

# Report on Bachelor Thesis

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

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<b>Advisor:</b>	<b>Martin Gregor, Ph.D.</b>
<b>Title of the thesis:</b>	<b>Equilibrium in the jungle</b>

This microeconomic thesis analyzes efficiency properties of market/exchange outcomes and „jungle“ outcomes in a standard static setting with private goods, selfish individuals and complete information.

Chapters 2 and 3 introduces both economies and their efficiency properties. In the market economy, property rights are defined and we look upon competitive market equilibria; in the jungle economy, the author uses the notion of power as hierarchy in the same vein as in Piccione and Rubinstein (2004). (From this paper, he also borrows the title of his thesis.)

The problem of the proper comparison of the two economies is that the jungle economy as in Piccione and Rubinstein (2004) involves bounded consumption sets, whereas the standard market economy does not constrain consumption at all. To put both economies on an equal footing, the author therefore introduces bounded consumption sets into the market economy. Chapter 4 is thus devoted to the analysis of consumption bounds in the market economy, which turns out to be a fairly complex problem even in a simple 2x2 setting (two consumers, two goods) and in the presence of strictly convex preferences as well as strictly convex consumption sets. A lengthy analysis of efficiency properties of allocations under presence of consumption sets becomes eventually the main contribution of the thesis. (From that perspective, the thesis has moved from the analysis of the jungle more into the general analysis of efficiency of allocations in the presence of consumption bounds, and into the analysis of competitive market equilibria under these bounds.)

As an application, Chapter 5 briefly applies the jungle problem to a related problem of allocation of fixed tasks in an hierarchical organization (such as a firm but also an army). It shows that by introducing task-sets as the tasks which the superior agents can delegate to subordinate agents, one obtains a problem which is exactly equivalent to the jungle problem.

Overall, I consider Chapter 4 to be a very good starting point in the analysis of opportunities to trade in the presence of consumption bounds. It clearly shows that the taxonomy of cases primarily depends on the size of the consumption conflict between the agents (conflict over 0, 1, or 2 goods). It also shows that competitive equilibria may feature many different structures (see Figures 14 and 15).

More formal treatment would of course be welcomed, but that would go beyond undergraduate coursework. I would also prefer to write this technical thesis in LaTeX. In the final version, numbering of equations has broken down and manuscript would definitely benefit from some extra polishing.

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

<b>CATEGORY</b>	<b>POINTS</b>
<i>Literature</i> (max. 20 points)	18
<i>Methods</i> (max. 30 points)	28
<i>Contribution</i> (max. 30 points)	27
<i>Manuscript Form</i> (max. 20 points)	17
<b>TOTAL POINTS</b> (max. 100 points)	<b>90</b>
<b>GRADE</b> (1 – 2 – 3 – 4)	<b>1</b>

**NAME OF THE REFEREE:** *Martin Gregor*

**DATE OF EVALUATION:** *January 11, 2016*

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**Referee Signature**

**EXPLANATION OF CATEGORIES AND 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		
81 – 100	<b>1</b>	= excellent	= výborně
61 – 80	<b>2</b>	= good	= velmi dobře
41 – 60	<b>3</b>	= satisfactory	= dobře
0 – 40	<b>4</b>	= fail	= nedoporučuji k obhajobě