Report on **Bachelor Thesis**

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

Student:	Martin Panáček
Advisor:	Mgr. Petr Polák, Msc. Ph.D.
Title of the thesis:	Analysis of Exchange-Traded Funds Pricing Deviations and Tracking Errors: Evidence from U.S. Market

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

Contribution

The thesis under review analyses pricing deviations and tracking errors of market, dividend and sector-specific Exchange Traded Funds (ETFs) and finds that dividend- and sector-specific ETFs show larger pricing deviations and errors. Author claims this finding can be attributed to higer expense ratios. While ETFs are interesting investment alternative not well studied and understood in the literature, the thesis constitutes a valid empirical contribution.

Methods

Author uses standard panel methods that are used appropriately to test the hypotheses. To test the hypothesis that dividend and sector-specific ETFs show larger pricing errors in comparison to broad market index based ETFs, author builds a panel model for the sample of 12 US ETFs. I see two possible issues to be further addressed.

To be able to test author's hypothesis, we need to make sure that the sample represents well the population, otherwise the results may suffer from sample selection bias. While I understand the arguments for data choice (availability etc.) shortly discussed in the text, I believe a bit deeper discussion for the choice of these 12 specific ETFs should be provided.

Panel data offer controlling for the unobserved heterogeneity. It is not clear to me from the motivation why panel models were chosen to test the author's hypothesis.

Literature

Author works with all relevant literature properly, introduces the Exchange Traded Funds (ETFs) nicely and discusses all relevant sources in sufficient detail.

Manuscript form

The text is well written, logical, well-motivated, explains problem as well as methods in sufficient detail.

Summary and suggested questions for the discussion during the defense

In conclusion, I believe the thesis is a solid piece of work that brings new empirical insights into pricing of ETFs. I believe author could clarify following issues during the defense:

1/ possible sample selection bias – how general are author's findings on selection of 12 US ETFs. Author provides short discussion on selection due to availability, and „random choice" without more details. At the same time, we have hundreds of iShares available, and selection of these 12 specific ETFs should be justified. For example, while selecting biggest ETFs, the results might hold only for the biggest funds, while all other can have different pricing deviations?

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2/ motivation – why author chose to analyse dividend and sector-specific ETFs? How about bond, commodity, currency ETF? I personally understand the motivation and I find it interesting, but it is not clear from the text so author could clarify during the defense why this is an interesting problem to study.

3/ Quarterly spikes in the data (Fig 4.5. and 4.6.): one can observe clear quarterly pattern in pricing errors, as noted by author, probably caused by dividend expectations. Author claims that these could cause problems, but at the same time are reason for studying dividend ETFs. I would like to see deeper discussion about these spikes. How can spikes influence whole analysis? Should author control for them in the pricing model?

4/ Choice of model: panel data are useful mainly in teh situation when we assume unobserved heterogeneity in data.

In conclusion, I believe that the thesis deserves to be defended without doubts. In case author is confident in presenting the details of the work during the defense, and mostly confident in the discussion and response to my questions, I suggest to award the work with grade "B".
Finally, the results of the Urkund analysis do not indicate significant text similarity with any other available sources.

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

CATEGORY		POINTS
Contribution	*(max. 30 points)*	25
Methods	*(max. 30 points)*	24
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**89**
GRADE	**(A – B – C – D – E – F)**	**B**

NAME OF THE REFEREE: Jozef Barunik

DATE OF EVALUATION: 14.1.2022

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Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Overall grading:

TOTAL	GRADE
91 – 100	**A**
81 - 90	**B**
71 - 80	**C**
61 – 70	**D**
51 – 60	**E**
0 – 50	**F**