

# Report on Bachelor Thesis

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

Student:	Robert Ševinský
Advisor:	PhDr. Ladislav Křišťoufek, Ph.D.
Title of the thesis:	Portfolio selection based on hierarchical structure of its components

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

The bachelor's thesis proposes an alternative method for portfolio diversification based on hierarchical structure and network properties of the analyzed portfolio. Specifically, more weight is put on peripheral stocks which are spotted using the minimum spanning tree (MST) framework. One of the crucial advantages of the proposed method is that it reduces the number of transactions which are made during rebalancing. The proposed method is then compared to the equally weighted portfolio and the Markowitz methodology. The MST diversification outperforms the other two even after controlling for transaction costs. The analysis is performed for various covariance matrix estimation methods.

The topic and the instruments of the thesis go well beyond the standard bachelor curriculum at IES and I believe that the thesis would be easily defended at the master's level (after some polishing). Nonetheless, there are several issues which prevent me from giving the full number of points:

- A review of relevant literature is completely missing.
- There are many grammatical errors in the text.
- The structure of the text is unbalanced, i.e. there are several very short sections of high levels compared to some long sections of a lower level.

Even though there are shortcomings, these are rather formal. **I gladly suggest grade A for the thesis** and I believe the findings have a good potential of being published in a peer-reviewed journal.

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

CATEGORY	POINTS
Literature (max. 20 points)	15
Methods (max. 30 points)	30
Contribution (max. 30 points)	30
Manuscript Form (max. 20 points)	18
<b>TOTAL POINTS</b> (max. 100 points)	<b>93</b>
<b>GRADE</b> (1 – 2 – 3 – 4)	<b>1</b>

**NAME OF THE REFEREE: PhDr. Ladislav Křišťoufek, Ph.D.**

**DATE OF EVALUATION: 5.6.2015**

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**Referee Signature**