

Notes on Empirical Methods in Business

Preview: Introduction

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1 Introduction

During the first year of my PhD, I have taken a course on Empirical Methods in Business: Modeling and Estimation. This course is designed to provide students with a comprehensive understanding of the most commonly used empirical methods in business research. The main topics of the course can be seen in the following part. I mainly used handwritten notes when I was taking the lectures, which is hard to formalize. As a PhD researcher specializing in empirical studies, it is necessary to have a clear understanding of common empirical methods. Therefore, I review the course content and summarize it in a more formal way to help others who are interested in empirical methods in business research.

Worth to mention that, all the faults in the notes are mine, and I will try my best to make it accurate and clear. If you find any mistakes or have any suggestions, please feel free to contact me.

2 Main Methods Covered

- Issues in Regression
 - Multicollinearity
 - Heteroskedasticity
 - Causality
- Causal Inference and Treatment Effect Models
 - Instrument Variables
 - Panel Data with Fixed Effects
 - Treatment Effects
 - ▷ Matching
 - ▷ Propensity Score Matching
 - ▷ Inverse Probability Weighting
 - ▷ Difference-in-Differences
 - ▷ Synthetic Control
 - ▷ Synthetic Difference-in-Differences

▷ Regression Discontinuity

- Choice Model
 - Binary Choice Model
 - Multinomial Choice - Ordered
 - Multinomial Choice - Non-Ordered
 - Nested Logit Model
- Selection Model
 - Tobit Model
 - Others