黃金價格衝擊對台灣加權股價指數期、現貨的影響，台北大學合作經濟所碩士論文。
8. 陳炳安(2007)，結構轉變、油價與股價之關連性分析，高雄應用科技大學金融資訊所碩士論文。
9. 黃武夫(2009)，台灣、美國及中國大陸之股價與原油期貨價、黃金期貨價之關聯性—實證研究，高雄應用科技大學金融資訊所碩士論文。
10. 黃姿穎(2009)，油價、金價、匯率與國際股市之關聯性研究，義守大學財務

金融所碩士論文。

11. 費文尚(2008)，石油價格與「金」、「銀」、「藍」、「綠」基金之相關性分析，淡江大學企管管所碩士論文。
12. 葉文銘(2007)，REITs 價格與股票價格關係之探討-以台灣為例，中興大學財務金融所碩士論文。
13. 謝鎮州(2006)，股票、黃金與原油價格互動關係之研究-以台灣為例，逢甲大學經濟所碩士論文。
14. 顏紹輝(2008)，油價、股價與基金淨值之關連性研究—以摩根富林明中東基金為例，高雄應用科技大學金融資訊所碩士論文。
15. 關偉倫(2008)，各國股市對原油衝擊之反應，清華大學經濟學所碩士論文。

**英文部份**



1. Adler, M., and Yi, A.C., 1998 ,“Has there been a fundamental change in the stock market?” Journal of Investing, 7 , 71-76.
2. Basher, S. A. and Sadorsky, P., 2006 ,“Oil price risk and emerging stock markets,” Global Finance Journal, 17(2) , 224-251.
3. Blose, L.E. and Shieh, J. C. P., 1995 , “The impact of gold price on the value of gold mining stock,” Review of Financial Economics, 4 , 125-139.
4. Chan H. NS Faff, R.W., 1998 , “The sensitivity of Australian industry equity returns to gold price factor,” Journal of Accounting and Finance, 38 , 233-244.
5. Dickey, D.A. and Fuller, W.A., 1979 , “Distribution of the estimators for autoregressive time-series with a unit root,” Journal of the American Statistical Association, 74, 427-431.

6. Edwards, F. R. and Zhang, X., 1998 ,“Mutual funds and stock and bond market stability”, Journal of Financial Services Research, 13 , 257-282.
7. Edelen R. M. and Warner, J. B., 2001 ,“Aggregate price effects of institutional trading: A study of mutual fund flow and market returns,” Journal of Financial Economics, 59, 195-220.
8. Engle, R. F. and Granger, C. W., 1987 ,“Co-integration and error correction : Representation, estimation, and Testing,” Econometrica, 55, 251-276.
9. Fortune, P., 1998 ,“ Mutual funds, part II , fund flows and security returns”, New England Economic Review, 40 , 3-22.
10. Graham, S., 2001, “The price of gold and stock price indices for the United States,” World Gold Council.
11. Granger, C.W.J. and Newbold, P., 1974 ,“Spurious regressions in econometrics,” Journal of Econometrics, 2(2), 111-120.
12. Huang, C. H., 1989 ,“Post-war Taiwan business cycle: evidence from international factor, ” Taiwan Economic Review, 17, 1-19.
13. Ippolito, R. A. , 1992 ,“Consumer reaction to measure poor quality: Evidence from mutual fund industry,” Journal of Law and Economics, 35, 45-70.
14. Johansen, S., 1988 ,“Statistical analysis of cointegration vectors.” Journal of Economics Dynamics and Control, 12 , 231-254.
15. Johansen, S., 1991 ,“Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models, ” Econometrica, 59 , 1551-1580.
16. Jones, C. M. and Kaul, G., 1996 ,“Oil and the stock markets,” Journal of Finance, 51(2), 463-491.

17. Koop, G., Pesaran, M.H., and Potter, S.M., 1996 ,“Impulse response analysis in nonlinear multivariate models,” Journal of Econometrics ,74, 119-147.
18. Kwiatkowski, D., Phillips, P.C.B., Shmidt, P., and Shin,Y., 1992 ,“Testing the null hypothesis of stationarity against the alternative of a unit root,” Journal of Econometrics, 54, 159-178.
19. McDonald, J. G., and Solnik, B., 1977 , “Valuation and strategy for gold stocks,” Journal of Portfolio Management, 4, 29-33.
20. Nandha, M., and Faff, R., 2007,“Does oil move equity prices? A global view,” Energy Economics , 30, 986-997.
21. Newey, W., and West, K., 1994 ,“Automatic lag selection in covariance matrix estimation,” Review of Economic Studies,61, 631-653.
22. Oh, N. Y. and Parwada, J. T., 2007 ,“Relations between mutual fund flows and stock market returns in Korea,” Journal of International Financial Markets, Institutions & Money, 17, 140-151.
23. Papapetrou, E., 2001, “Oil price shocks, stock market, economic activity and employment in Greece ,” Energy Economics, 23, 511-532.
24. Payne, T.H., Prather, and L. and Bertin, W., 1999 ,“Value creation and determinants of equity fund performance”, Journal of Business Research, 45, 69-74.
25. Pesaran, M.H., and Shin , Y., 1998 ,“Generalized impulse response analysis in linear multivariable models,” Economic Letters, 58, 17-29.
26. Phillips, P. C. B. and Perron, P., 1988 ,“Testing for a unit root,” Biometrika, 75,1361-1401.
27. Potter, M., 1996 ,“The dynamic relationship between security returns and mutual

fund flows," University of Massachusetts-Amherst Ph.D. Dissertation chapter, mimeo, October.

28. Reimers, H.E., 1992 ,“Comparisons of tests for multivariate cointegration,” Statistical Papers, 33(1) , 335-359.
29. Sadorsky, P., 1999 ,“Oil price shocks and stock market activity,” Energy Economics, 21(5), 449-469.
30. Said, S. E. and Dickey, D. A., 1984 ,“Testing for unit roots in autoregressive moving average model for unknown order,” Biometrika, 71(3), 599-608.
31. Santini, D. L., and Aber, J. W., 1998 ,“Determinants of net new money flows to the equity mutual fund industry,” Journal of Economics and Business, 50 , 419-429.
32. Sharpe, W.F., 1996 ,“Mutual fund performance? ” Journal of Business,39(1), 119-138.
33. Shin, D., 1994 ,“Do product prices respond symmetrically to changes in crude oil prices? ” OPEC Review, 18 , 137–157.
34. Sirri, E. R., and Tufano, P., 1998 ,“Costly search and mutual fund flows,” Journal of Finance, 53, 1589-1621.
35. Toda, H.Y. and Yamamoto, T., 1995,“Statistical inference in vector autoregression with possibly integrated processes,” Journal of Econometrics, 66, 225-250.
36. Warther, V. A. (1995), “Aggregate mutual fund flows and security returns”, Journal of Financial Economics, 39, 209-235.
37. Yamada, H. and Toda, H. Y., 1998 ,“Inference in possibly integrated vector autoregressive models: some finite sample evidence,” Journal of Econometrics, 86 , 55-85.

38. Zapata, H.O. and Rambaldi, A.N., 1997 , "Monte Carlo evidence on cointegration and causation," Oxford Bulletin of Economics and Statistics, 59 , 285-2.

