

Report on Master Thesis

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

Student:	Marika Ruberry
Advisor:	Petr Gapko
Title of the thesis:	Hedging with interest rate derivatives: Estimation of hedge ratio & hedging effectiveness

The thesis focuses on interest rate hedging with interest rate futures. In particular, the author chose to investigate several methods for estimating the optimal hedge ratios and their performance in different periods of time. The author chose five methods, namely the OLS, VAR, VECM, GARCH and duration-based approach and compared those to a 1-to-1 hedging strategy and no hedge approach. The comparison was performed on hedge ratio, mean return and volatility reduction. The author herself discusses that the above-mentioned methods gain superiority over the naïve approaches, however, it is not possible to determine a single superior method, which would outperform others in all aspects. The analysis was performed on two periods, one containing the financial crisis and the second, which is a period of low and stable interest rates. As a robustness check, the author at the end of the thesis also performs analysis on the whole dataset, where she joins the two samples, which are separated otherwise.

The thesis is very well written and reads easily. Author's English is clearly above average of similar diploma thesis written at the same institution. Methods are well described, although I would recommend dedicating a particular paragraph to the Markowitz theory of diversification, a mother of majority of modern investment strategies.

The author did a great job in the analysis, though I lacked a clear distinction of the author's original contribution. This should be more explicitly stated in the Introduction and the Conclusion of the thesis.

Below I provide a couple of comments, which might provide a good feedback to the author in her future research:

- More careful in using yield vs. coupon vs. price of a bond; bond yield is usually calculated from the current market price
- In the Subchapter 6.1.2, which discusses the OLS results, the OLS analysis performed on level variables should be more clearly distinguished from the OLS analysis performed on differenced variables. It's very difficult to follow the results in the current wording.
- In the robustness testing, it would be beneficial to compare the results (hedge ratios, returns and volatility reduction) of the whole sample estimation with the estimation of the individual subsamples.

Contribution

Author's original contribution should be clearly distinguished. Otherwise, the analysis is a very useful practical impediment of different hedging strategies and might be used in trading practice.

Methods

The autor used advanced econometric and statistical methods, which are appropriate to the subject matter.

Literature

The list of sources is very extensive and the author referenced majority of relevant sources. Moreover, the references were done correctly.

Manuscript form

The language and the structure of the thesis are very good. There are only several very minor and isolated deficiencies as described in the specific comments.

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Summary and suggested questions for the discussion during the defense

Concluded, I find the thesis of a very high quality. During the defense, the author should focus on two themes:

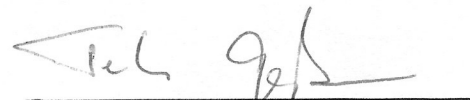
- Description of the author's original contribution
- Comparison of the whole sample results with the results obtained on the individual subsamples.

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

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	25
<i>Methods</i> (max. 30 points)	30
<i>Literature</i> (max. 20 points)	20
<i>Manuscript Form</i> (max. 20 points)	19
TOTAL POINTS (max. 100 points)	94
GRADE (A – B – C – D – E – F)	A

NAME OF THE REFEREE: Petr Gapko

DATE OF EVALUATION: January, 27th, 2020



Referee Signature