

# Report on Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University

<b>Student:</b>	Jiří Nosek
<b>Advisor:</b>	Martin Hronec
<b>Title of the thesis:</b>	Do mutual funds offered in Czech Republic add value to investors?

**OVERALL ASSESSMENT** *(provided in English, Czech, or Slovak):*

## Contribution

The thesis is concerned with the added value of mutual funds offered in the Czech republic compared to investing passively into Exchange Traded Funds (ETFs). To do so, the author constructs an extensive dataset using Lipper Fund Research Database from Refinitive and fills the missing information by directly scraping the information from its provider such as major banks or advisors. Author estimates alphas from regressions against both Fama-French factors as well as a set of ETFs to directly capture the opportunity set of individual investors. Alphas of individual mutual funds are estimated in a multiple-hypothesis testing setting and funds with significantly positive alphas are considered skilled. Author finds that there are approximately ten-times more unskilled funds than skilled funds (36% unskilled, 3.8% skilled) when using Fama-French factors. This is surprisingly similar to the estimated fraction of unskilled funds in the U.S. documented in Cavalcante Filho et al. (2021).

Next, the author uses ETFs as independent variables and estimates alphas of mutual funds with respect to them. Author considers various numbers of randomly selected ETFs and using bootstrap shows that randomly selecting ETFs is not enough to outperform the mutual funds. However, he shows that Naive Selection algorithm with simple in-built diversification constraint leads to different results. Approximately 25% of mutual funds have significantly negative alphas with respect to the Naive Selection algorithm and only about 6% of the funds have significantly positive alphas. Author also shows that using a more sophisticated ETF selection algorithm leads to less than 1% of mutual funds with positive alphas.

Finally, the effect of Total Expense Ratio (TER) on fund alphas is estimated. Author documents a significant negative relationship between the fund's alpha and TER, i.e. more expensive funds offer worse risk-adjusted experience to their clients.

## Methods

Author uses ETFs as independent variables in a regression setting to estimate alphas of mutual funds. He uses various methods to choose these ETFs from the universe of available UCITS ETFs, including the random, naive diversification as well as more advanced methods. To find the true proportions of funds with significantly positive or negative alphas, author uses the False Discovery rate procedure by Barras,

## Literature

Literature review section is well written and the author introduces the domain of performance evaluation of investment vehicles right from its roots. To the best of my knowledge, all recent relevant papers from the literature are also described and connected which shows that the author clearly understands the topic he writes about. False Discovery rate procedure simulations clearly illustrate the importance of controlling for multiple comparisons.

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## Manuscript form

After a number of revisions, the author incorporated most of my comments about how the thesis should be structured. I find it easy to read, with clearly mentioned contributions. All figures and tables are self-sufficient and details regarding the underlying dataset as well as used methodology are all precisely described in the text.

## Overall evaluation and suggested questions for the discussion during the defense

To conclude, the author delivered a very valuable contribution not only to the academic literature but also to any investor interested in mutual funds offered in Czech Republic. Documented results are very valuable and hide a lot of end-to-end research work from collecting the dataset to final presentation.

In my view, the thesis fulfills the requirements for a master thesis at IES, Faculty of Social Sciences, Charles University, I recommend it for the defense and suggest a grade A.

The results of the Urkund analysis do not indicate significant text similarity with other available sources.

## SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	30
<i>Methods</i> (max. 30 points)	30
<i>Literature</i> (max. 20 points)	19
<i>Manuscript Form</i> (max. 20 points)	20
<b>TOTAL POINTS</b> (max. 100 points)	99
<b>GRADE</b> (A – B – C – D – E – F)	A

**NAME OF THE REFEREE:** Martin Hronec

**DATE OF EVALUATION:** 9.1.2022

Digitally signed, 9.1.2022, Martin Hronec

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**Referee Signature**

