Report on **Bachelor Thesis**

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

Student:	**Marek Chadim**
Advisor:	**Matěj Bajgar, DPhil.**
Title of the thesis:	**Markups and Public Procurement**

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

Please provide a short summary of the thesis, your assessment of each of the four key categories, and an overall evaluation and suggested questions for the discussion. The minimum length of the report is 300 words.

Short summary
The thesis compares the competitiveness of public procurement vis-a-vis private markets. To do so, it uses markups, which are defined as the ratio of price to marginal costs and are a common indicator of the degree of competition. Following a novel methodology of De Loecker and Warzynski (2012), the thesis estimates firm-level markups using firm-level data for Czech firms in the construction sector. It merges the data to a detailed database on public procurement contracts, to observe, for each year, which firms participate in public procurement and what share of their revenues comes from public procurement. Using cross-sectional and fixed-effects regressions, the thesis then estimates the relationship between participation in public procurement, and its intensity, and firm-level markups. It finds that firms active in public procurement charge higher markups, both in a cross-section and over time, which can be interpreted as public procurement markets being less competitive than private markets in the same industry.

Contribution
To the best of my knowledge, the thesis represents the first study comparing the competitiveness of public procurement and private markets using markups. It, thus, represents a truly novel and important contribution to the literature, well beyond what can reasonably be required from a bachelor thesis. That said, one element that could further increase the contribution of the thesis would be a more extensive discussion of the potential mechanisms behind the results.

Methods
The analysis in the thesis required the author to cover three distinct methodological areas:
1) Production function estimation – Production function estimation is a rather complex area of methodology, as it needs to deal with endogeneity of input choice. Multiple techniques have been proposed in the literature to address the challenges, most prominently the „controlled function approach". The thesis shows a good command of the techniques and appropriately applies state-of-the art technology for estimating the production function of the construction industry.
2) Markup estimation – The thesis applies the methodology for recovering markups developed by De Loecker and Warzynski (2012) and applied in several influential recent papers. The methodology is applied appropriately and its assumptions and limitations are well discussed.
3) Regression estimation – The thesis estimates the relationship between public procurement and markups with simple pooled cross-section and fixed-effects regressions. The regressions are well explained and executed, and their transparency is an advantage for interpretation of the results.

Robustness checks –The thesis can also be commended for offering multiple robustness checks testing the sensitivity of the results to alternative methodological choices.
Data – The thesis also required downloading, cleaning and merging large microeconomic datasets on company financial statements and procurement contracs, which was done with well and with care.

That said, a few things that are not part of the analysis but could be are
1. The data only say when a procurement contract was awarded but not the timing of the work. The thesis works on the assumption that the contracted work and funding are uniformly distributed three years. More robustness checks on the distribution of the procurement conctracts over time would be helpful.

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2. The regressions only controls for year and, in some specfications, firm fixed effects. Such unconditional results are helpful and easy to interpret, but it would also be nice to see how the results change with addition of further (time-varying) firm-level controls.

Literature
The thesis shows a good command of the related literature on markup estimation, production function estimation and public procurement, which is discussed with clarity and appropriately cited.

Manuscript form
The thesis is well structured and appropriately formatted in LaTex.

Overall evaluation and suggested questions for the discussion during the defense
The thesis asks an important and original question, previously unexplored in the literature, applies a novel methodology to rich microeconomic datasests and is well executed in all of its aspects. For this reason, I consider it a strong bachelor's thesis and recommend it for the defense and suggest grade A.

During the defense, the committee may want to ask the following questions:
1. Intuitively, how does the De Loecker & Warzynski method recover firm-level markups? What are the key assumptions involved and what is the advantage of the method compared to earlier approaches?
2. What is the rationale for the rather complex methods for estimating production function proposed by the literature? What is the problem with simply using an OLS?
3. In terms of mechanisms, why would you expect the markups to be greater, or smaller, for firms engaged in public procurement?

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

CATEGORY		POINTS
Contribution	*(max. 30 points)*	27
Methods	*(max. 30 points)*	28
Literature	*(max. 20 points)*	20
Manuscript Form	*(max. 20 points)*	20
TOTAL POINTS	*(max. 100 points)*	**95**
GRADE	**(A – B – C – D – E – F)**	**A**

NAME OF THE REFEREE: Matěj Bajgar, DPhil.

DATE OF EVALUATION: 4th July 2023

Digitálně podepsáno (4.8.2023):
Matěj Bajgar

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Referee Signature

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**EXPLANATION OF CATEGORIES AND SCALE:**

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._

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._

LITERATURE REVIEW: _The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way._

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._

**Overall grading:**

TOTAL	GRADE
91 – 100	**A**
81 - 90	**B**
71 - 80	**C**
61 – 70	**D**
51 – 60	**E**
0 – 50	**F**