Report on Master Thesis

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

Student:	**Marika Ruberry**
Advisor:	**PhDr. Petr Gapko, Ph.D.**
Title of the thesis:	**Hedging with interest rate derivatives: Estimation of hedge ratio & hedging effectiveness**

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

The thesis focuses on hedging approaches in finance, mainly hedging of a bond portfolio with interest rate futures. Such a portfolio then generates fixed-income. In particular, German bonds are chosen due to its liquidity (Euro-Bund and Euro-Bobl futures traded on the Eurex Exchange). The hedging ratio is tested on two time periods that captures the global financial crisis and the aftermath of the European sovereign debt crisis.

Contribution

The idea to hedge bonds with the interest rate futures is interesting. Such a portfolio generates a fixed-income. Another fundamental feature of the analysis is a comparison of dynamic hedging and constant hedging approach. From my point of view, I see as contributive the part of the hedging effectiveness testing both in-sample and out-of-sample setting.

Methods

In the thesis, Marika uses standard methods for the hedge ratios estimation and for testing the hedging effectiveness (VECM, GARCH, VAR, durations). These methods are not very recent, but this is caused mainly by the fact that the data are sampled daily, and the high-frequency data for this particular problem are not easily available.

Literature

Marika uses relevant literature in the field of portfolio hedging. Considering the work with literature, it is clear that Marika understands the literature, and she quotes appropriately. Moreover, the literature overview section is very well written.

Manuscript form

The manuscript has a standard form with a clear and logical structure. The thesis is coherent, and all important technical issues are fully addressed. It is also reader-friendly. The presentation, as well as a description of the results, is very good.

Summary and suggested questions for the discussion during the defense

To conclude, Marika has shown very good theoretical as well as empirical abilities. The thesis is a complete piece of excellent work. Overall, I believe that it fulfils all the requirements for a master thesis at the Institute of Economic Studies. I suggest grade A.

Q: Why does the duration model outperform in almost of the cases other models in terms of mean return of the portfolio (in out-of-sample)?

Q: In the case the high-frequency data are available, how would it possibly change the analysis?

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

CATEGORY		**POINTS**
Contribution	*(max. 30 points)*	25
Methods	*(max. 30 points)*	28
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**93**
GRADE	**(A – B – C – D – E – F)**	**A**

NAME OF THE REFEREE: Mgr. Lukas Vacha Ph.D.

DATE OF EVALUATION: 27.1.2020

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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**