Report on Master Thesis

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

Student:	**Martin Štěpánek**
Advisor:	**Jaromír Baxa**
Title of the thesis:	**Pension Systems in a World with Stagnant Population and Market Inefficiencies: A Comparison**

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

In his thesis, Martin Štěpánek investigates relative performance of pension systems under different conditions and studies possible benefits of transition among them using a large OLG model and dynamic simulations. Unlike other studies, Martin tries to take the issues of adverse demography, administrative costs, financial instability and individual uncertainty into account. In this respect, the model developed by Martin covers most of the decisive factors in one coherent framework with microfoundations, adjustment mechanisms and fluctuations of employment, financial markets and overall economic activity. The model is calibrated using the current demographic scenarios of the Czech republic.
The main policy implications derived from the model are as follows: First, all pension systems have their benefits and weaknesses. Second, the relative performance of each pension system is determined by its parameters, that could either increase inequality or solidarity across population. Third, none of the systems is able to cope with population ageing significantly better than the other while there are significant transition costs especially when moving from PAYG to fully-funded system. On the other hand the author - cleverly - argues why he would opted for the multi-pillar system due to a possibility to diversification against different risks.
The thesis is well written, nice to read and at the top professional level. Below I present my comments to different parts of the thesis, and with respect to the quality of the thesis, I add some comparison to the previous dissertation research at the IES and some suggestions for future research.

The thesis starts with a typology of pension systems and challenge posed by demographic changes. Martin shows that even with updated demographic projections, the population ageing is the main risk to sustainability of pension systems, especially the balance between sustainable fiscal policy and distribution of income between pensioners and employees.
Chapter three summarizes the literature on the pension systems and costs and benefits of possible transitions from one pension system to another. Special attention is devoted to „Pension myths“, if for example, the funded system could resolve adverse demographics. Martin presents here a good command of the main relevant literature on this topic.
In the following chapters, the model itself is presented. The model description is on a good level and the structure of this chapter follows the conventions. I appreciate the choice of scenarios under which the pension systems are evaluated.
The next chapter presents the results. The outputs of such simulations are quite extensive, but still I think that Martin was able to select the most important results for presentation, although their interpretation is often less intuitive than for example in the dissertation thesis by David Marek defended at the IES in 2007. However, this is not a mistake or omission: the purpose of the thesis was to present a comparison of relative performance of different pension systems within a richly specified OLG model, complexity of the results is a matter of methodology that is not easily accessible for readers and for general public.
Furthermore, if there had been more time for further revisions of the text, my recommendation would be to somewhat polish the formulation of the main results across abstract, introduction and conclusions, as the main findings summarized in chapter 6 are much more nuanced than in abstract or introduction and shifted towards preference of the multi-pillar pension system due to its robustness to various shocks and ability to meet more criteria.

From my point of view, the thesis exceeds the level that is expected for diploma theses and as such, it could be a solid building block of a dissertation research, either at IES or elsewhere. Such dissertation research could lead to various streams. First, the outcomes of the thesis could have been extended to present the impact of all modifications to the baseline model separately to increase our understanding

Report on Master Thesis

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

Student:	**Martin Štěpánek**
Advisor:	**Jaromír Baxa**
Title of the thesis:	**Pension Systems in a World with Stagnant Population and Market Inefficiencies: A Comparison**

of partial effects. Second, Martin could try to draft some policy-oriented papers with the results presented in a form as D. Marek did, to compare the results of OLG model with projections and to provide explanations for the differences in the outcomes.

Overall, the topic is very demanding and requires a lot of skills, including good command of economic theory, programming OLG models, as well as detailed knowledge of functioning of pension systems. It should be noted that simulations of pension systems are usually subject of dissertation theses and not diploma theses and that the methodology utilized in this thesis is far above the level covered at MA level not only at the IES but also elsewhere. Despite this sophistication, Martin managed to cope with all the difficulties and presents a thesis that demonstrates author's extraordinary professional level.

This brings me to propose a **grade 1**, výborně, and in case of successful defence I do not hesitate to recommend an **award for the thesis** with distinction from the Dean of the Faculty of Social Sciences for an extraordinarily good masters diploma thesis.

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

CATEGORY		**POINTS**
Literature	*(max. 20 points)*	20
Methods	*(max. 30 points)*	30
Contribution	*(max. 30 points)*	30
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**100**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: ***Jaromír Baxa***

DATE OF EVALUATION: ***June 9, 2014***

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	**1**	= excellent	= výborně
61 – 80	**2**	= good	= velmi dobře
41 – 60	**3**	= satisfactory	= dobře
0 – 40	**4**	= fail	= nedoporučuji k obhajobě