

[Home](#) > [Journal of Asset Management](#) > Article

Interfamily competition on index tracking: The case of the vanguard ETFs and index funds

| Original Article | Published: 22 September 2009

| Volume 10, pages 263–278, (2009) [Cite this article](#)

Bookmark [Save article](#)

[View saved research](#) >



[Journal of Asset Management](#)

[Aims and scope](#) →

[Submit manuscript](#) →

[Gerasimos G Rompotis](#) ¹

509 Accesses 34 Citations [Explore all metrics](#) →

Abstract

We provide evidence on the debate of 'Exchange traded funds (ETFs) versus Index Funds' using data of ETFs and index funds belonging to the same investing family. Data used involve the Vanguard funds and results indicate that ETFs and index funds present, on average, similar return and risk records. In addition, the risk of ETFs and index funds is similar to the risk of the tracking indices. However, the return of these alternative investing tools is slightly inferior to the return of benchmarks. Moreover, a positive relationship between return and risk is revealed. Further research demonstrates that ETFs and index funds are fully invested in their benchmarks. As a result, the tracking error for both ETFs and

index funds is low. Finally, the tracking error is found to be positively affected by expenses.

i This is a preview of subscription content, [log in via an institution](#)  to check access.

Access this article

[Log in via an institution](#) 

Subscribe and save

 Springer+

from €37.37 /Month

- Starting from 10 chapters or articles per month
- Access and download chapters and articles from more than 300k books and 2,500 journals
- Cancel anytime

[View plans](#) 

Buy Now

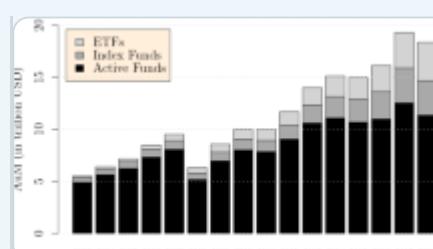
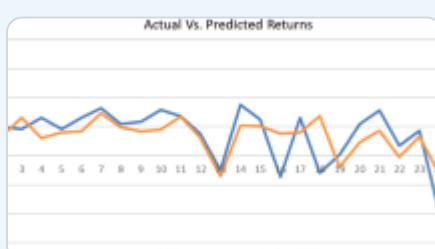
[Buy article PDF 39,95 €](#)

Price includes VAT (Poland)

Instant access to the full article PDF.

[Institutional subscriptions](#) 

Similar content being viewed by others



Explore related subjects

Discover the latest articles, books and news in related subjects, suggested using machine learning.

[Cross-species Comparison](#)

[Economics](#)

[Financial Law](#)

[Financial Economics](#)

[Investments and Securities](#)

[Microfinance](#)

Notes

1. We also gathered the closing trading values of ETFs from Nasdaq.com in order to estimate their percentage return and risk. Results were not significantly different than those derived from the net asset values. Therefore, in the subsequent sections of the study, we perform the analysis of ETFs' and index funds' performance and risk only in net asset values terms.
2. We examined the significance of the difference between the estimations of TE_1 and TE_3 via *t*-test. *t*-test value is equal to 7.93 implying significance at the 1 per cent level. The value of *t*-test is not reported in [Table 4](#).
3. In the next section, we provide evidence on the direct relationship between tracking error and expenses.
4. The value of *t*-test for the significance of the difference between TE_1 and TE_3 was 5.05, reflecting statistically different tracking error's estimations at the 1 per cent level.

5. For example, the MSCI Emerging Markets Index exhibits the higher average daily return among all the benchmarks equaling 11 b.p. The relevant returns of its trackers, which are the VWO ETF and the VEIEX index fund, are equal to 10 b.p. for both the ETF and the index fund. In parallel, the expense ration of the VWO ETF is equal to 0.30 per cent being the highest expense ratio among all the expense ratios of the sample's ETFs. This is also the case for the VEIEX index fund that has an expense ratio equal to 0.45 per cent. This expense ratio is the highest expense ratio among all expense ratios of index funds.

References

Bernstein, J. P. (2002) A primer on exchange-traded funds. *Journal of Accountancy* 193 (1): 38-41.

[Google Scholar](#)

Dellva, L. W. (2001) Exchange-traded funds not for everyone. *Journal of Financial Planning* 14 (4): 110-124.

[Google Scholar](#)

Elton, J. E., Gruber, M. J., Comer, G. and Li, K. (2002) Spiders: Where are the bugs? *Journal of Business* 75 (3): 453-473.

[Article](#) [Google Scholar](#)

Frino, A. and Gallagher, D. R. (2001) Tracking S&P 500 index funds. *Journal of Portfolio Management* 28 (1): 44-55.

[Article](#) [Google Scholar](#)

Gastineau, L. G. (2004) The benchmark index ETF performance problem. *Journal of Portfolio Management* 30 (2): 96-104.

[Article](#) [Google Scholar](#)

Gruber, M. J. (1996) Another puzzle: The growth in actively managed mutual funds. *Journal of Finance* 51: 783–810.

[Article](#) [Google Scholar](#)

Kostovetsky, L. (2003) Index mutual funds and exchange traded funds. *Journal of Portfolio Management* 29 (4): 80–92.

[Article](#) [Google Scholar](#)

Malkiel, B. G. (1995) Returns from investing in equity mutual funds 1971–1991. *Journal of Finance* 50: 549–572.

[Article](#) [Google Scholar](#)

Pope, F. P. and Yadav, P. K. (1994) Discovering errors in tracking error. *Journal of Portfolio Management* 20 (2): 27–32.

[Article](#) [Google Scholar](#)

Poterba, M. J. and Shoven, J. B. (2002) Exchange traded funds: A new investment option for taxable investors. *American Economic Review* 92: 422–427.

[Article](#) [Google Scholar](#)

Rompotis, G. G. (2008) An empirical comparing investigation of exchange traded funds and index funds performance. *European Journal of Economics, Finance and Administrative Studies* 13: 7–17.

[Google Scholar](#)

Authors and Affiliations

Researcher-National and Kapodistrian University of Athens, 25 Ypsilantou Street, Peristeri, Athens, Greece

Gerasimos G Rompotis

Corresponding author

Correspondence to [Gerasimos G Rompotis](#).

Additional information

¹holds a Bachelors' degree in Economics from National and Kapodistrian University of Athens and a Masters degree in Applied Economics and Finance from National and Kapodistrian University of Athens. Gerasimos Georgiou Rompotis has been working for KPMG Greece as a senior auditor for 3.5 years, and has also been working as a researcher for the Centre of Financial Research of National and Kapodistrian University of Athens since January 2004. The main researching interests cover the performance of Exchange Traded Funds, the rating and prediction of ETFs' performance, the seasonal patterns in stock markets and the evaluation of ETFs and mutual funds managers' skills.

Rights and permissions

[Reprints and permissions](#)

About this article

Cite this article

Rompotis, G. Interfamily competition on index tracking: The case of the vanguard ETFs and index funds. *J Asset Manag* **10**, 263–278 (2009). <https://doi.org/10.1057/jam.2009.11>

Received

08 December 2008

Issue date

01 October 2009

Revised

08 December 2008

Published

22 September 2009

Keywords

[ETFs](#) [index funds](#) [performance](#) [tracking error](#) [expenses](#) [risk](#)

Search

Search by keyword or author

Navigation

[Find a journal](#)

[Publish with us](#)

[Track your research](#)