University of Nottingham

Applied Microeconometrics

Group Project A

Insert Title

Spring Term 2020

Supervisor
Professor Sourafel Girma

Authors
Yonesse Paris (stud. n°)
Nelly Lehn (stud. n°)
Thea Zoellner (stud. n°)
Georg Schneider (stud. n°)
Emilie Bechtold (20214031)

Contents

List of Tables

1 Introduction

2 Theoretical Background/Literature Review

2.1 FDI

2.2 PSM

Since (I guess) we will be focussing on ATE rather than ATT, we need to satisfy the following two assumptions:

1. Assumption: **Unconfoundedness (CIA)**
   "*[G]iven a set of observable covariates X which are not affected by treatment, potential outcomes are independent of treatment assignment*" (Caliendo et al., 2008, p. 35)

2. Assumption: **Overlap**
   "*persons with the same X values have a positive probability of being both participants and nonparticipants*"(Caliendo & Kopeinig, 2008: 35).

–> if Assumption 1 holds, all biases due to observable components can be removed by conditioning on the propensity score (Imbens, 2004).

Binary Treatment

Difference between logit and probit lies in the link function. Logit assumes a log-distribution of residuals, probit assumes a normal distribution. Heteroskedastic probit models can account for non-constant error variances –> Check for heteroskedasticity?

Multiple Treatments

The multinomial probit model is the preferable option compared to logit. Alternatively, just run several binary ones (more complicated but also more robust to errors).

Variable selection

- outcome variable must be independent of treatment conditional on the pscore (CIA)
- Only variables that influence simultaneously the participation decision and the outcome variable should be included (based on theory and empirical findings)

- variables should either be fixed over time or measured before participation (include only variables unaffeted by participation)
- choice of variables should be based on economic theory and previous empirical findings

Tests for variable selection

Strategies for the selection of variables to be used in estimating the propensity score:

3 Data and Empirical Specification

Our analysis is based on observational firm-level data. The dataset comprises 11,323 firms, of which 4,460 received FDI in 2016. The FDIs are categorized into three different types: Exports-oriented, technology intensive and domestic market seeking FDI. The baseline variables were measured in 2015 (one year prior to the intervention) and comprise information on

- Ownership (listed company, subsidiary, independent or state owned)
- Technology intensity (low, medium low, medium high or high-tech industries)
- Access to a port
- Wages (as log variable)
- Total Factor Productivity (TFP)
- Firm size (measured in number of employees, log variable)
- Debt (as log variable)
- Export intensity
- Whether the firm has invested in Research and Design

The outcome variables TFP and wages were measured in 2017.

4 Descriptive Analysis

Reminder of a thought we had
We could drop all the state-owned enterprises, because wages are likely not to change just because the firm received foreign investment.

5 Results

6 Discussion/Conclusion

For citation:
you have to add your reference firstly in bibCG. After having done so you can always include the reference in the actual file as follows:
Biddle and Hamermesh (1990)
(Caliendo et al., 2008, p. 35)

Thoughts on what we could write for discussion/limits of our study:

1. Do not know much about the context of the treatment (so cannot really rule out anticipation-effects?)
2. Would have been interesting to extend the study to several years after the treatment. Do effects persist? Do they vanish?

References

Biddle, J. E. and Hamermesh, D. S. (1990). Sleep and the allocation of time. *Journal of Political Economy*, 98(5, Part 1):922–943.

Caliendo, M., Hujer, R., and Thomsen, S. L. (2008). Identifying effect heterogeneity to improve the efficiency of job creation schemes in germany. *Applied Economics*, 40(9):1101–1122.

Michael, R. T. (1973). Education in nonmarket production. *Journal of Political Economy*, 81(2, Part 1):306–327.

Appendix