

Report on Master Thesis

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

Student:	Arman Mkhitryan
Advisor:	Evžen Kočenda
Title of the thesis:	Connectedness and spillover effects between forex and stock markets: Evidence from Scandinavia

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

Please provide your assessment of each of the following four categories, summary and suggested questions for the discussion. The minimum length of the report is 300 words.

Contribution

The thesis analyzes return and volatility spillovers between forex and stock markets in four Scandinavian countries (Denmark, Finland, Norway, Sweden). Analysis employs recently developed methodology of frequency connectedness and covers period from 2002M2 till 2018M7.

Overall static assessment shows that inter-market spillovers are considerably higher than cross-market spillovers for both returns and volatility. Dynamic analysis brings time-varying pattern of spillovers that are higher during distress periods – in this respect the results show that Scandinavian financial markets exhibit higher connectedness during the European sovereign debt crisis in 2010-2013 and lower one during the global financial crisis in 2007-2009.

The key contribution is brought by analyzing the dynamic frequency connectedness. In terms of the *returns* the results show that short-term connectedness is much higher compared to medium- and long-term connectedness during the whole period under research. Moreover, the connectedness at all frequencies reach its peak during European debt crisis in 2012 – and is higher than during global financial crisis or after Brexit referendum in June 2016.

Results for the *volatility* frequency connectedness are different. Medium-run connectedness seems to be lowest for the whole period under research, while the dominance of short-run and long-run connectedness alternates. In general, short-run connectedness dominates over long-run during calm periods, while longrun connectedness is highest during distress periods.

The frequency connectedness results for the Scandianvian stock and forex markets are thus similar in terms of the pattern, magnitude and duration to the (already available) findings for global oil and forex markets. The results also show marked differences for the frequency connectedness of returns versus volatility.

Methods

Method employed in the analysis is based on spillover index proposed by Diebold and Yilmaz (2009, 2012). It allows to quantify total, directional and net spillovers. The recent contribution to the measure of connectedness was brought by Baruník and Křehlík (2018) who decompose spillover indices into frequency bands of short-, medium- and long-term horizons. The frequency bands correspond to daily, weekly and monthly frequencies, respectively. This methodology is used in the analysis. Overall, the methodology approach is fine, well motivated and executed. It should be noted that the thesis belongs to the small group of the first diploma theses written at the IES that employ the recent advancement in the connectedness methodology.

Literature

The literature section summarizes the current state of research in the field. It is conveniently divided into three parts to cover literature on volatility models, volatility spillovers used in similar analyses, and forex and stock market linkages. Hence, the literature is reviewed in a detail and covers all relevant papers and angles.

Manuscript form

The manuscript conforms to formal requirements for the master thesis. It reads well but at some places the flow and grammar could be better. Especially, the results are presented with a lot of detail – this is good, but the extent is sometime overwhelming. Text contains infrequent typos. Introduction is short but clear and it motivates well the researched topic. Data are fully described. Hypotheses are

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clearly stated within the text. Tables and figures are presented in an organized and legible manner. Appendix provides additional information on data and contains also additional graphs. References with three (and more authors) should be cited in a unified manner.

Summary and suggested questions for the discussion during the defense

The thesis represents a solid piece of empirical work on the subject and markets that was, so far, not analyzed yet, plus accounts for periods before and after the global financial crisis.

In case of the successful defense, I recommend the grade A.

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

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	28
<i>Methods</i> (max. 30 points)	28
<i>Literature</i> (max. 20 points)	20
<i>Manuscript Form</i> (max. 20 points)	18
TOTAL POINTS (max. 100 points)	94
GRADE (A – B – C – D – E – F)	A

NAME OF THE REFEREE: *Evžen Kočenda*

DATE OF EVALUATION: *September 1, 2019*



Referee Signature