Final Paper plan in October

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1 Estimation of Production Function

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

- function list
  - CES: $\quad Y = [\alpha K^{\sigma} + \beta L^{\sigma}]^{\frac{1}{\sigma}}$
  - Cob-Douglas: $\quad Y = AK^{\alpha}L^{\beta}$
  - Linear: $\quad Y = \alpha K + \beta L$
  - Leontief: $\quad Y = min\{\alpha K, \beta L\}$
  - Translog: $\quad \ln Y = \alpha_0 + \alpha_1(\ln K) + \alpha_2(\ln L) + \frac{1}{2}\alpha_{11}(\ln K)^2 + \frac{1}{2}\alpha_{22}(\ln L)^2 + \alpha_{12}(\ln K)(\ln L)$

    ▶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