

Opponent's Review of the Doctoral Thesis

Title: *Disposition Effect in the Context of Experimental Trading on Highly Liquid Financial Markets*

Author: *Ing. Hana Dvořáčková*

Opponent: *doc. Ing. Aleš Melecký, Ph. D.*

The doctoral thesis presented by Hana Dvořáčková deals with a very interesting topic. Behavioral concepts received great attention, especially in recent years. The disposition effect is one of the most famous topics in behavioral economics/finance.

Overall, the text of the presented thesis is well-structured. The level of English language used in the thesis is appropriate, only minor mistakes appear in the text and do not limit text clarity. Overall, the author proved the ability to synthesize the literature while using a lot of quality publications, mostly in the English language. Furthermore, the author has done a lot of work while describing the methodology in detail. The hypothesis testing is done precisely with the use of multiple tests and the author patiently describes it step-by-step. The thesis brings new finding on a unique sample, and the innovative is also the application of the GUHA method. The student was successful in her identification strategies and confirms the disposition effect based on the collected data set.

In the following text, I present some comments and suggestions that might help the student in his future research.

While discussing the theory of expectations, I miss the concept of bounded rationality. While discussing the concept of exchange rates and PPP, I miss the generalized version of PPP and the concept of currency baskets.

On p. 91, the author presents the correlation tables. However, the results in table 4.3 (for aggregated data) seems strange. This table contains values -22, 1.23, and also, for instance, statistically insignificant value 0.92, while in section 3.1 the author states that the correlation coefficient takes values from -1 to +1. I would like to ask the author for the explanation during the defense.

Even after reading the whole thesis, I am not sure in which instruments the students invested in. The title talks generally about “highly liquid financial markets”, the theoretical part discusses mostly examples from stock markets, the abstract mentions only about experimental trading data, the theory

in then focused on the exchange rates and currencies. However, while describing OANDA FX trading platform, the author states the OANDA offers 100+ investment instruments, for instance, Bonds CFDs and Metals. On p. 78, the author mentions that the students were trading with currency pairs and CFDs. I think what was traded is important, and it influences the values of P/L and UNITS. Especially, values of the UNITS variable are quite confusing. It is mentioned that this variable measures the volume of trade in USD, and the mean is USD 600 000, even USD 9 000 000 in some cases. While the students started with USD 100 000, and the mean P/L was USD 540. I would like to ask the author to explain this in more detail during the defense. If this was caused by trading using leverage only in some cases, then it should be reflected in the model.

In some parts of the thesis the author put a lot of energy in the discussion of the process of testing itself, and the interpretations of the results are only brief.

When the data is filtered, the author excludes trades with final absolute value of P/L under USD 1. This might be excluding some relevant trades. One of the explanations why the investors hold a loss position for too long is that they are trying to avoid the loss (get-even-itis, Hersh Shefrin). The author should also be careful while excluding students with less than 10 trades.

The conclusion is based on the empirical findings. Furthermore, the author provides some suggestions for future research.

Minor comments

- Minor mistakes in some equations in chapters 2 and 3.
- The author sometimes changes the quotation of the exchange rate from direct to some other.
- The author should explain earlier in the text how the data were aggregated and highlight this at the beginning of section 4.
- Figures in the appendixes contain very small numbers with too many decimal points, which is reader unfriendly.
- p.11 – “...someone buys a lottery ticket, the probability of each outcome is generally known” – it could be calculated, however, almost none of the players do it. They only know that the probability is small, not the true size of the probability.
- p. 19 - It's not clear what “near future” means.
- p. 24 – “Behavioral finance arises from the behavioral economy” – should be economics.
- p. 26 – Has 0 USD as a result of the game really utility 0? What about the game itself.
- p. 34 – “...It is easier for a Czech investor to make a rational decision about investment in stocks of a Czech company than a Chinese one” – it may even be opposite due to overoptimism and overconfidence biases.

- p. 45 – The exchange rate not only affects the macroeconomic variables and policies but is also affected by them (two way relationships).
- p. 46 – It would be nice to have a discussion on exchange rate commitment in fig. 2.15. Why the exchange rate went up close to 28 CZK/EUR when the one sided commitment was on level close to 27 CZK/EUR at the beginning of the commitment?
- p. 50 – better not use real FX rate as a name for real value of nominal FX rate.
- p. 55 – The Big Mac index is rather an example of LOP than PPP as it takes into account only one product, not the price levels in the respective economies.
- p. 84 – the author should mention how big transaction costs are as they may limit the frequency of trading.
- p. 101 – the term “small loss trades” may be misleading.
- p.107 – table 4.9 should be presented in section 4.2.4 where it is discussed.
- p.110 – The author should explain in more details why variables *country* and *currency* were excluded and how the intervals in GUHA were set. Q9 interpretation - should be students who enjoy risk vs. those who do not.
- p. 111 – $\alpha = 0.05$.
- p. 117 – the author should discuss in more detail why GUHA results are important and how we can further use them.
- p.123 – conclusion regarding chapter 2 and 3 rather describes what has been done than conclude.

Overall, the presented work is interesting and includes original findings. Further, the application of the GUHA method on selected topic is innovative. Most of the presented comments are rather minor. I believe that the rest will be explained during the defense. The submitted thesis meets the required demands for a doctoral thesis.

I recommend presented doctoral thesis for defense.

In Ostrava, AUG 24, 2020

doc. Ing. Aleš Melecký, Ph. D.