Discussion of "Estimating Japan's Gross Domestic Income Based on Taxation Data"

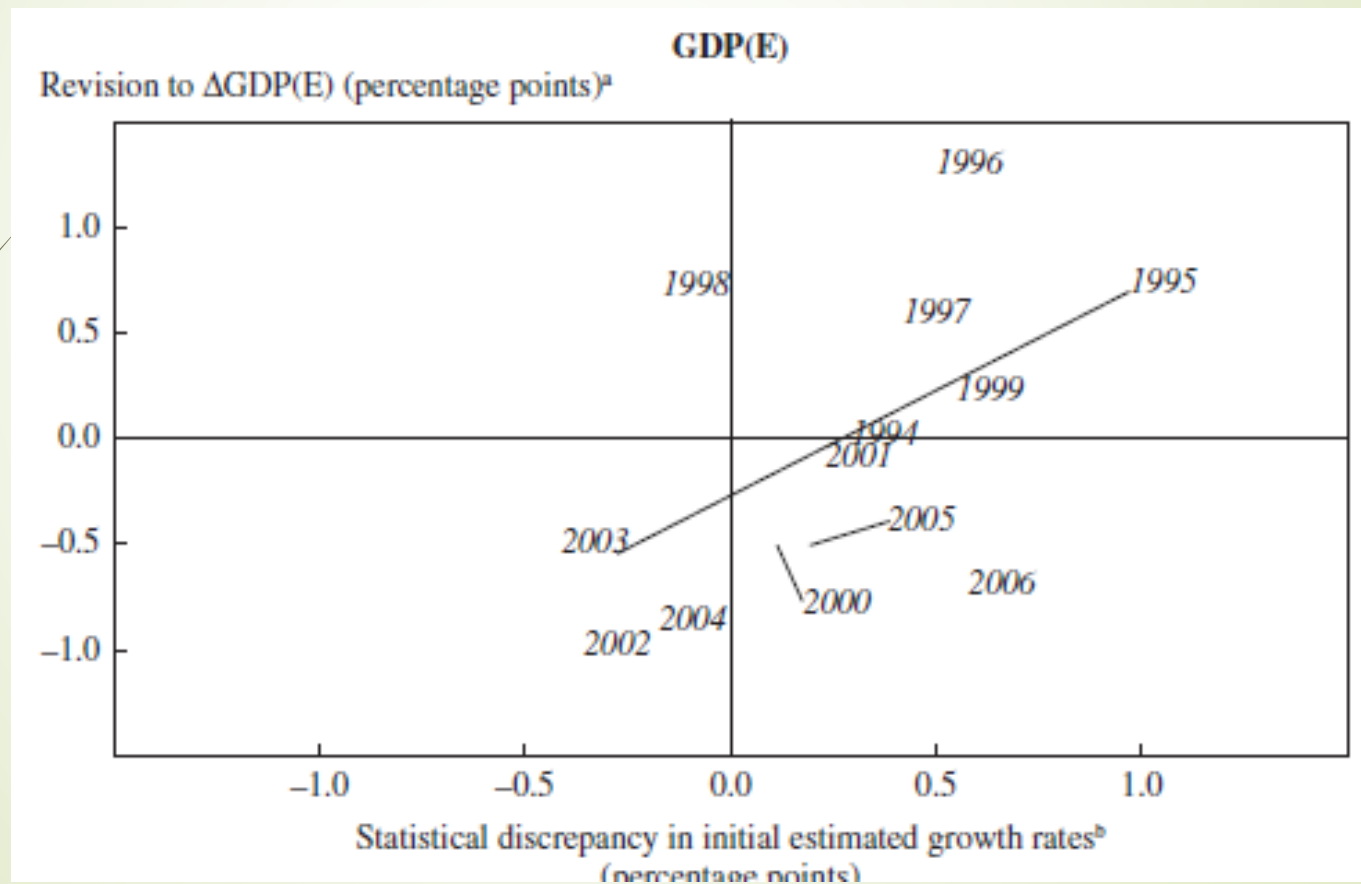Emi Nakamura, Columbia University

GDI vs. GDP

- GDP: Estimate by adding up outputs (based on firm surveys etc.)

- GDI: Estimate by adding up inputs (based on tax data)

- Growing sense that GDI might be better way of measuring output than GDP

  - Tax data may have less measurement error than survey data

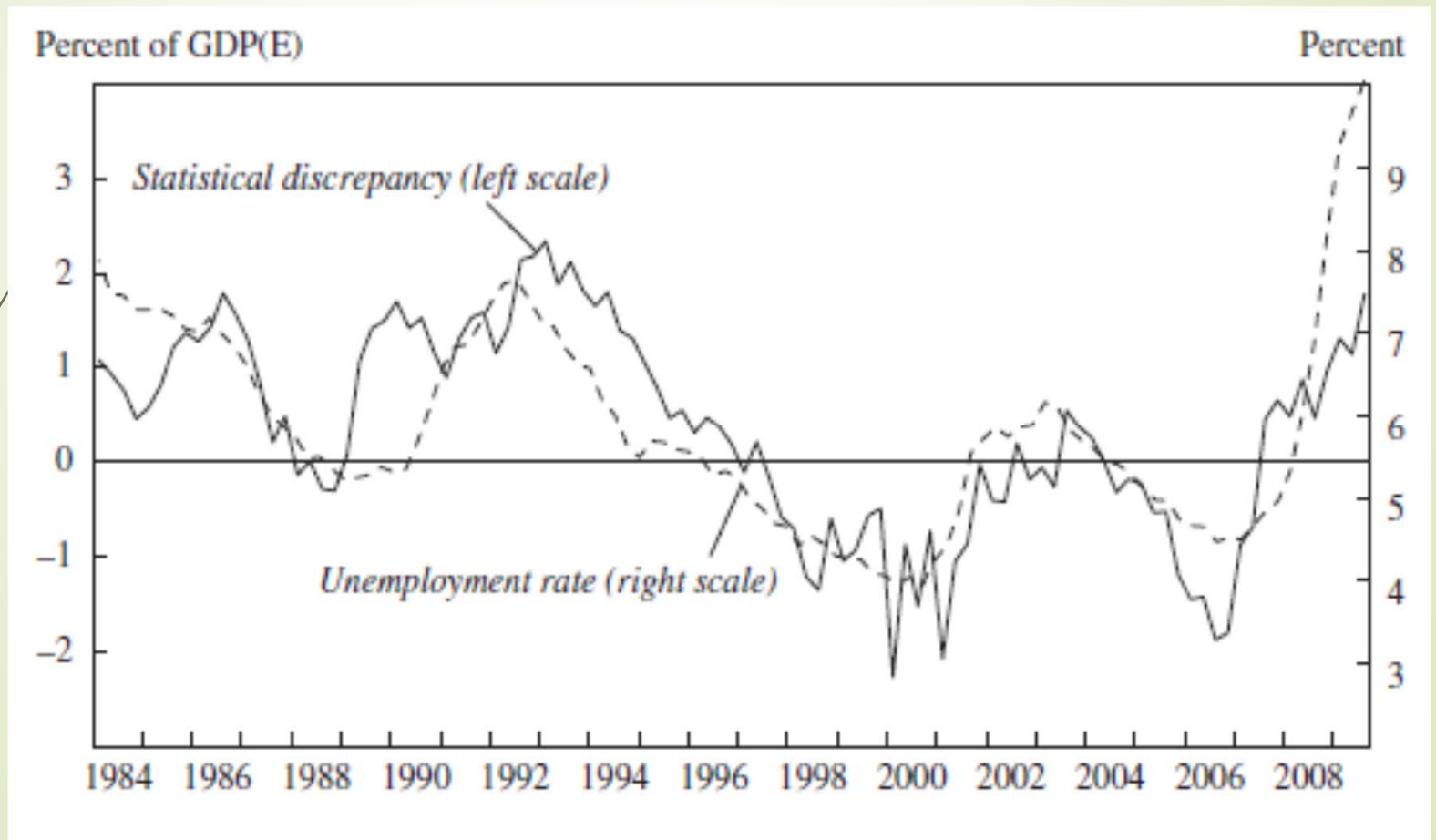- US Evidence that difference between GDI and GDP forecasts GDP revisions

Nalewalk (2010)

GDP – GDI predicts Revisions to GDP…

GDP(E)

Revision to ΔGDP(E) (percentage points)[a]

(scatter plot with data points labeled by year: 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006)

Statistical discrepancy in initial estimated growth rates[b]
(percentage points)

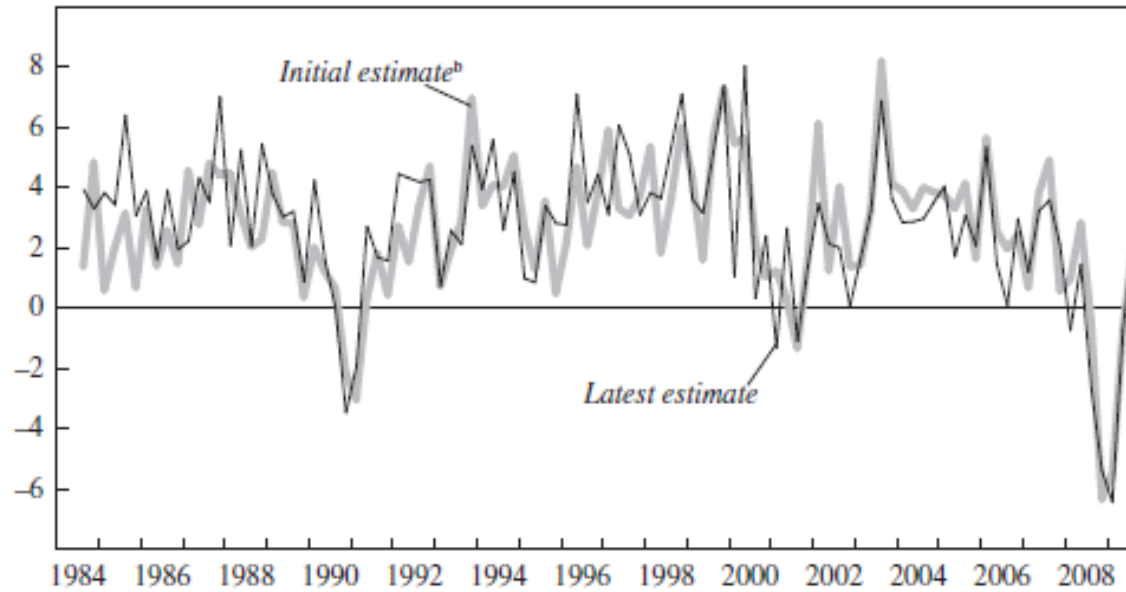# Nalewalk (2010)

GDP-GDI is Cyclical!

Nalewalk (2010)

But GDI no less likely to be revised

Measure	Initial $\Delta GDP(E)$	Initial $\Delta GDP(I)$	Latest $\Delta GDP(E)$	Latest $\Delta GDP(I)$
Variances	1978Q3–2009Q3		1984Q3–2006Q4	
Initial estimates	8.53	8.90	3.88	3.89
Latest estimates	9.44	10.29	4.23	4.96
Revisions (difference between latest and initial estimates)	2.78	3.60	2.57	3.05

GDP(E)

Percent per year[a]
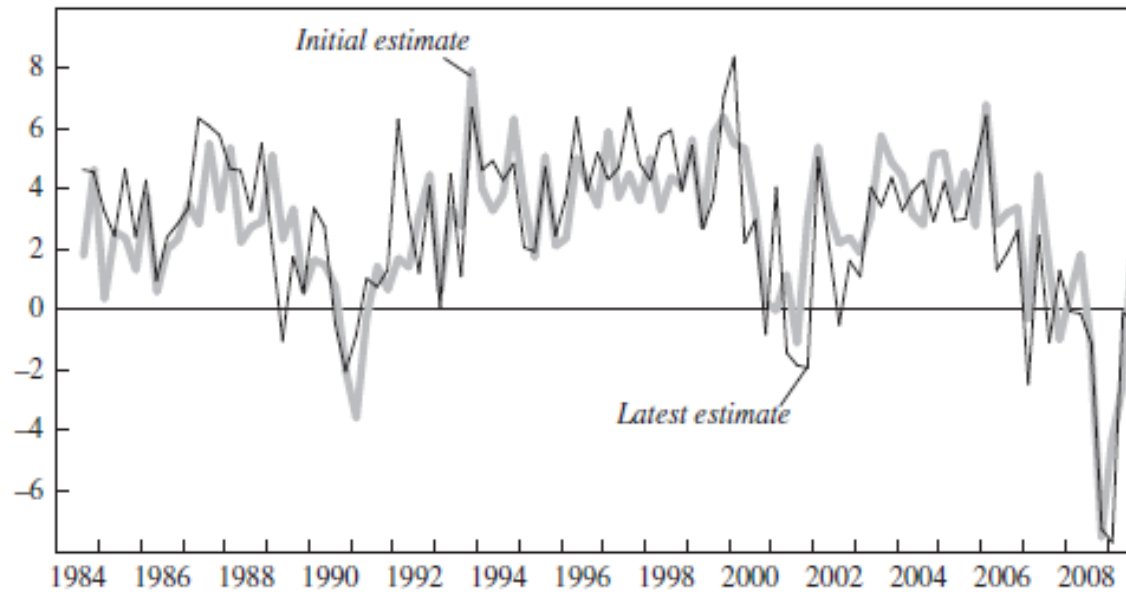
Initial estimate[b]

Latest estimate

1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008

GDP(I)

Percent per year

Initial estimate

Latest estimate

1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008

Fujiwara and Ogawa demonstrate importance for Japan!
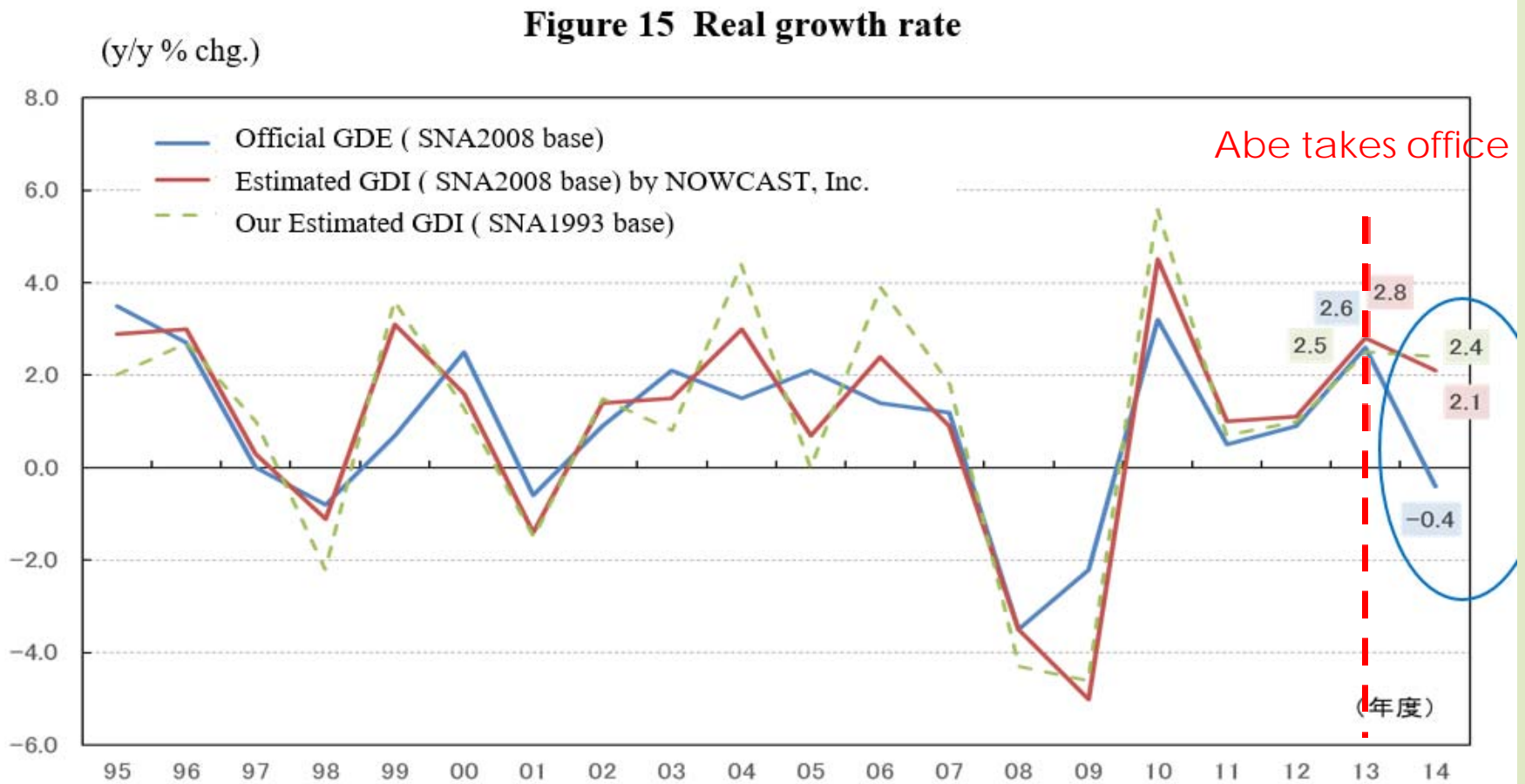

Figure 15 Real growth rate
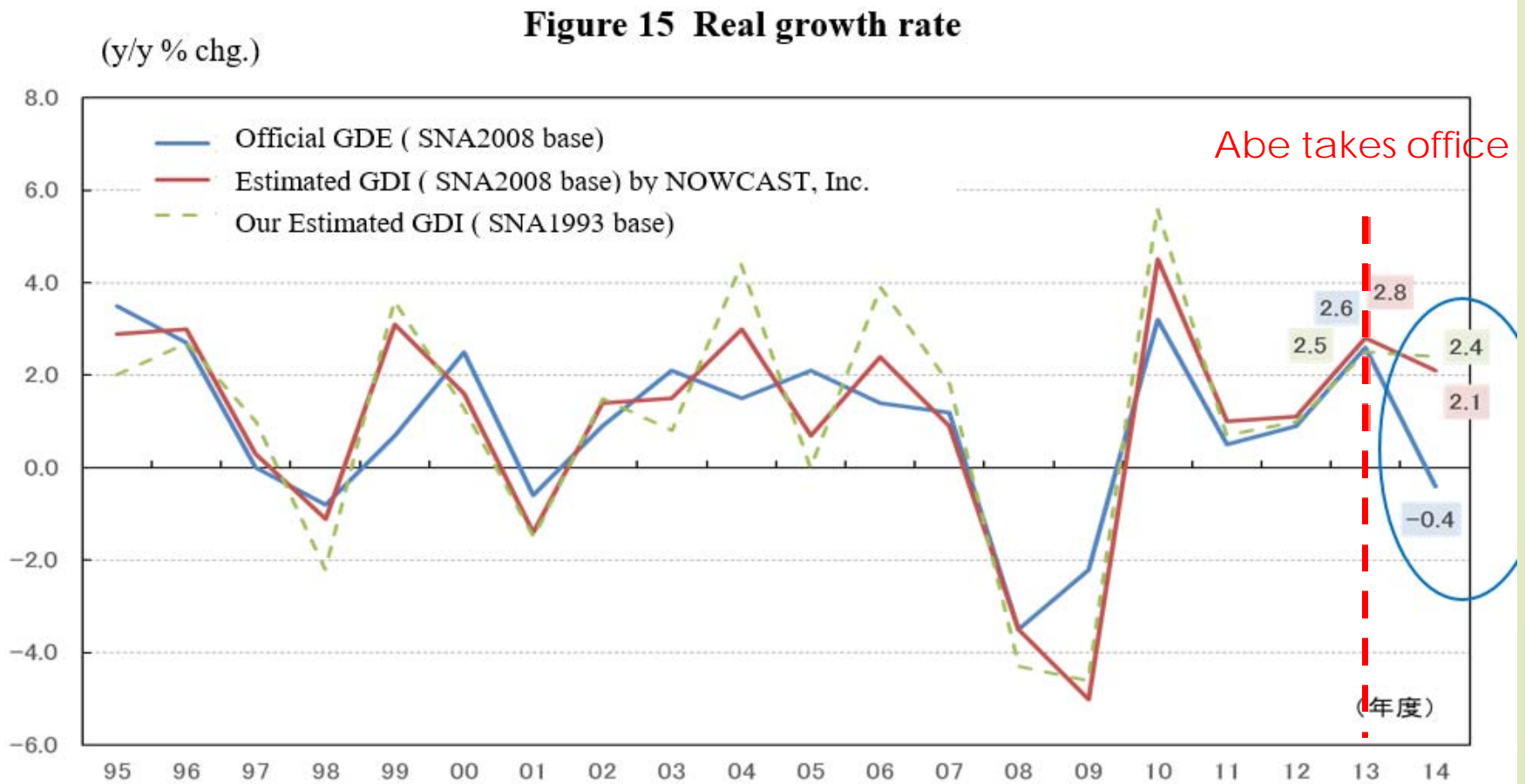
Fujiwara and Ogawa:
Key contributions

- First independent estimate of GDI

- Requires independent estimate of operating surplus and mixed income

- Demonstrate markedly different behavior vs. GDE

# Fujiwara and Ogawa demonstrate importance for Japan!

Figure 15 Real growth rate

Fujiwara and Ogawa:
Key contributions

- First independent estimate of GDI

- Requires independent estimate of operating surplus and mixed income

- Demonstrate markedly different behavior vs. GDE

- Analyze sources of discrepancy

  - Conclude that main source of difference arises from differences in compensation of employees

  - Economic Census (survey) vs. Tax Data

- Could be different due to misreporting of taxes, or differences in number of corporations

Figure 17 Number of Corporations

(10,000 corporations)
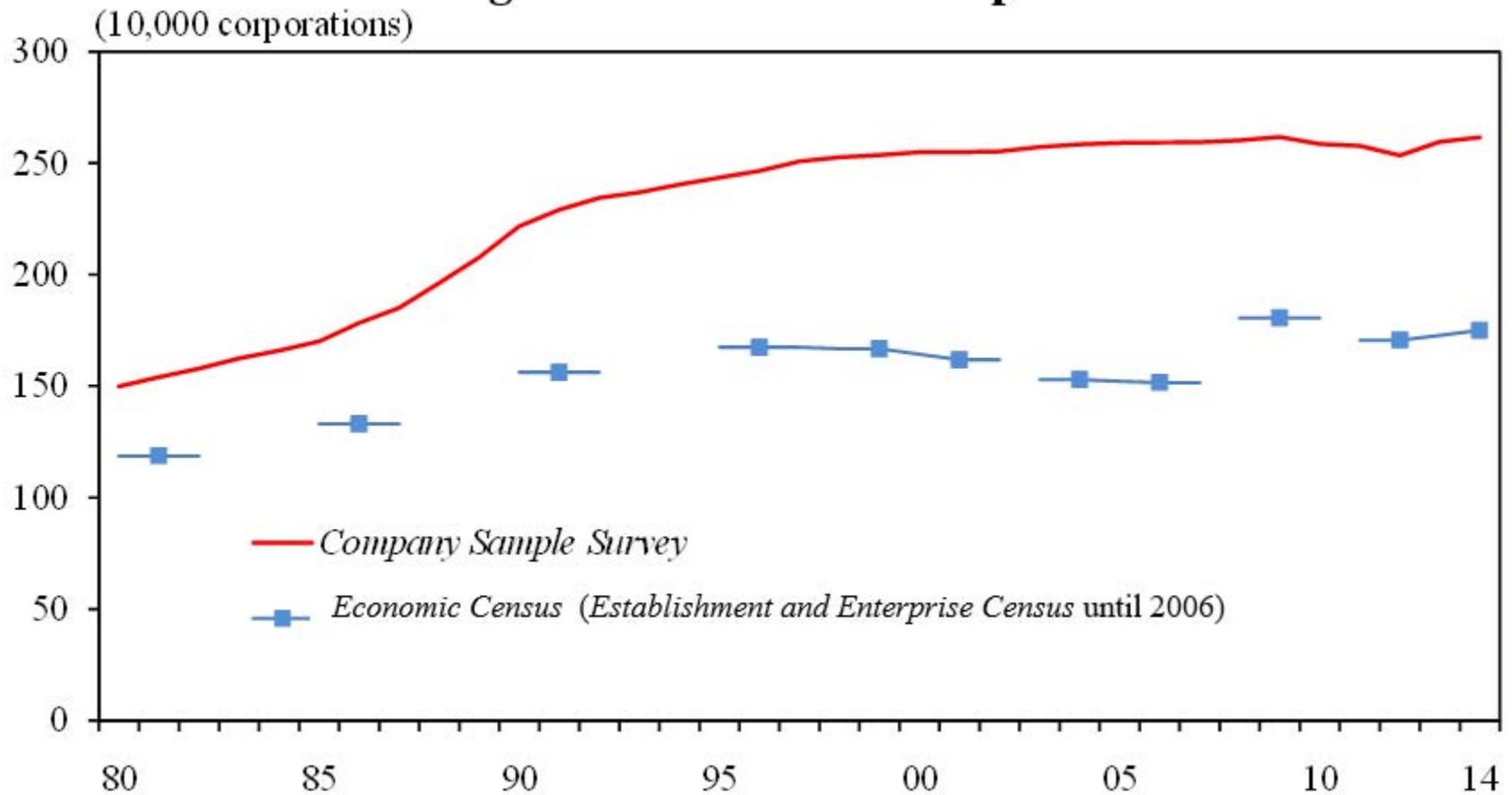
Tax Misreporting

- Fujiwara and Ogawa point out that the consumption tax hike of 2014 may have had an unexpected effect on statistical reporting

- If some companies mistakenly *exclude* consumption tax when reported, higher taxes would lead to a bigger gap between (correct) GDI and GDP

Comment #1

- Very important paper on a key measurement issue!

- But can employee compensation explain the difference?

- Isn't GDE constructed using output data, and National Accounts measures of "compensation of employees" only used to provide a breakdown of the total amount into components?

- If so, the puzzle remains…

Calculation of GDE

- Fujiwara and Ogawa:

To give some further detail, in annual reports, GDE is estimated by calculating aggregate supply (gross output and imports) and demand of approximately 2,000 goods and services using a wide variety of statistical surveys, including the *Census of Manufacture, Census of Commerce, Survey of Selected Service Industries*, and others (commodity flow approach). Based on the distribution channels, aggregate supply of

Comment #2

- How does deflation work for GDI?

- Conceptual underpinnings of GDE (or GDP) based on utility value of output, leading to definition of standard GDP deflator
  - Price deflator = expenditure on constant "basket" of goods
- Harder to apply to deflation of e.g. employee compensation
  - Example: Suppose wages rise– could occur due to inflation (should be taken out) or productivity growth (should be left in!)

Conclusion

- Very interesting, provocative paper

Two comments:

- #1: Can measurement of employee compensation really explain GDI vs. GDE gap, or only the decomposition of GDI into components?

- #2: How to deflate GDI?