

# Final Paper plan in October

Ichiro Kozakai

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## 1 Estimation of Production Function

In this phase, I estimate the production function sector by sector.

- function list
  - CES:  $Y = [\alpha K^\sigma + \beta L^\sigma]^\frac{1}{\sigma}$
  - Cob-Douglas:  $Y = AK^\alpha L^\beta$
  - Linear:  $Y = \alpha K + \beta L$
  - Leontief:  $Y = \min\{\alpha K, \beta L\}$
  - Translog:  $\ln Y = \alpha_0 + \alpha_1(\ln K) + \alpha_2(\ln L) + \frac{1}{2}\alpha_{11}(\ln K)^2 + \frac{1}{2}\alpha_{22}(\ln L)^2 + \alpha_{12}(\ln K)(\ln L)$ 
    - ▶ Decomposition of Aggregate Productivity Growth with Unobserved Heterogeneity
- Decomposition of Aggregate Factor
- SIC classification
  - S&P Dow Jones Indexes(GICS)
  - 日経業種分類
  - 日本標準産業分類
- consideration of time series change and factor scale
- Estimation of markup rate according to production function
  - ▶ 生産関数を用いたマークアップ率の計測に関する検証 (中村 豪)

## 2 Estimation of Cost Function

In this section, I estimate the cost function in a way independent of production function with same factors and period.

- ▶ トランスログ・コストシェアモデルによる同時推定
- ▶ 実証分析における生産、費用関数

- 3 Consideration of correlation between factor price and factor productivity
- 4 Easy Causal inference between M&A and factor productivity
- 5 Reference data