Pandemic and Productivity in Japan

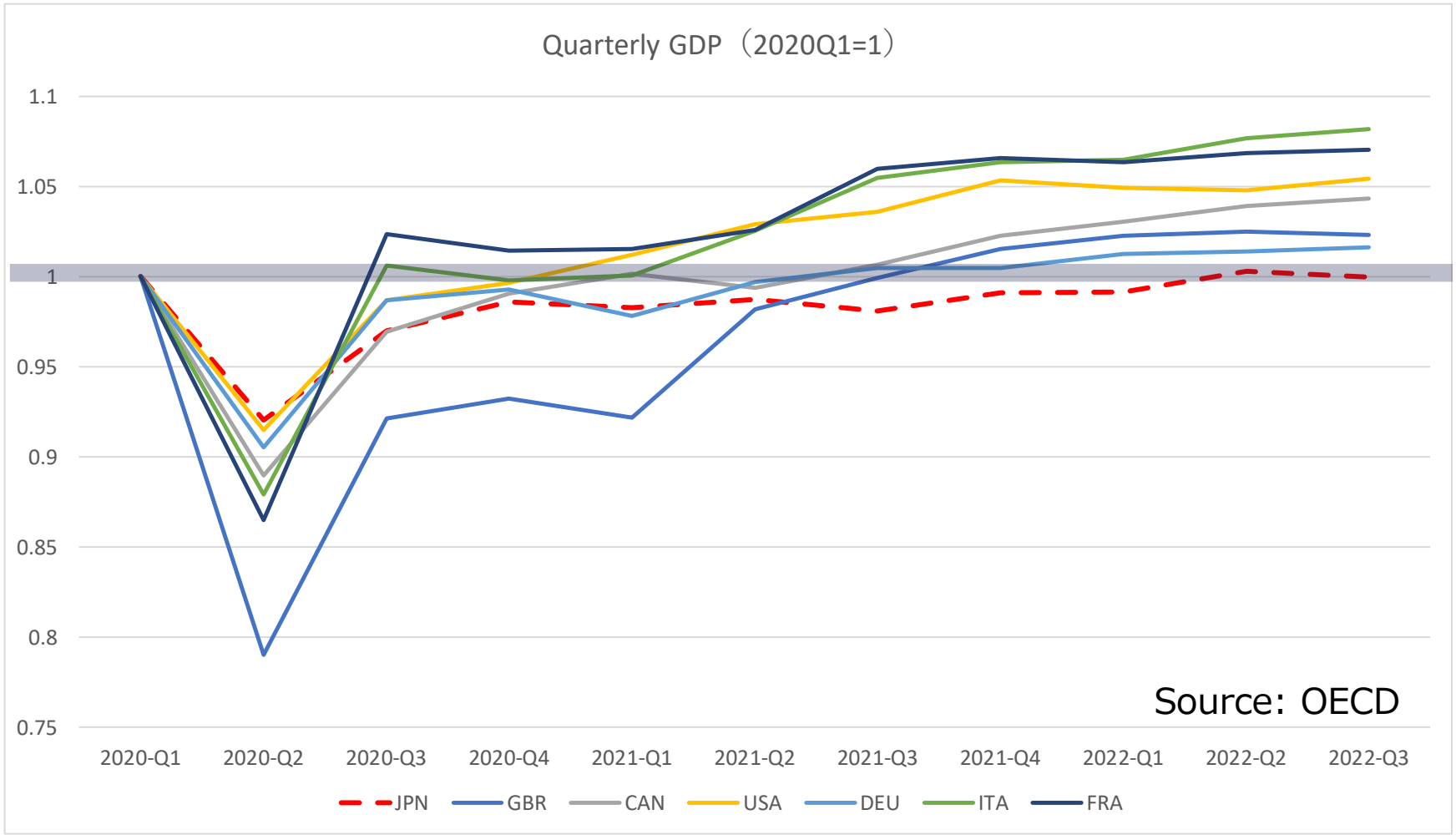
ESRI Cabinet Office

Dec 15th, 2022

Miho Takizawa (Gakushuin Uni.)
Daisuke Miyakawa (Hitotsubashi Uni.)

Motivation

◘ Destruction & recovery



Motivation

- Destruction & recovery w/ what?

  - Productivity in Japan before/during Pandemic

    - Better firms fade & worse firms **shine**?

      or

    - Better firms **shine** & worse firms fade?

We are interested in…

Q1. Micro behind macro?

→ Productivity decomposition over ’00-’22

Q2. Side stories?

→ Business dynamism measures

1a. Decomposition: Method

- BHC-FHK decomposition (*Melitz & Polanec RAND '15*)

$$\Delta\Phi_{t-1\to t} = \underbrace{\sum_{i\in Inc} s_{i,t-1}(\varphi_{i,t}-\varphi_{i,t-1})}_{\text{Within}} + \underbrace{\sum_{i\in Suv}(s_{i,t}-s_{i,t-1})\varphi_{i,t-1}}_{\text{Share}} + \underbrace{\sum_{i\in Suv}(s_{i,t}-s_{i,t-1})(\varphi_{i,t}-\varphi_{i,t-1})}_{\text{Covariance}} + \underbrace{\sum_{i\in Ent} s_{i,t}\varphi_{i,t}}_{\text{Entry}} + \underbrace{\sum_{i\in Ext} s_{i,t-1}\varphi_{i,t-1}}_{\text{Entry}}$$

where

$\Delta\Phi_{t-1\to t}$: Change in the aggregate productivity

$s_{i,t}$: Share of firm i in t

$\varphi_{i,t}$: Productivity of firm i in t

Inc, Ent, Ext: Incumbent, entrants, exits in t

1b. Decomposition: Data

- Tokyo Shoko Research Ltd. (a.k.a.TSR) Data

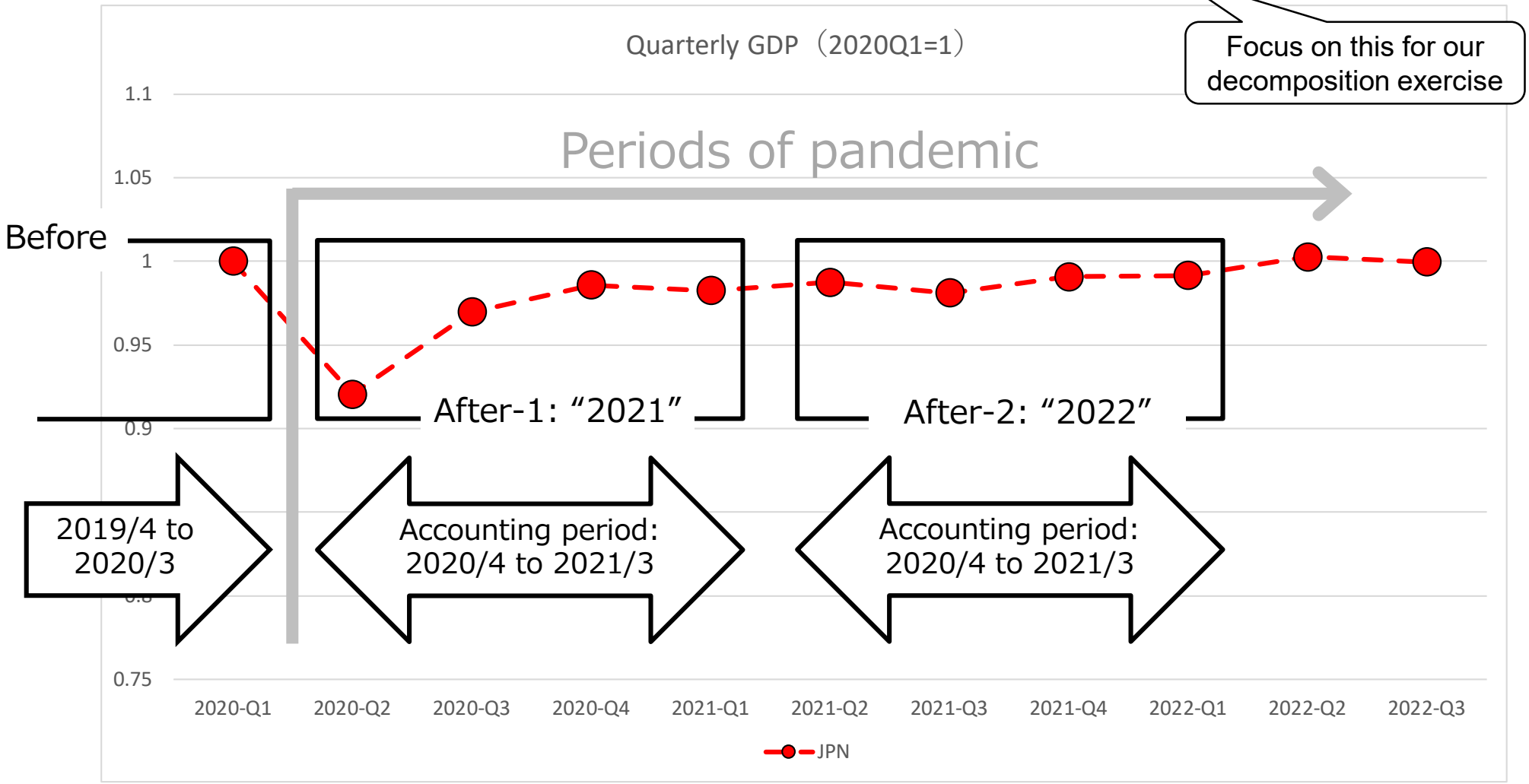
  - TSR in Japan ≒ Dun & Bradstreet in the U.S.

  - 1m/year firm-level panel w/ basic info (e.g., sales)
    - 0.5m/year firm-level panel data with F/S
    - Exit info & entry info (coverage is an issue)

  - E.g. *Carvalho et al. QJE '20*

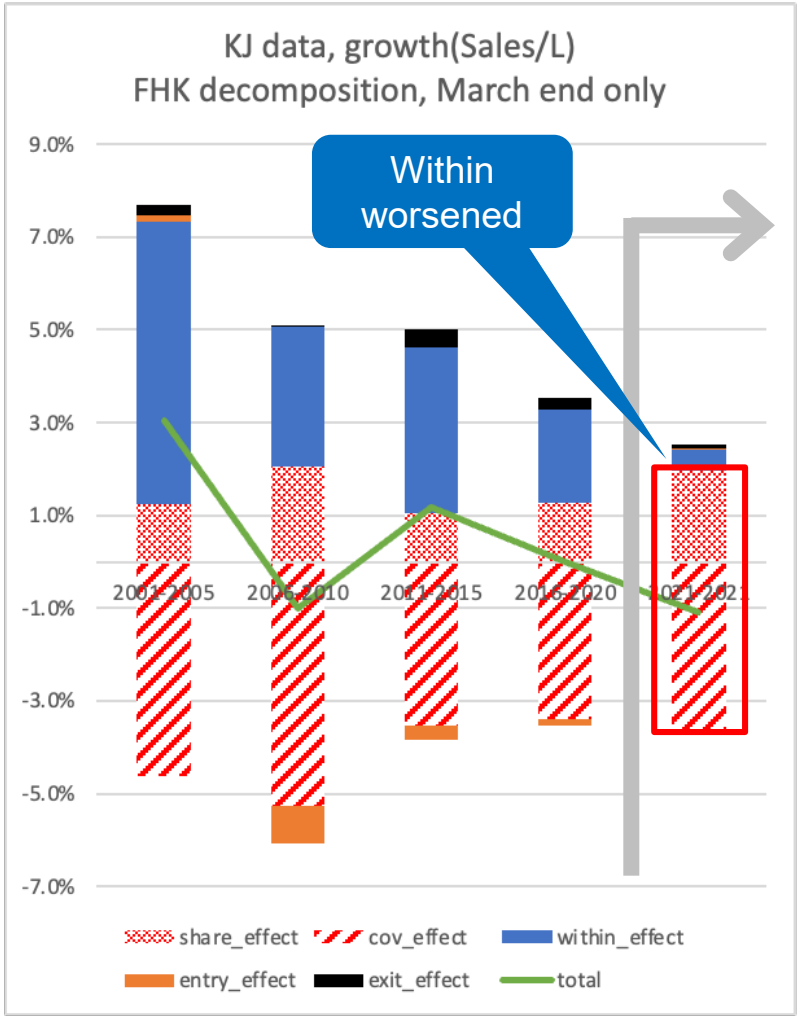
1b. Decomposition: Data

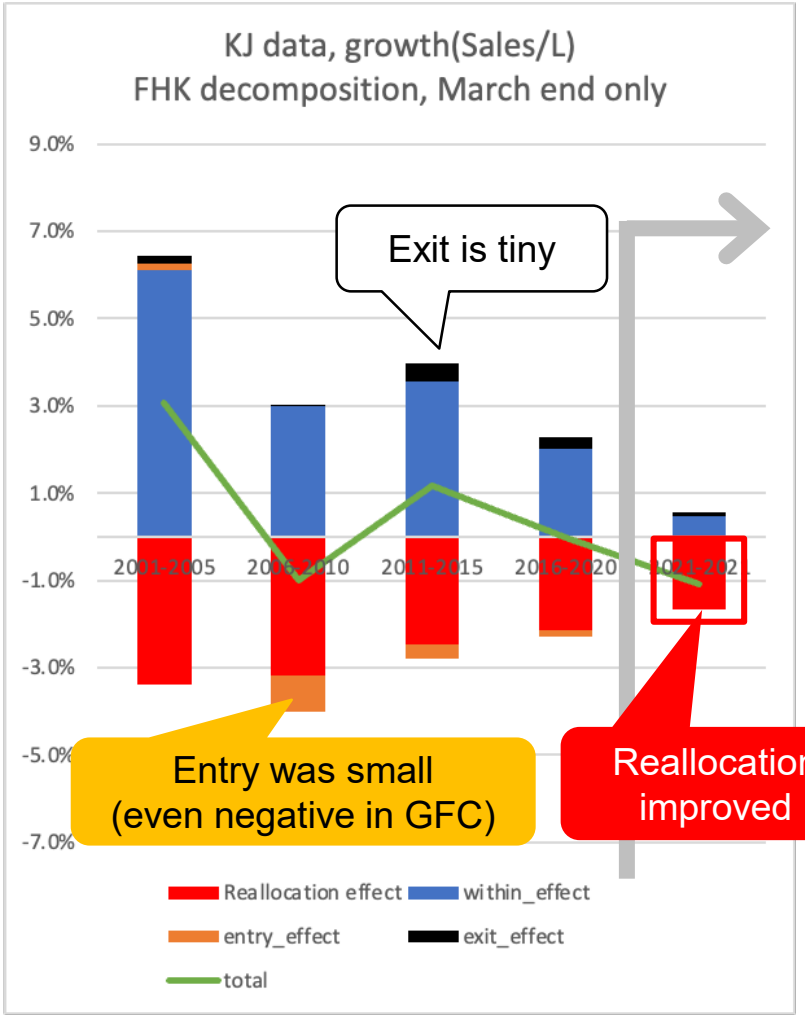
- Major accounting periods: April-to-March



1c. Decomposition: Results

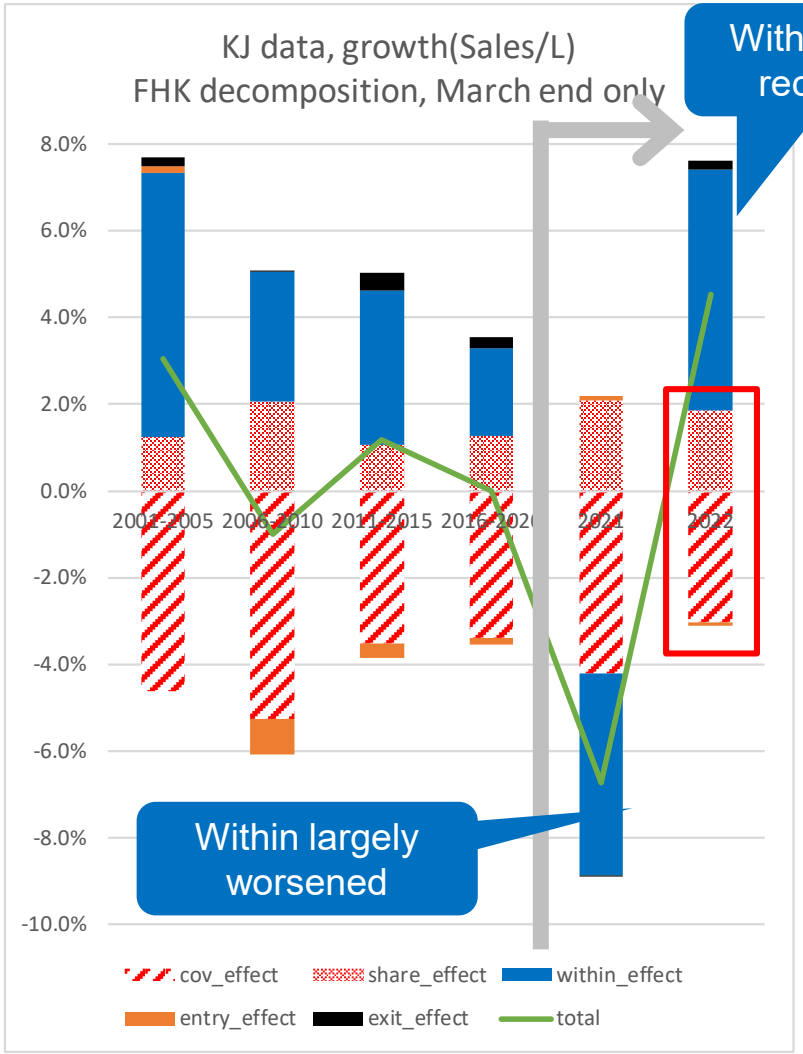
☐ Before vs. During

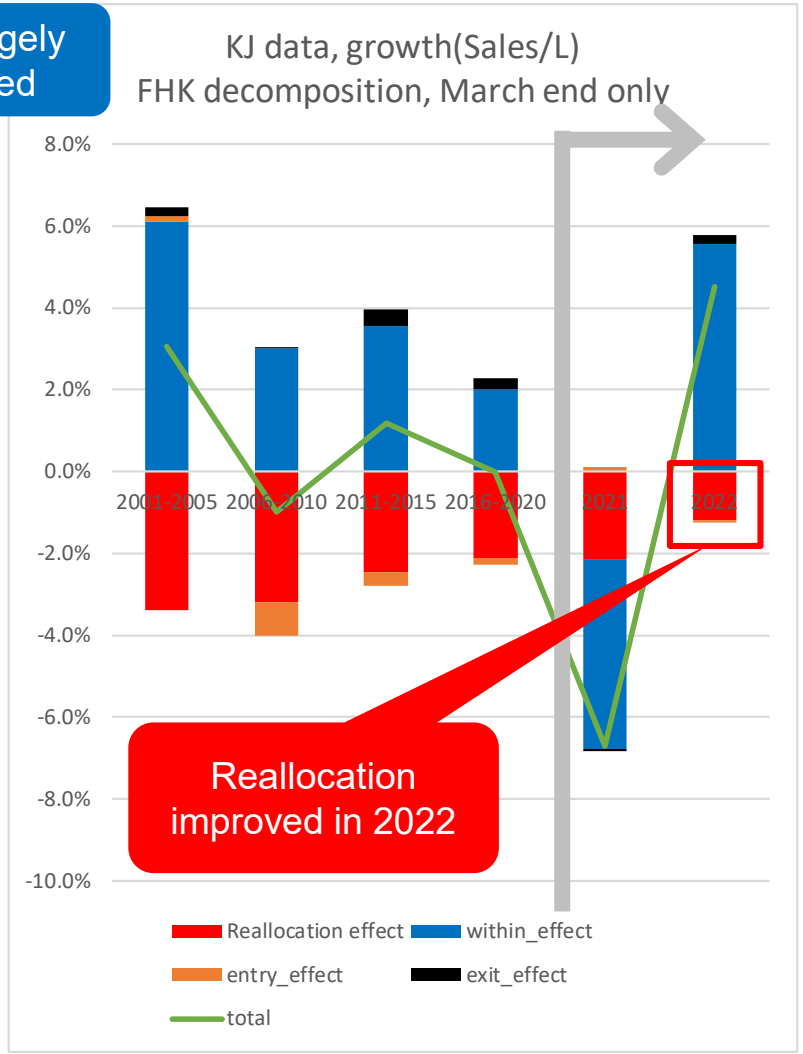




1c. Decomposition: Closer look

☐ Before vs. 2021 vs. 2022

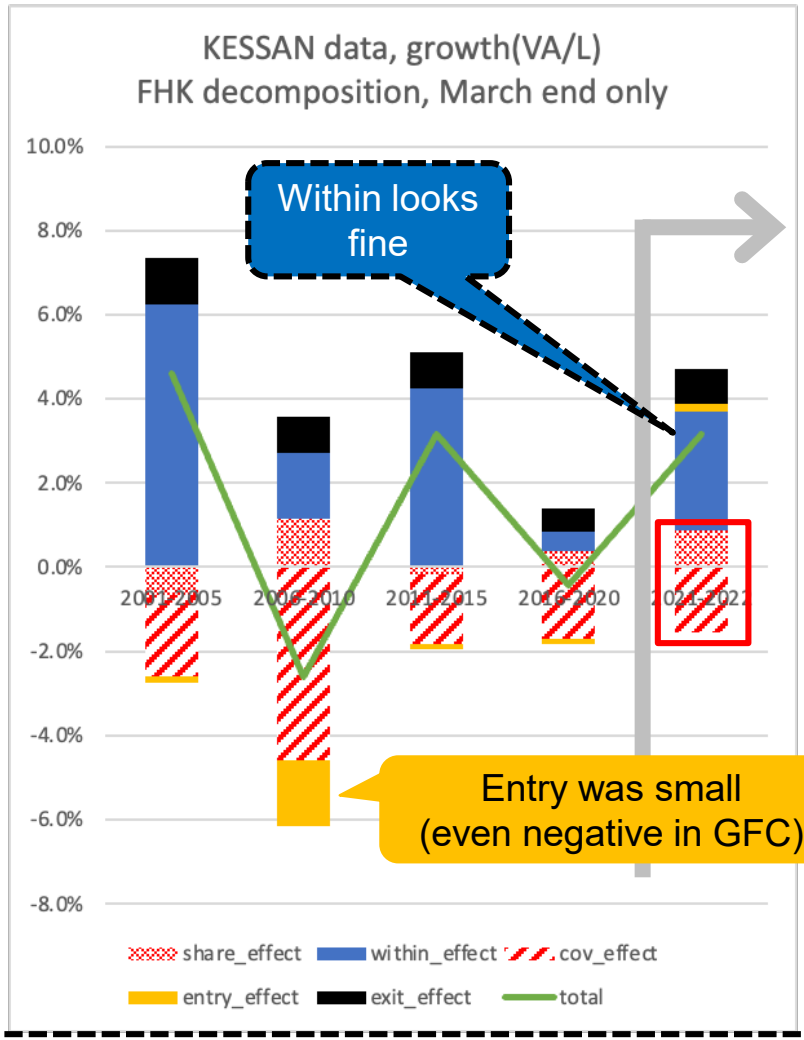


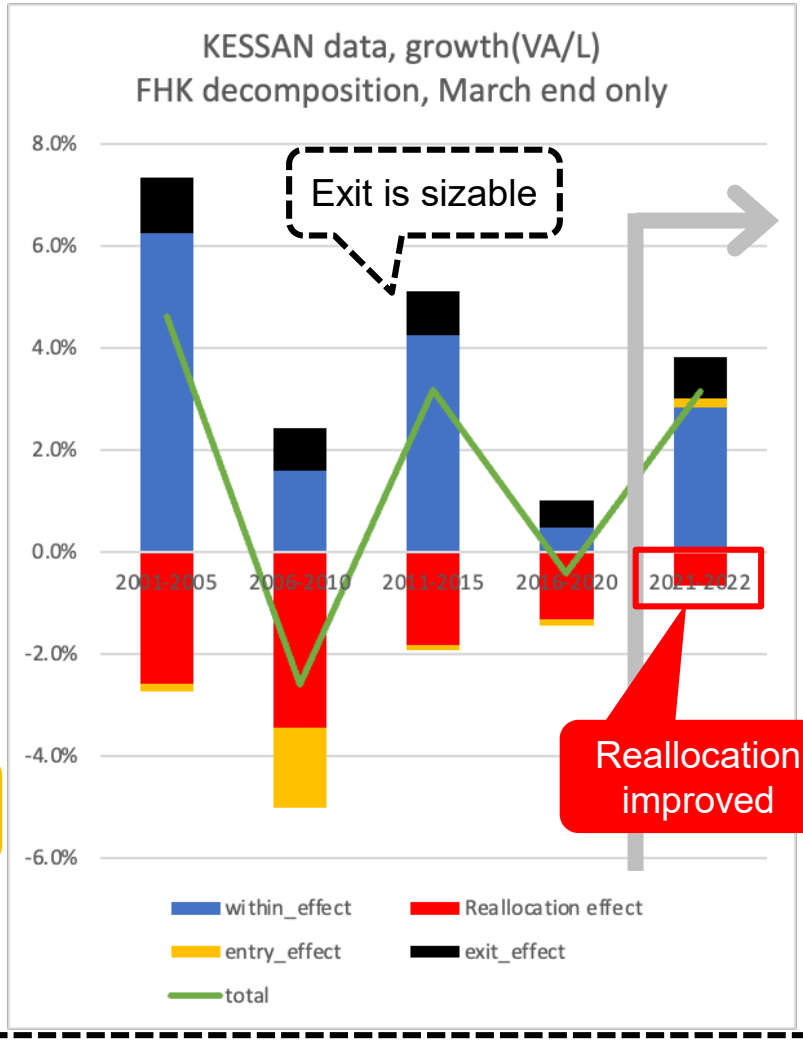


1c′. Decomposition: Results

Relatively large firms with F/S info

◘ Value-added / #(Emp)





1c. Decomposition: Results

- **Within-effect** worsened & recovered
  - Recovery in 2022 & mainly for larger firms

- **Reallocation-effect** improved (still negative though)
  - Both high-productivity's share↑ & low-productivity's share↓ were the cases

- **Entry-effect** was still tiny

- **Exit-effect** was sizable for larger firms

1d. Discussions

- Better firms shine & worse firms fade
  - Can this continue?
  - Worth placing the results in the “context”

2a. Business dynamism indexes

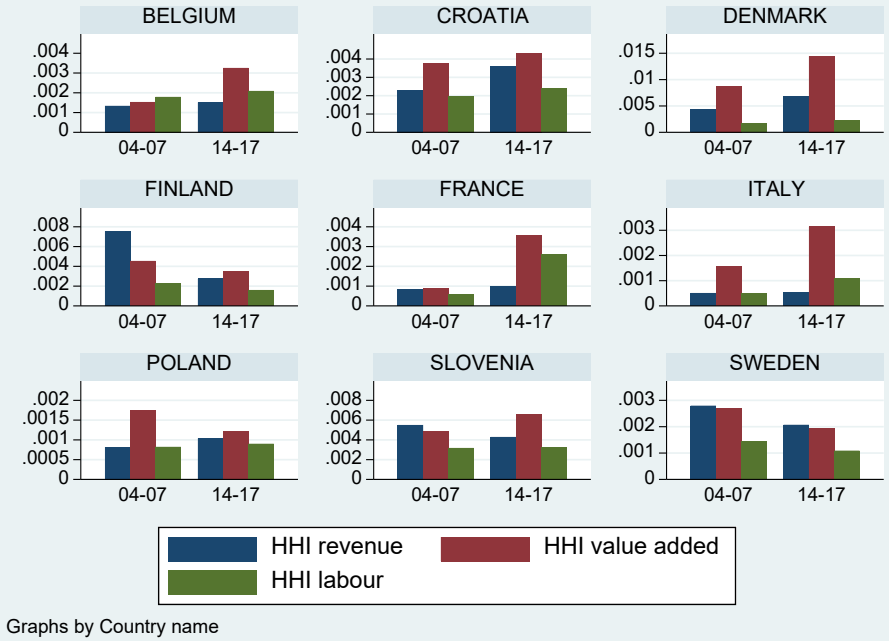
- Slight but important differences b/w Japan and the U.S.

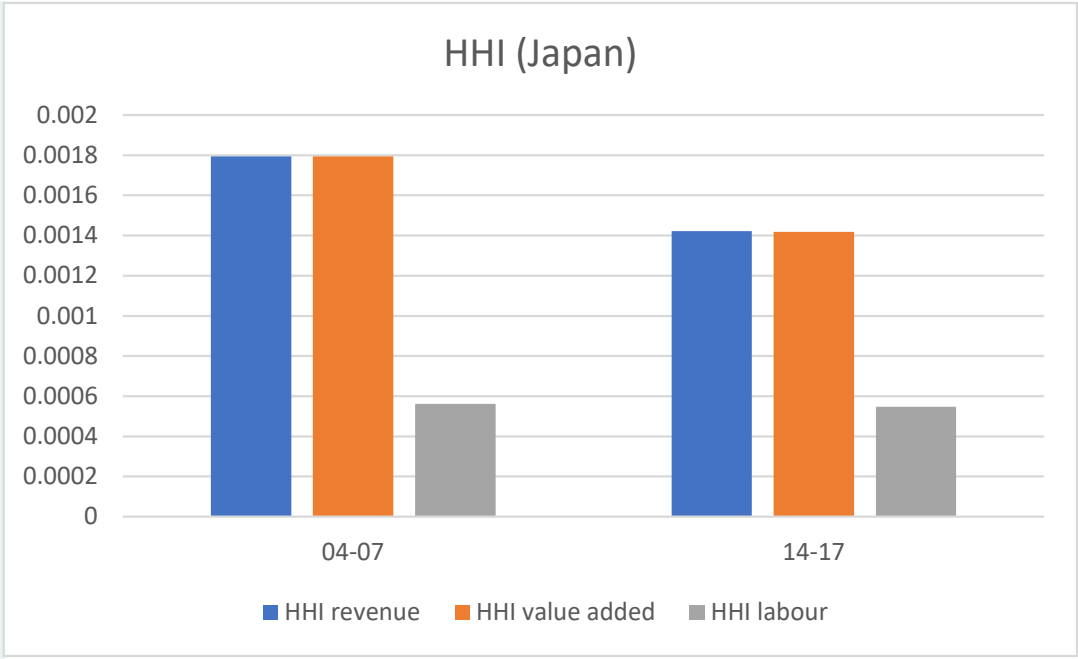
  (From last year's talk in this conference)

Facts	Japanese Data	US Data	Lower knowledge diffusion (e.g., Akcigit & Ates '21)
1. Entry	↓	↓	↓
2. Young firms' empl. share	↓	↓	↓
3. Dispersion of firm growth	↓	↓	↓
4. Job creation	↓	↓	↓
5. Frontier vs. laggard gap	↑	↑	↑
6. Markups	⇔	↑	↑
7. Profit	↑	↑	↑
8. Labor share	↓	↓	↓
9. Concentration	↓	↑	↑

2a. Business dynamism indexes

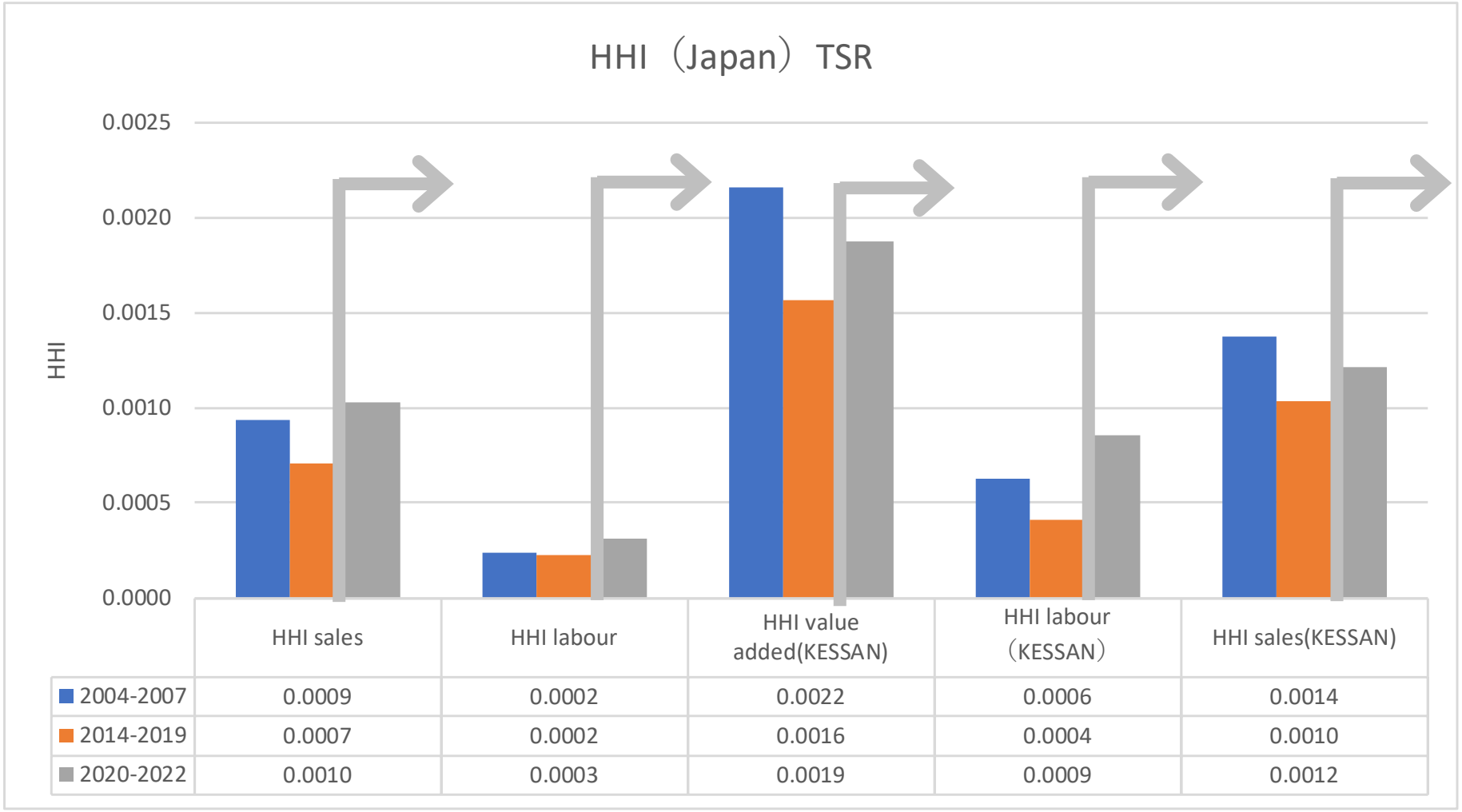
- How about EU countries vs. Japan
  - CompNet initiative
  - 2004-2017





2a. Business dynamism indexes

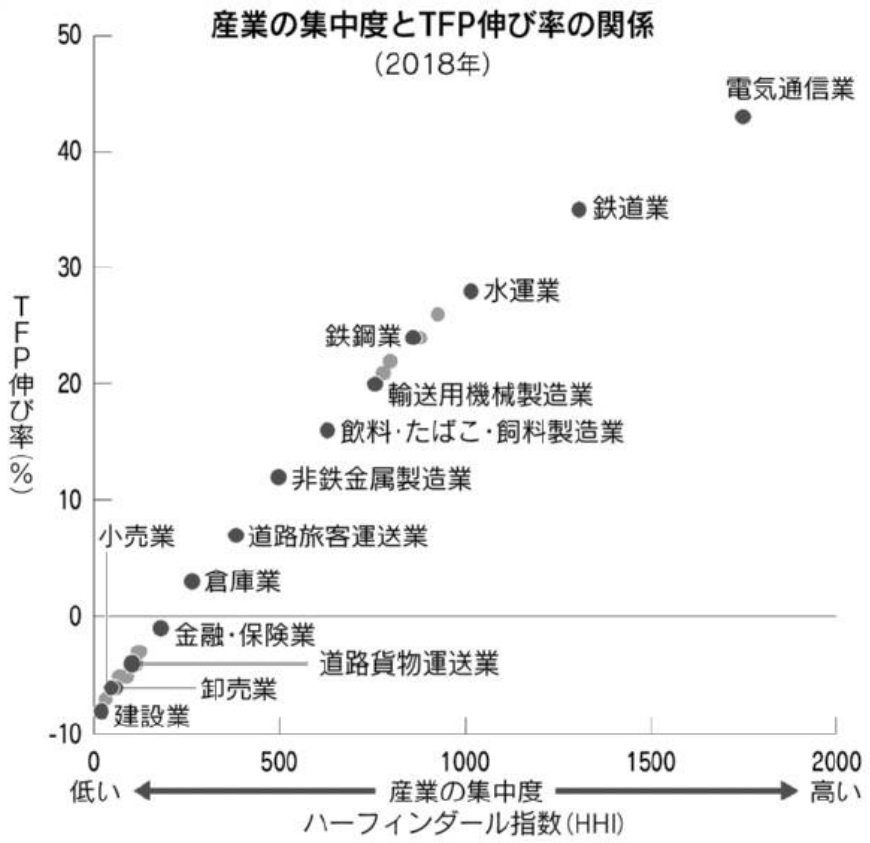
- Now?



	HHI sales	HHI labour	HHI value added(KESSAN)	HHI labour（KESSAN）	HHI sales(KESSAN)
2004-2007	0.0009	0.0002	0.0022	0.0006	0.0014
2014-2019	0.0007	0.0002	0.0016	0.0004	0.0010
2020-2022	0.0010	0.0003	0.0019	0.0009	0.0012

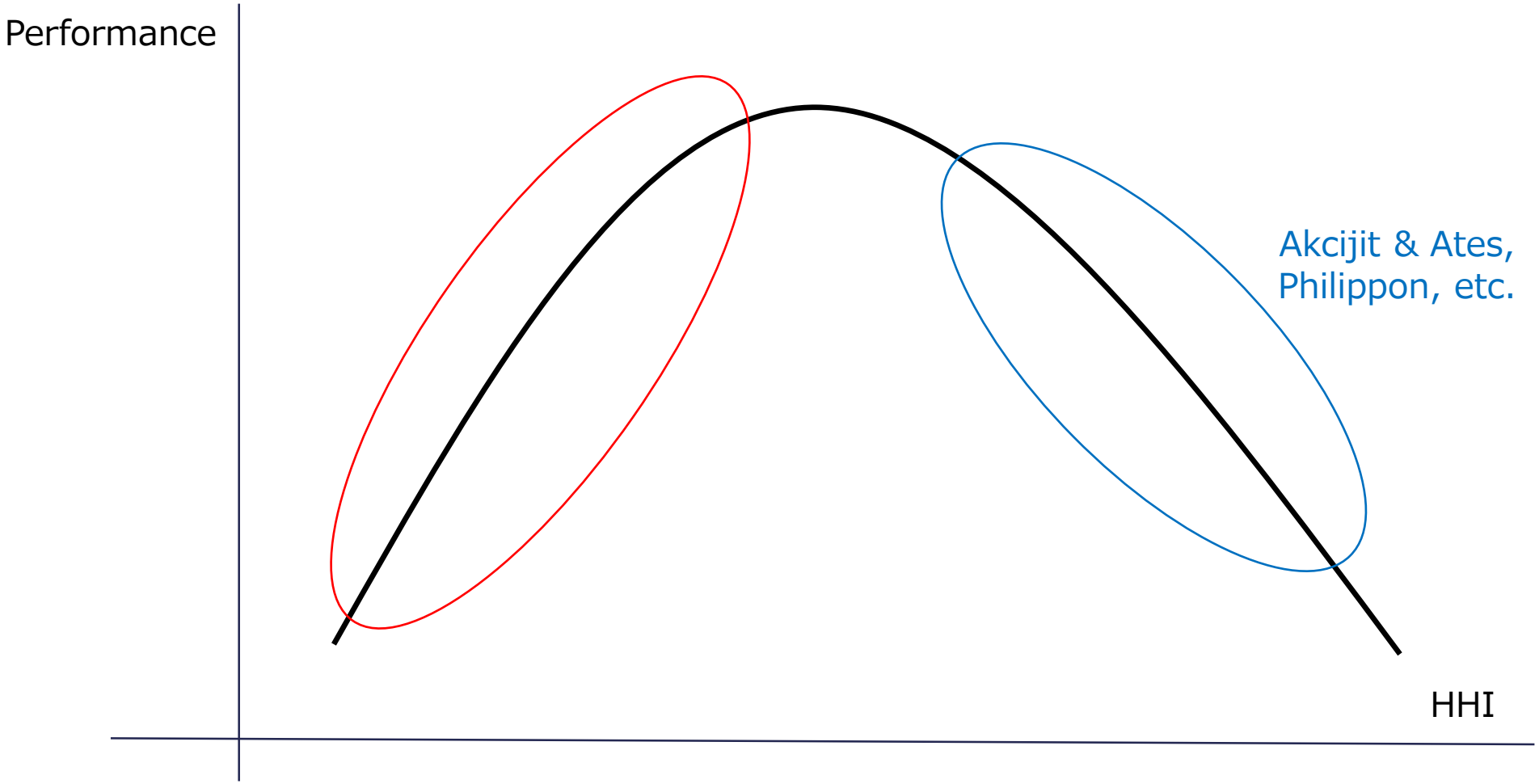
2b. Discussion

- The Nikkei April 22nd, 2020 by Takizawa
  - Unit of ●: Industry
  - Horizontal: Industry HHI
  - Vertical ΔTFP
- Concentration is good or bad?



2b. Discussion

- Connecting Japan, “U.S.”, and EU?



Conclusion/Policy implication

- Micro (firm) dynamics is a key to understand the macro performance
  - We are now using corporate tax data (=population)
- For better to shine & worse to fade w/ keeping welfare (i.e., GDP)

① Move away from old-fashion SME policy (★)
- (★) induces fierce competition for nothing
- (★) encourages firms NOT to grow

⇒ We should seriously think more about entry, exit, and reallocation

② Keep precautionary competitive policy

③ Think more about "better" labor market policy

⇒ We definitely need job-to-job transition data

<Contact information>

Miho Takizawa:
Professor
Faculty of Economics, Gakushuin University
1-5-1 Mejiro, Toshima-ku, Tokyo 171-8588
E-mail: miho.takizawa@gakushuin. ac.jp
Web: https://researchmap.jp/g0000208044?lang=en

Daisuke Miyakawa:
Professor
Hitotsubashi University Business School
2-1-2 Hitotsubashi, Chiyoda-ku, Tokyo 101-8439
E-mail: dmiyakawa@hub.hit-u.ac.jp
Web: https://sites.google.com/site/daisukemiyakawaphd/

