



FACULTY
OF SOCIAL SCIENCES
Charles University

Thesis Evaluation Report

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Title:	Daylight Saving Time and Stock Market Returns: Evidence from the Visegrad Group
Opponent	Jiří Novák

Summary

The Thesis analyzes the effect of the daylight saving policy (i.e. the switches from regular to summer time and vice versa) on stock market performance in the Visegrad Group countries. To measure this effect the author develops new Bayesian techniques of estimating ARIMA and GARCH models. The author concludes that there is not sufficient empirical evidence about the impact of the time shift on stock market performance.

Contribution

Even though the impact of factors that could influence human psychology (e.g. weather, lunar phases, sports results, etc.) on financial market performance has been studied in the past, I believe the author makes a nice contribution in analyzing one of these effects in stock markets of the Visegrad countries and by developing a new Bayesian techniques of estimation. I would argue that the economic importance of this research question is not huge (the effect of daylight saving would likely be fairly minor even if the results were significant), but the research question is clearly spelled out, and its contribution (albeit small it terms of its potential economic impact) is properly motivated. Even though the empirical results are not significant the estimation framework the author develops may be used in follow-up research to test similar phenomena in different settings.

Literature

I believe the author provides an outstanding literature review. I have truly enjoyed reading it. I found myself thinking about the text as if I was reading a research paper rather than a Master's Thesis. I believe that the quality of the literature review clearly indicates that the author has acquired an in-depth understanding of the relevant literature. I think that the author is able to understand and correctly interpret the individual papers and highlight the interconnections between them. I appreciate that the author is able to compare and contrast the findings in prior

studies and to draw plausible conclusions about the current state of our understanding of this research area. I also appreciate that the author is able to use prior literature to motivate the aim of this thesis and the individual hypotheses. Finally, I appreciate the breadth of the literature review that covers even studies that are indirectly relevant for the author's research question. For example, I would not necessarily expect a Master's level student to understand that research on the impact of sports results is relevant for his research question because it may be related to a similar psychological channel. In fact, more than 20 points should be given for such a literature review.

Methodology

I am also impressed with the quality of the discussion of methodology used. I believe the author is able to weigh the pros and cons of various methodological approaches and draw reasonable conclusions about their suitability for analyzing his research question. I also appreciate that the author was able to extend the conventional methodological approaches and prepared an implementation of a Bayesian estimation technique to test his research question. I believe that that is more than what required or expected from a Master's Thesis. In my questions provided below I ask the author to motivate the benefit of this sophisticated method relative to more simple approaches. However, this does not in any way belittle the value of this methodological extension.

Form

I believe that the Thesis is well structured, the individual parts follow a logical order and they are well interconnected. The tables and figures are well-formatted and well-labelled. The author pays attention to the detail both when it comes to writing and formatting. I believe the Thesis is written in very good English that respects the academic style of writing.

Conclusion

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

I believe that the Thesis fulfills and exceeds the requirements stipulated by the Faculty of Social Sciences, Charles University. I recommend the Thesis for defense. I suggest a grade A and I recommend the evaluation committee to consider nominating the Thesis for the Deloitte Outstanding Thesis (DOT) Award.

Questions

I recommend the examination committee to ask the author about the following:

1. Why does the author choose to analyze the effect in Visegrad Group? The author correctly states that these markets are rather small and illiquid. In addition, with the exception of the Warsaw Stock Exchange they are dominated by companies in regulated industries such as energy and financial services. How does the author evaluate the suitability of these markets to analyze his research question? Does the illiquidity of these markets constitute an advantage from the research point of view?

2. Would not be interested to consider countries that change their daylight saving policies during the sample period, e.g. Russia, and examine whether the effect is different in the corresponding trading days in the times when the time change takes place and in the times when the country had only one time throughout the entire year?
3. How does the author motivate that the effect of the daylight saving should have a negative effect on market index returns? Could not one argue that a time change distracts investors' sleeping patterns and as a consequence they become less careful and diligent in scrutinizing the information which leads them to be overly optimistic about the company's future and the stock market returns are going to be higher than lower?
4. Would it not be interesting to analyze the impact on measures other than the market index returns? Should there perhaps be any effect on the trading volume? Could the smaller stocks that are more likely to be traded by less sophisticated individual investors rather than the more sophisticated and professional institutional investors be affected more than larger stocks? The individual investors are also more likely to be local and therefore affected by the time change.
5. What is the benefit of developing the sophisticated Bayesian estimation method? What would we miss had we used the plain vanilla ordinary least squares (OLS) in a simple difference analysis based on the comparison of Monday stock returns following the weekends when the time change occurred with those with adjacent weekends? Or a difference-in-differences (DiD) benefiting from time policy changes for different years in some countries.

Awarded Points and Grade

Contribution (max 30)	28
Methods (max 30)	29
Literature (max 20)	20
Form (max 20)	20
Total (max 100)	97
Grade (A – B – C – D – E – F)	A

Referee's Signature

13 May, 2021

Evaluation Date

 Jiří Novák

Referee's Name

Grading Scale

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

Strong	Average	Weak
20	10	0

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.

Strong	Average	Weak
30	15	0

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.

Strong	Average	Weak
30	15	0

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.

Strong	Average	Weak
20	10	0

OVERALL GRADING:

Total Points	Grade
91 – 100	A
81 – 90	B
71 – 80	C
61 – 70	D
51 – 60	E
0 – 50	F