

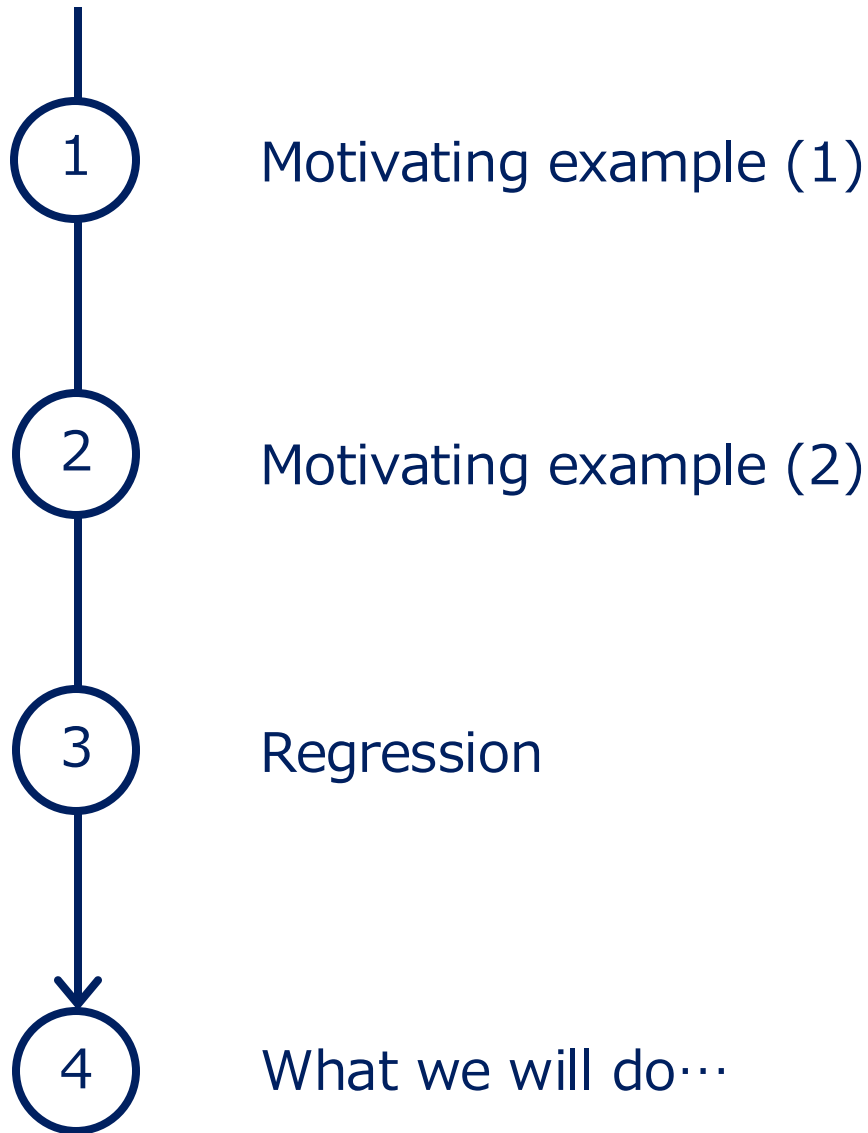
Diagnosing Business Dynamism: Evidence from Japan and European Countries (Incomplete, tentative, and just a progress report)

May 12th, 2025

Filippo Di Mauro, Ashim Dubey, Duy Hoang,
Kenta Ikeuchi, Daisuke Miyakawa, Miho Takizawa

- ❑ Business dynamism: E.g., *Akcigit & Ates '21*
 - ❑ A practical issue: Large observational equivalence
 - Esp., cross-country study
 - Largely overlapped pattern with **small differences**
- ↓
- ❑ “**Diagnostic**” approach
 - Comprehensive metrics (esp., HHI) + theories

- What we are doing (or aiming to do)
 - Apply such an **approach** to CompNet data to...
 - Highlight Japanese business dynamism
 - In the comparison w/ the countries in CompNet
- Today: Sketch what we aim to do (+ **something**)
 - Japan vs. US., Denmark vs. France, and **regression**



□ Japan vs. U.S.

■ Disagree on “6” & “9”

⇒ GAFA-story (e.g., Akcigit & Ates '21) is not applicable

⇒ Need another exposition (e.g., SMEs)

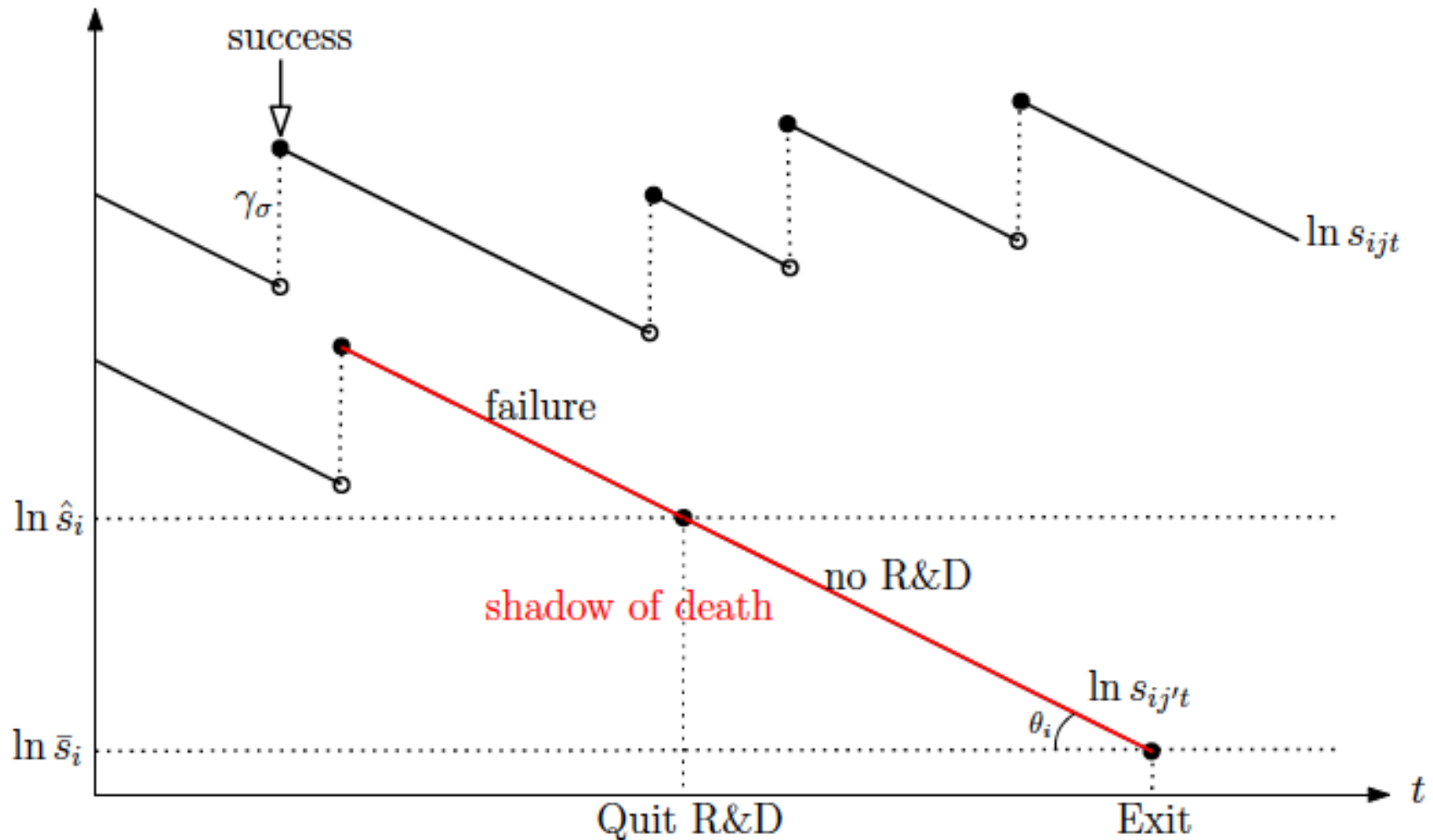
Facts	Japanese Data	US Data	Lower knowledge diffusion (e.g., Akcigit & Ates '21)
1. Entry	↓	↓	↓
2. Young firms' empl. share	↓	↓	↓
3. Dispersion of firm growth	↓	↓	↓
4. Job creation	↓	↓	↓
5. Frontier vs. laggard gap	↑	↑	↑
6. Markups	↔	↑	↑
7. Profit	↑	↑	↑
8. Labor share	↓	↓	↓
9. Concentration	↓	↑	↑

Source: Takizawa & Miyakawa (mimeo)

2-1. E.g. (1) A theory

5

□ A Model

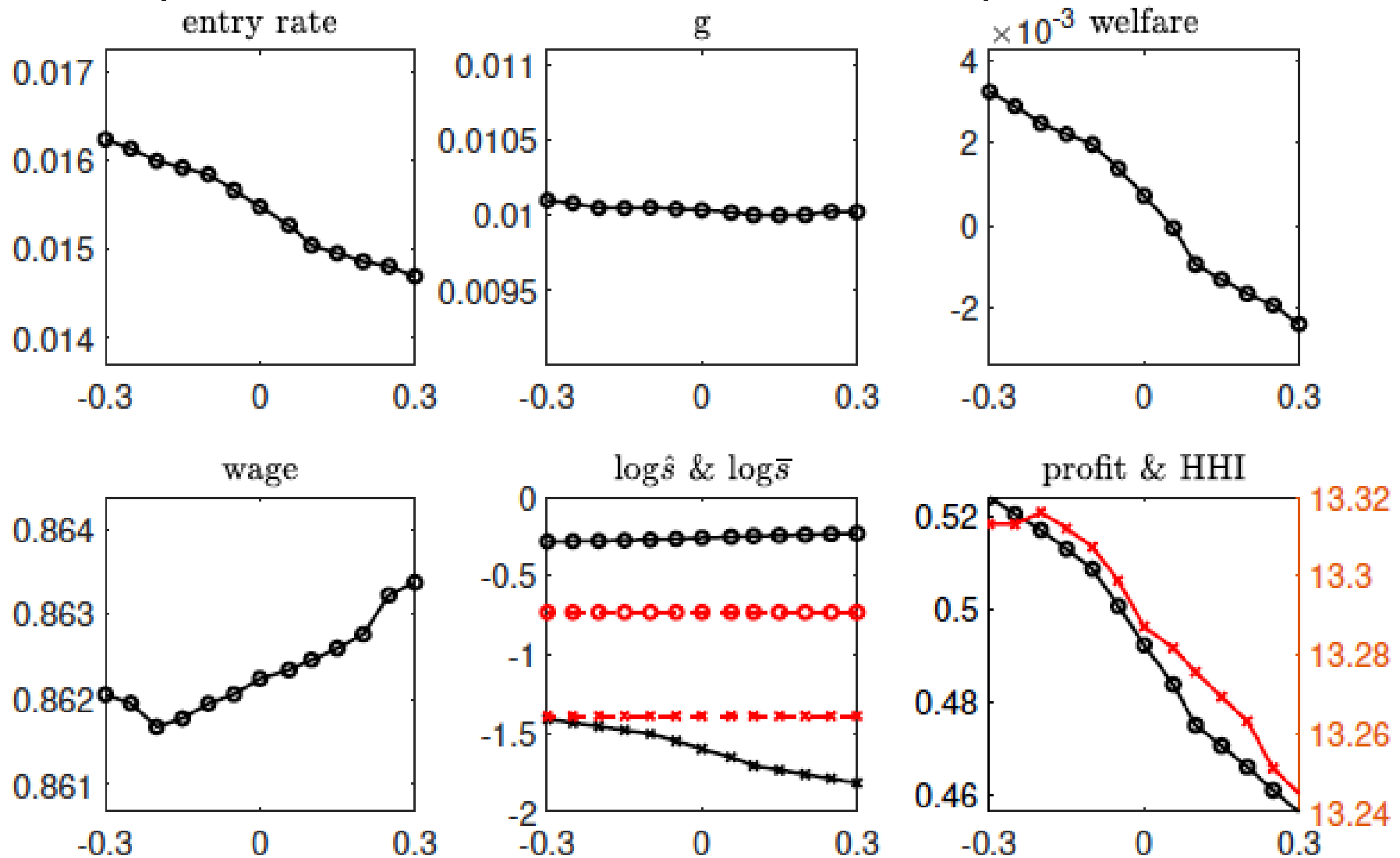


Source: Miyakawa et al. (2022)

2-1. E.g. (1) Simulation

6

Policy intervention R&D tax $\rightarrow$ Social optima



Source: Miyakawa et al. (2022)

2-1. E.g. (1) Other Theories

7

□ Labor MKT & Overseas activities

Facts	Japan Data	Higher distortion (Miyakawa, Oikawa, Ueda)	Weaker worker power (e.g., non-regular employees)	Plant relocation to foreign countries	Ideas getting harder	Higher financial friction for intangible investment (esp., young startups)
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	↓	↓	⇔	⇔	↓	↑

Source: Takizawa & Miyakawa (mimeo)

2-2. E.g. (2) CompNet

Comparison of European countries

	Business dynamism																
		←Low		High→													
	Japan	Denmark		France		Germany		Spain		Portugal		Netherlands		Malta		Switzerland	
Variable		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Young firms' empl. share	↓	↓	↓	↓	↓	↓	.	↓	↓	.	.	↓	↑	↑	↓	.	.
Dispersion of firm growth	↓	↓	↓	↓	↑	↑	.	↑	↓	↓	↓	↑	↓	↓	↑	↓	↑
Job Creation Rate	↓	↑	↑	↑	↓	↓	.	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Frontier vs laggard gap	↑	↑	↑	↑	↑	↑	.	↑	↑	↑	↑	↑	↑	↑	↑	↑	↓
Markup	?	↑	↓	↑	↓	↑	.	↑	↑	↑	↑	↑	↓	↑	↓	↑	↓
Profit	↑	↓	↓	↑	↑	↑	.	.	.	↑	↑	↑	.	↑	↑	↑	↑
Labor Share	↓	↑	↑	↑	↑	↑	.	↓	↓	↓	↓	↓	↓	↓	↑	↑	↓
HHI Revenue	↓	↑	↓	↓	↓	↑	.	↑	↑	↓	↑	↓	↑	↓	↑	↑	↑
Labor Productivity	↑	↑	↑	↑	↑	↓	.	↑	↑	↑	↑	↑	↑	↑	↑	↑	↓

Note: Period A denotes "All periods" and Period B denotes "Post-COVID periods"

Note: "." Denotes N.A.

Source: CompNet (2025) Firm Productivity Report

- How can we map the results obtained from CompNet and the theoretical expositions?

E.g., Denmark (A)

↔ Concentration ↑, MU ↑, Profit ↓ ≡ U.S.???

E.g., France (A)

↔ Concentration ↓, MU ↑, Profit ↑ “Selection”

→ Multiple theoretical mechanisms might work

→ A key question: Where is Japan?

3. **+a**: Concentration?

10

- Another way to describe/summarize multiple metrics
- Following Bighelli et al (2023):

$$HHI_{ist} = \beta P_{ist} + \mathbf{C}_{ist} \boldsymbol{\lambda} + \eta_t + \eta_{is}$$

Where:

HHI_{ist} denotes concentration level in sector s of country i in year t .

P_{ist} denotes labor productivity in sector s of country i in year t .

$\mathbf{C}_{ist}$ denotes a set of control variables (capital intensity, average firm size, and markup)

η_t and η_{is} denote time FEs and country-sector FEs

- Allocative efficiency will be used in place of LP

Table 1 - all sectors included

- Positive correlation between concentration and productivity for the full 20e sample, France, Denmark, Netherlands, and Japan.

Regression Output - HHI Revenue

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	20e sample	Germany	France	Denmark	Spain	Netherlands	Japan
Labor productivity	0.0002*** (0.0000)	0.0001 (0.1711)	0.0002*** (0.0000)	0.0002*** (0.0003)	0.0000 (0.9688)	0.0005*** (0.0000)	0.0003*** (0.0001)
Capital intensity	-0.0001*** (0.0003)	-0.0000 (0.7695)	0.0000 (0.9781)	-0.0002** (0.0403)	0.0000 (0.3235)	-0.0002*** (0.0095)	-0.0001 (0.1297)
Log (average firm size)	0.0352*** (0.0000)	-0.0041 (0.6958)	0.0583*** (0.0023)	0.0514*** (0.0000)	0.0629* (0.0654)	0.0325*** (0.0011)	0.0759*** (0.0054)
Markup	-0.0003 (0.4071)	-0.0239*** (0.0012)	0.0005 (0.6225)	-0.0475* (0.0528)	-0.0084 (0.6264)	0.0050* (0.0947)	-0.0622*** (0.0000)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	.8412976	.8961401	.856589	.757384	.8416258	.8278698	.7962269
Observations	16627	935	1403	1039	839	826	1038

p-values in parentheses

="* p<0.1

** p<0.05

*** p<0.01"

Table 2 – Manufacturing only

- In manufacturing, all results besides Germany and Spain return a positive correlation.
- Low number of observations should be taken into consideration when assessing reliability.

Regression Output - HHI Revenue

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	20e Manufacturing	Germany	France	Denmark	Spain	Netherlands	Japan
Labor productivity	0.0003*** (0.0000)	-0.0002** (0.0103)	0.0003*** (0.0000)	0.0004* (0.0732)	0.0011*** (0.0000)	0.0004*** (0.0000)	0.0001*** (0.0000)
Capital intensity	-0.0001 (0.2237)	0.0000 (0.8724)	0.0002 (0.1363)	0.0008*** (0.0055)	-0.0011*** (0.0003)	-0.0006** (0.0334)	-0.0013*** (0.0000)
Log (average firm size)	0.0399*** (0.0000)	-0.0114 (0.1029)	0.1845*** (0.0000)	0.0803*** (0.0002)	0.0469*** (0.0091)	0.0545** (0.0157)	0.0348*** (0.0000)
Markup	-0.0005 (0.4677)	0.0274** (0.0448)	0.0089*** (0.0000)	-0.0134 (0.6182)	-0.0241 (0.6515)	-0.0628 (0.2462)	-0.0125** (0.0268)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	.8548057	.9047124	.9404733	.9179913	.841963	.8788062	.8289778
Observations	7002	421	592	345	408	351	506

p-values in parentheses

=** p<0.1

** p<0.05

*** p<0.01"

Table 3 – all sectors, using allocative efficiency

- Positive correlation for all countries besides Spain.

Regression Output - HHI Revenue

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	20e sample	Germany	France	Denmark	Spain	Netherlands	Japan
Allocative efficiency	0.0003*** (0.0047)	0.0002** (0.0105)	0.0003*** (0.0023)	0.0002*** (0.0063)	0.0002 (0.1644)	0.0007*** (0.0000)	0.0004*** (0.0003)
Capital intensity	-0.0001*** (0.0029)	0.0000 (0.7858)	-0.0000 (0.9292)	-0.0001* (0.0742)	0.0000 (0.2639)	-0.0001 (0.2049)	-0.0001 (0.1988)
Log (average firm size)	0.0349*** (0.0000)	-0.0040 (0.6800)	0.0557*** (0.0033)	0.0485*** (0.0000)	0.0642* (0.0548)	0.0326*** (0.0005)	0.0652** (0.0199)
Markup	-0.0002 (0.6915)	-0.0214*** (0.0083)	0.0006 (0.6038)	-0.0435* (0.0534)	-0.0138 (0.4070)	0.0046* (0.0820)	-0.0558*** (0.0001)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	.8432414	.8982068	.8546095	.7705866	.8427371	.8403976	.7967183
Observations	16627	935	1403	1039	839	826	1038

p-values in parentheses

= "*" p<0.1

** p<0.05

*** p<0.01"

Table 4 – Manufacturing only, using allocative efficiency 14

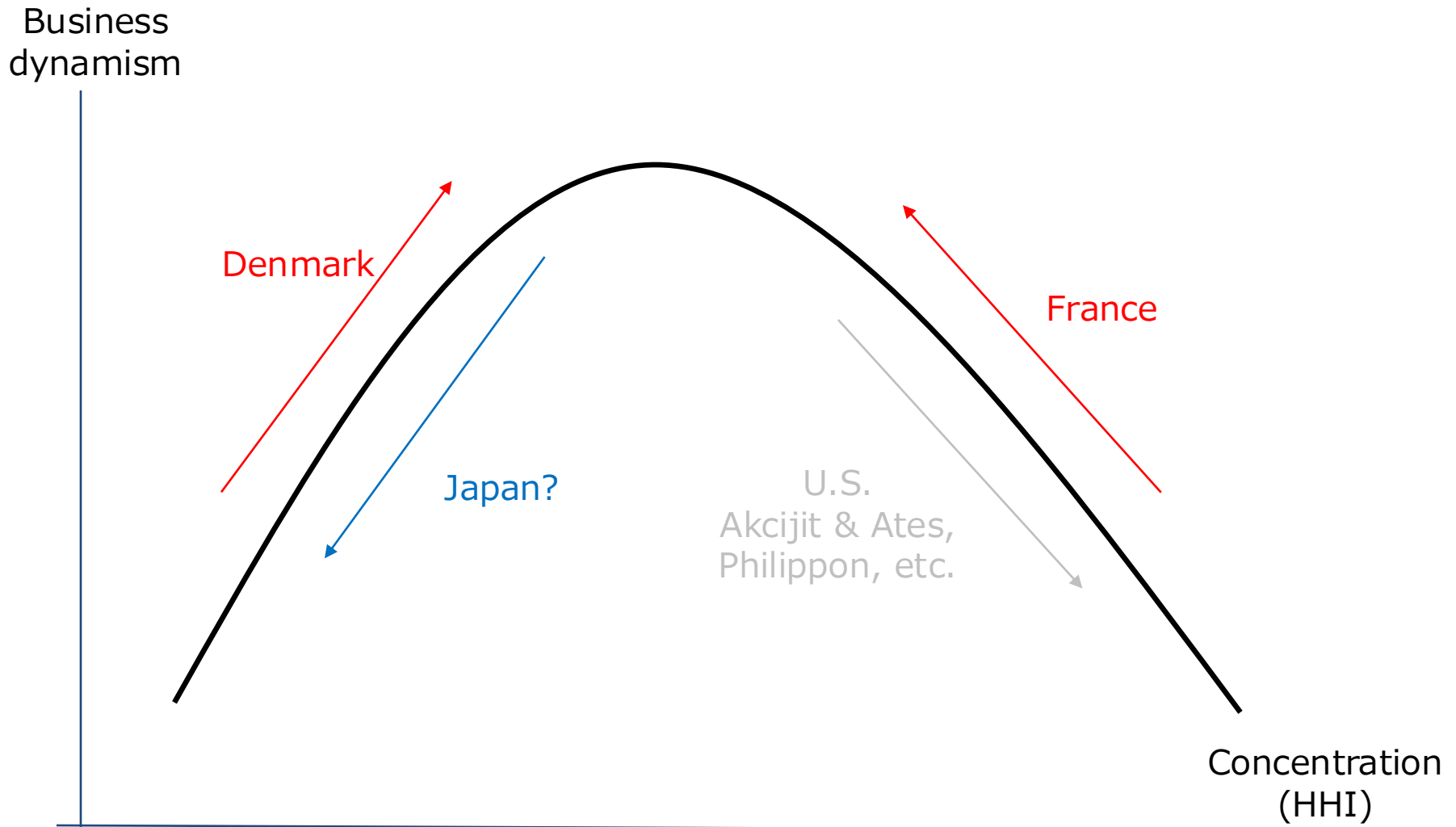
- For Manufacturing sector, there are positive connections for all results besides Germany.
- Similar problem with low number of observations.

Regression Output - HHI Revenue

	(1) 20e Manufacturin g	(2) Germany	(3) France	(4) Denmark	(5) Spain	(6) Netherlands	(7) Japan
Allocative efficiency	0.0009*** (0.0000)	-0.0002 (0.3186)	0.0009*** (0.0000)	0.0015*** (0.0000)	0.0017*** (0.0000)	0.0005*** (0.0000)	0.0002*** (0.0000)
Capital intensity	-0.0002** (0.0173)	0.0000 (0.6493)	-0.0000 (0.9823)	-0.0007** (0.0179)	0.0011*** (0.0002)	-0.0006** (0.0312)	-0.0009*** (0.0000)
Log (average firm size)	0.0317*** (0.0000)	-0.0119 (0.1026)	0.1103*** (0.0000)	0.0474** (0.0303)	0.0514*** (0.0066)	0.0528** (0.0146)	0.0336*** (0.0000)
Markup	-0.0004 (0.4984)	0.0225* (0.0986)	0.0073*** (0.0000)	0.0431 (0.4765)	-0.0357* (0.0731)	-0.0248 (0.6472)	-0.0031 (0.5566)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	.8632278	.901587	.9515745	.8605433	.9365779	.8838232	.8319163
Observations	7002	421	592	408	345	351	506

p-values in parentheses

=** p<0.1 ** p<0.05 *** p<0.01"



Source: Takizawa & Miyakawa (mimeo)

- Attempting to diagnose business dynamism
 - E.g., Denmark vs. Japan
 - E.g., France vs. U.S.
- One working Hypothesis: Hump-shape b/w HHI & BD
 - Mainly narrative ($\neq$ My usual works...)
 - Sometimes descriptive (including a simple reg)
 - Recent policies in Japan (Mid-size, 10B SMEs etc.)