The Structural Causes of Japan's Lost Decades

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1. Motivation

- Although Japan had largely resolved the problem of banks' non-performing loans and firms' damaged balance sheets by the early 2000s, economic growth hardly accelerated, resulting in what now are "two lost decades."

- This paper examines the underlying reasons from a long-term and structural perspective using a KLEMS-type database and micro-level data.

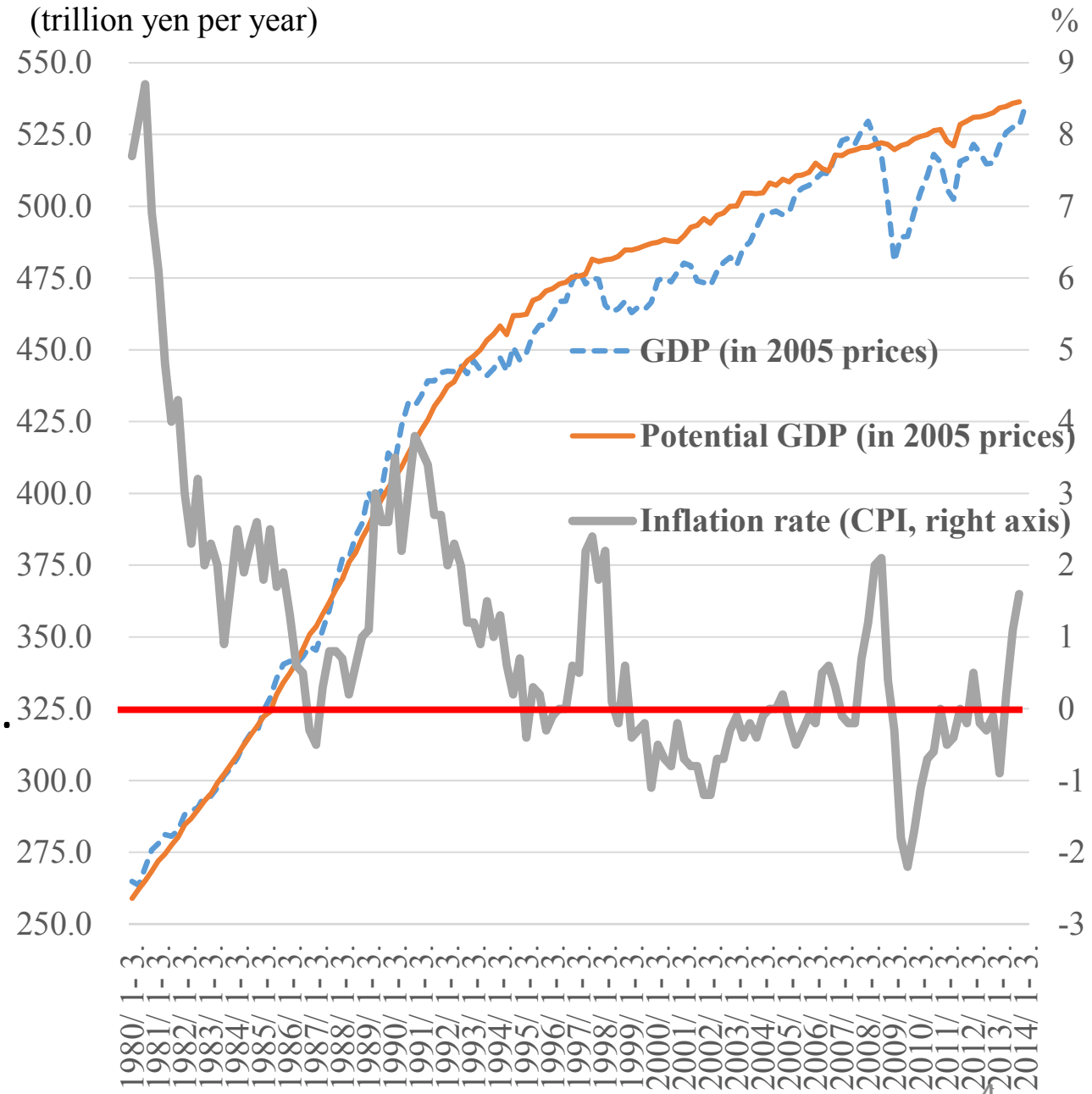
Structure of the Paper

2. Insufficient Demand
3. Low Potential Growth Rate
4. Why Japan's TFP Growth Has Been So Low Since the 1990s
5. Conclusion

2. Insufficient Demand

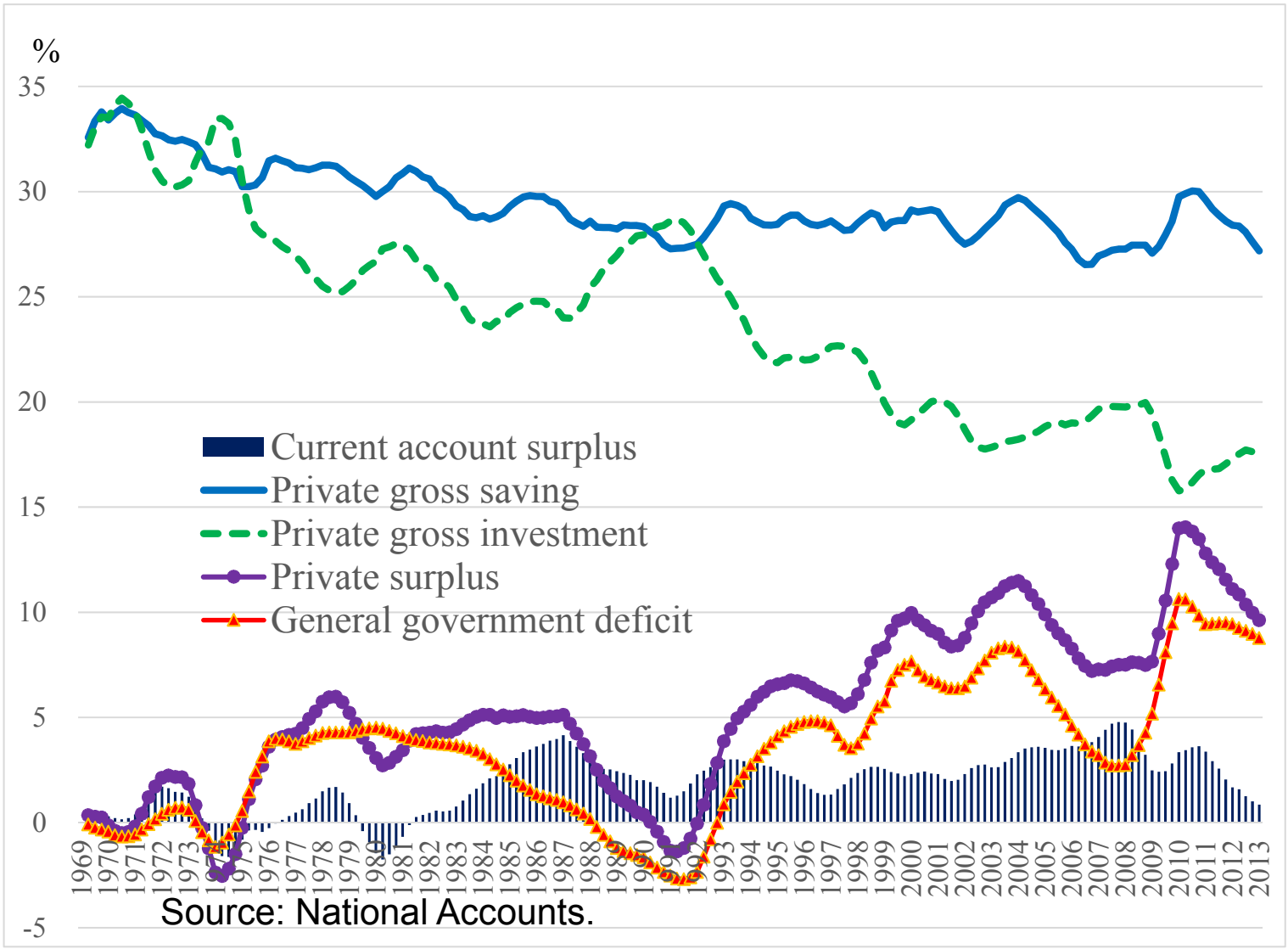
Japan has been suffering from a lack of final demand for the last two decades.

Through the BOJ's massive stimulus measures and active fiscal policies, Japan finally appears to be escaping from deflation. (However, we need to take account of the "front-loading" of consumption prior to the consumption tax hike).



Sources: Cabinet Office and CPI Statistics

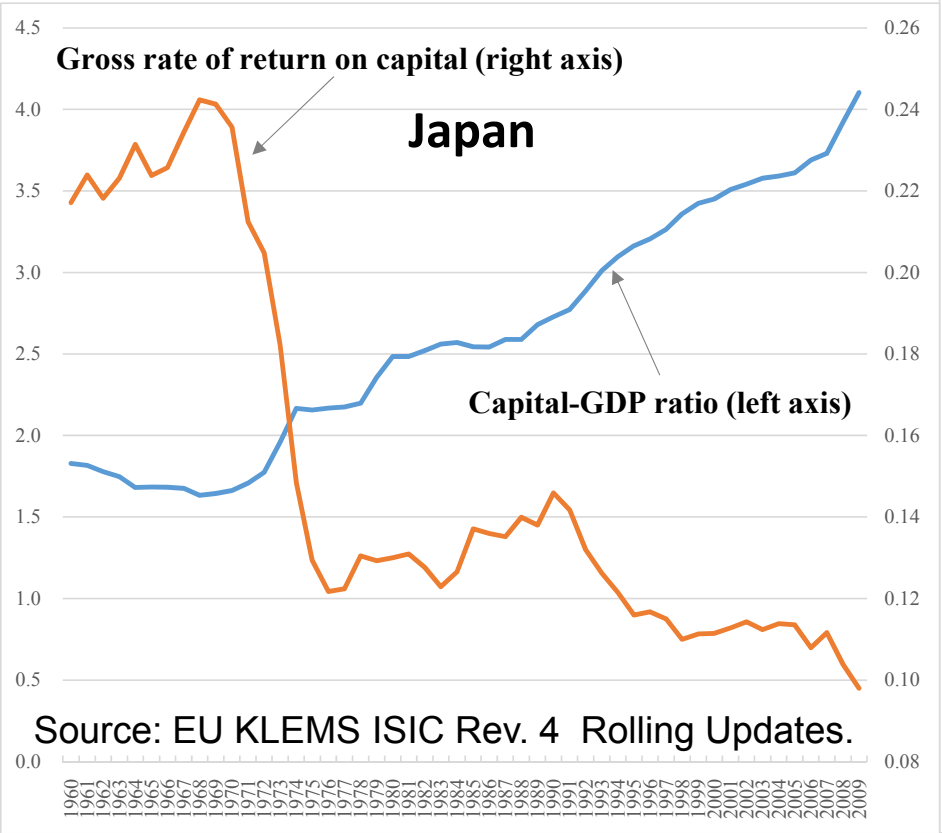
From an I-S balance viewpoint, the recovery in aggregate demand heavily relies on huge government deficits, which is not sustainable.

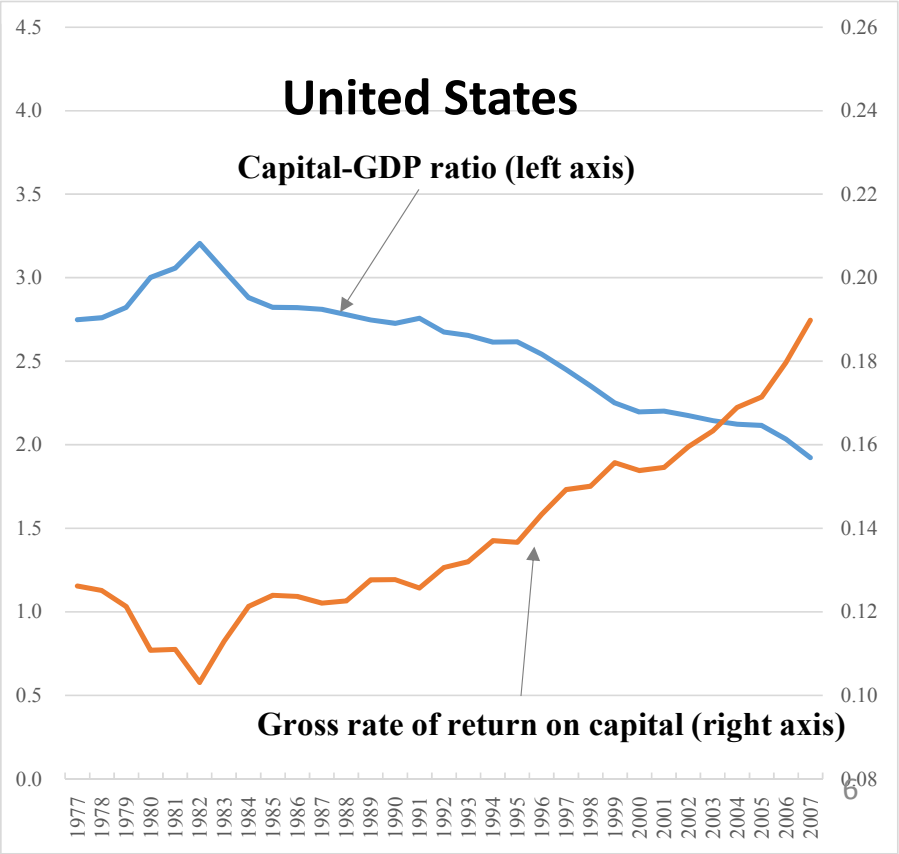


The fundamental problem of the Japanese economy is not stagnation of investment but low rates of return on capital.

Japan has continued rapid capital accumulation, but its capital-GDP ratio has increased substantially. That must have contributed to the continuous decline in the rate of return on capital in Japan.

In contrast to Japan, the US has experienced a continuous decline in the capital-output ratio and an increase in the rate of return on capital.



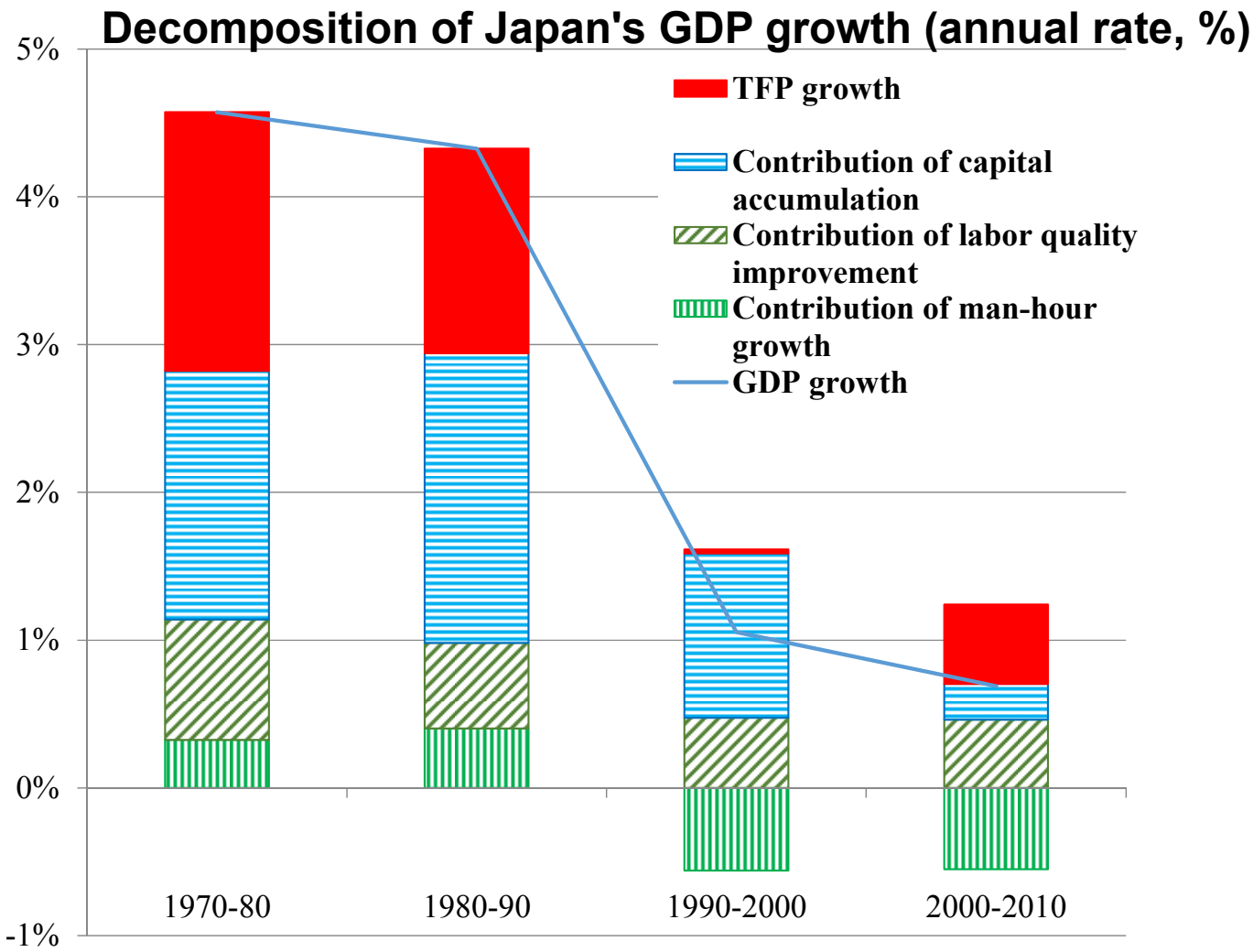


2. Insufficient Demand (Contd.)

- The government is pursuing policies to overcome deflation and seems to be planning to stimulate private investment through a reduction in real interest rates.
- However, since investment opportunities are limited and the rate of return on capital is very low, extremely low or negative real interest rates are required.
- Maintaining very low or negative real interest rates, a positive inflation rate, and full employment without causing bubbles is likely to be extremely difficult.
- Therefore, for sustainable growth, it is necessary to raise the rate of return on capital through productivity growth and to stimulate private consumption through job creation and higher wage incomes.

3. Low Potential Growth Rate

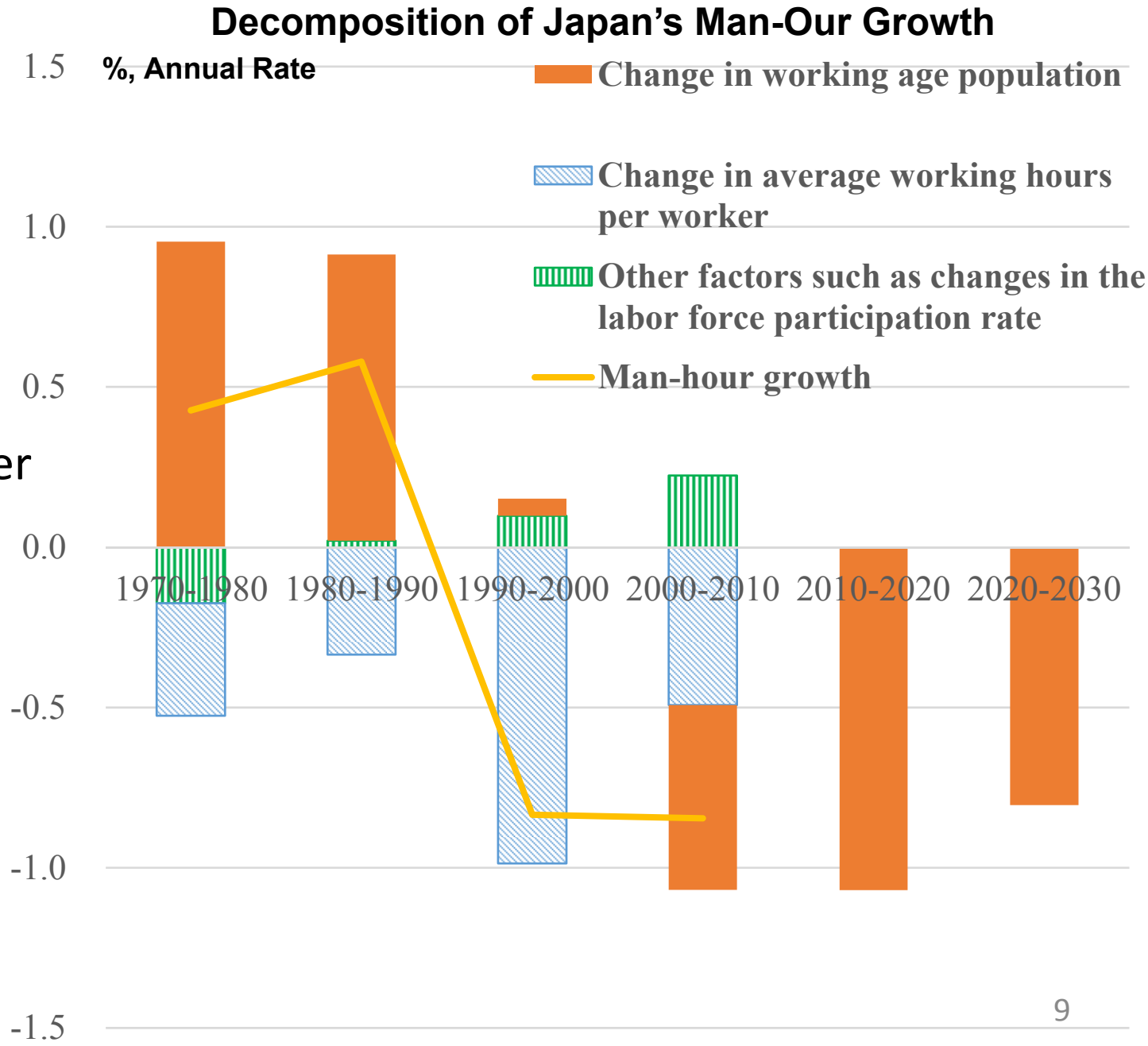
Comparing the 1970–1990 period and the 1990–2010 period, the annual contribution of capital accumulation, labor input growth, and TFP growth declined by 1.1, 1.2, and 1.3 percentage points, respectively.



3. Low Potential Growth Rate (Contd.)

In the 1990s and the 2000s, man-hour input declined mainly as a result of the reduction of working hours per worker.

From the 2010s, the working age population is projected to decline rapidly.



3. Low Potential Growth Rate (Contd.)

- The Japanese government now has a target of 2% annual GDP growth in the medium term.
- Even if we are optimistic about labor supply and assume that labor service input does not decline, for sustainable 2% growth, Japan needs to accelerate TFP growth.
- A scenario of sustainable 2% GDP growth

(Harrod-neutral) TFP growth: 1.3%

Contribution of labor service input growth: 0.0%

Labor quality growth: 0.5%

Man-hour growth: –0.5% (for this, Japan needs to substantially increase the labor force participation rate of women and the elderly.)

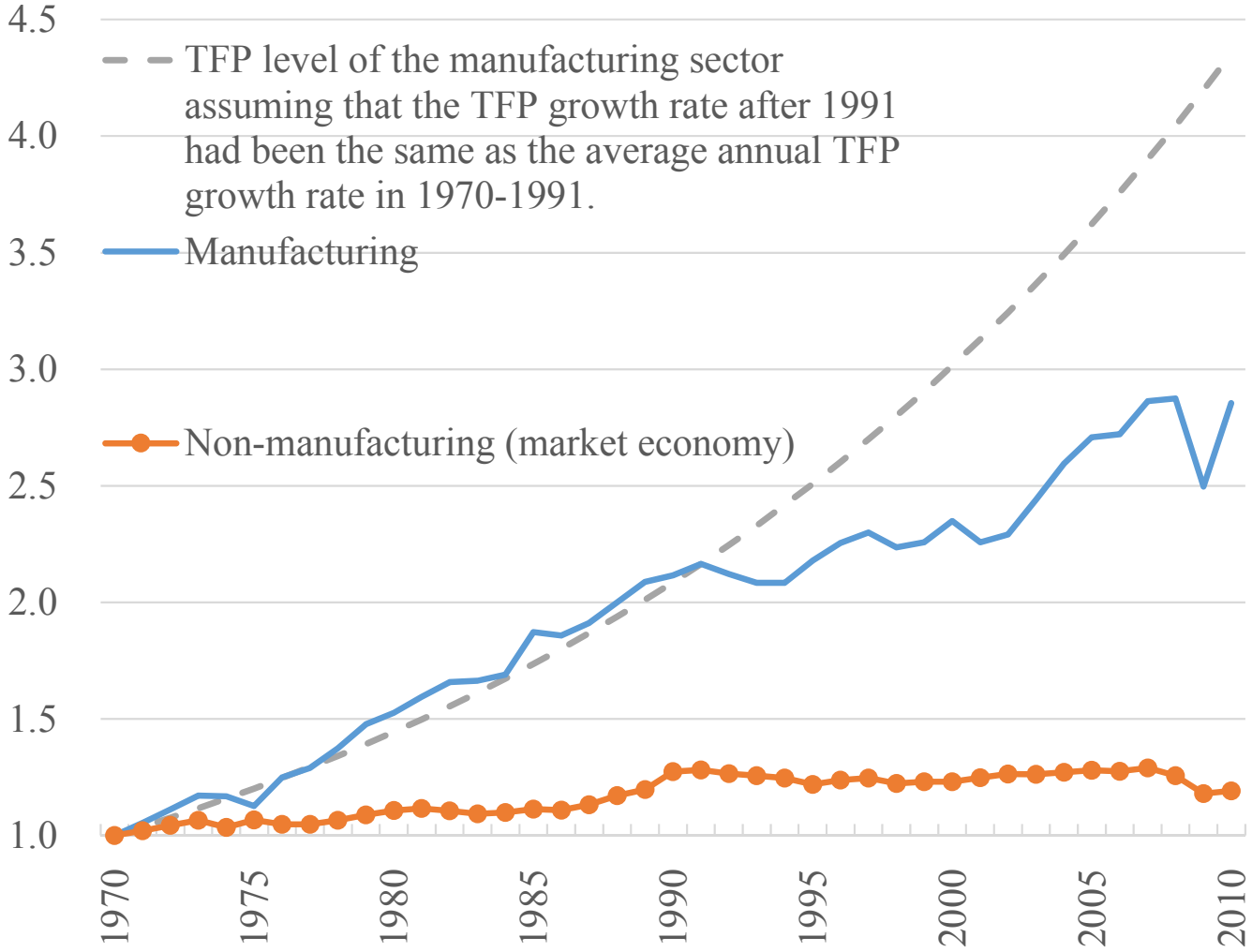
Contribution of capital service input growth: 0.7%

Capital service input growth: 2.0%

- It seems that the Japanese economy is now entering a new situation where economic growth is constrained mostly by supply-side, not by demand-side, factors.

4. Why Japan's TFP Growth Has Been So Low Since the 1990s

Both the manufacturing and the non-manufacturing sector dragged down macro TFP growth after 1991.

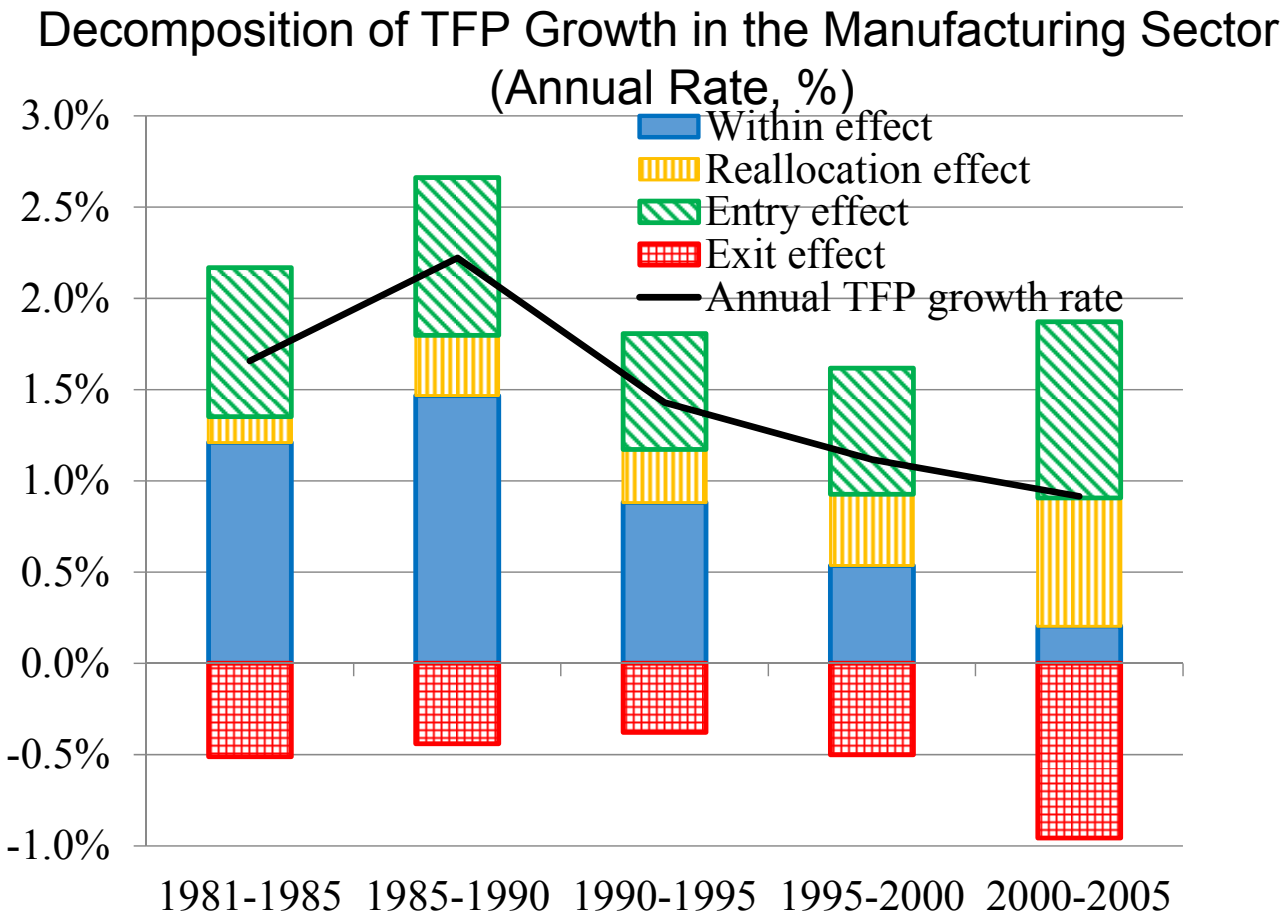


Notes: TFP values are on a value-added basis. The non-manufacturing sector (market economy) does not include imputed rent for owner-occupied dwellings.
Source: JIP Database 2013.

Productivity Dynamics in the Manufacturing Sector

From 1990 onward, the within effect steadily declined and the negative exit effect expanded (that is, productive factories were shut down, while less productive factories remained).

These two trends reduced TFP growth in the manufacturing sector substantially.



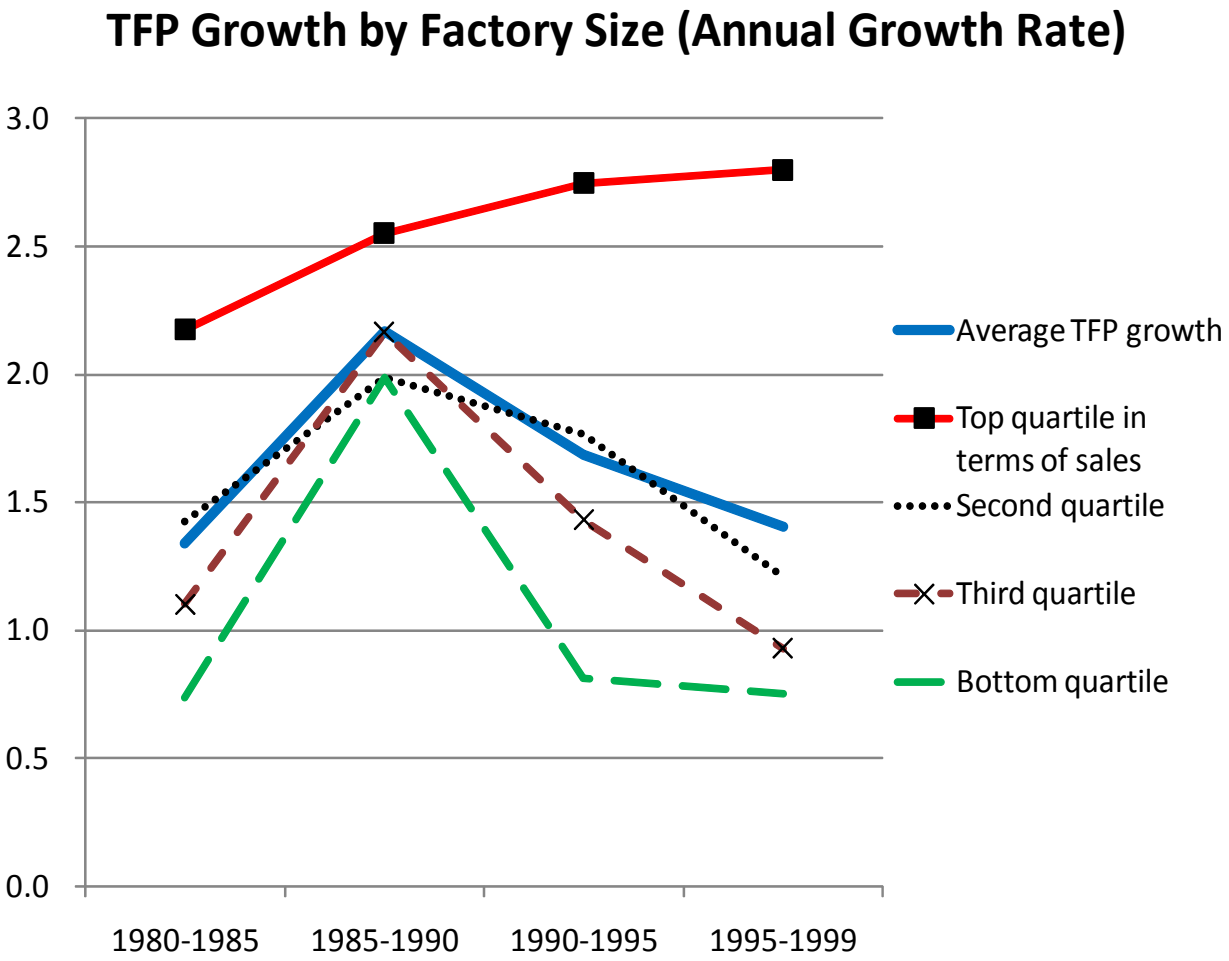
Why Did the Within Effect Decline?

- **In the manufacturing sector, the TFP growth of large firms has actually accelerated. Small and medium-sized firms (SMEs) have been left behind.**

→ Possible reasons:

(a) SMEs left behind in R&D and internationalization

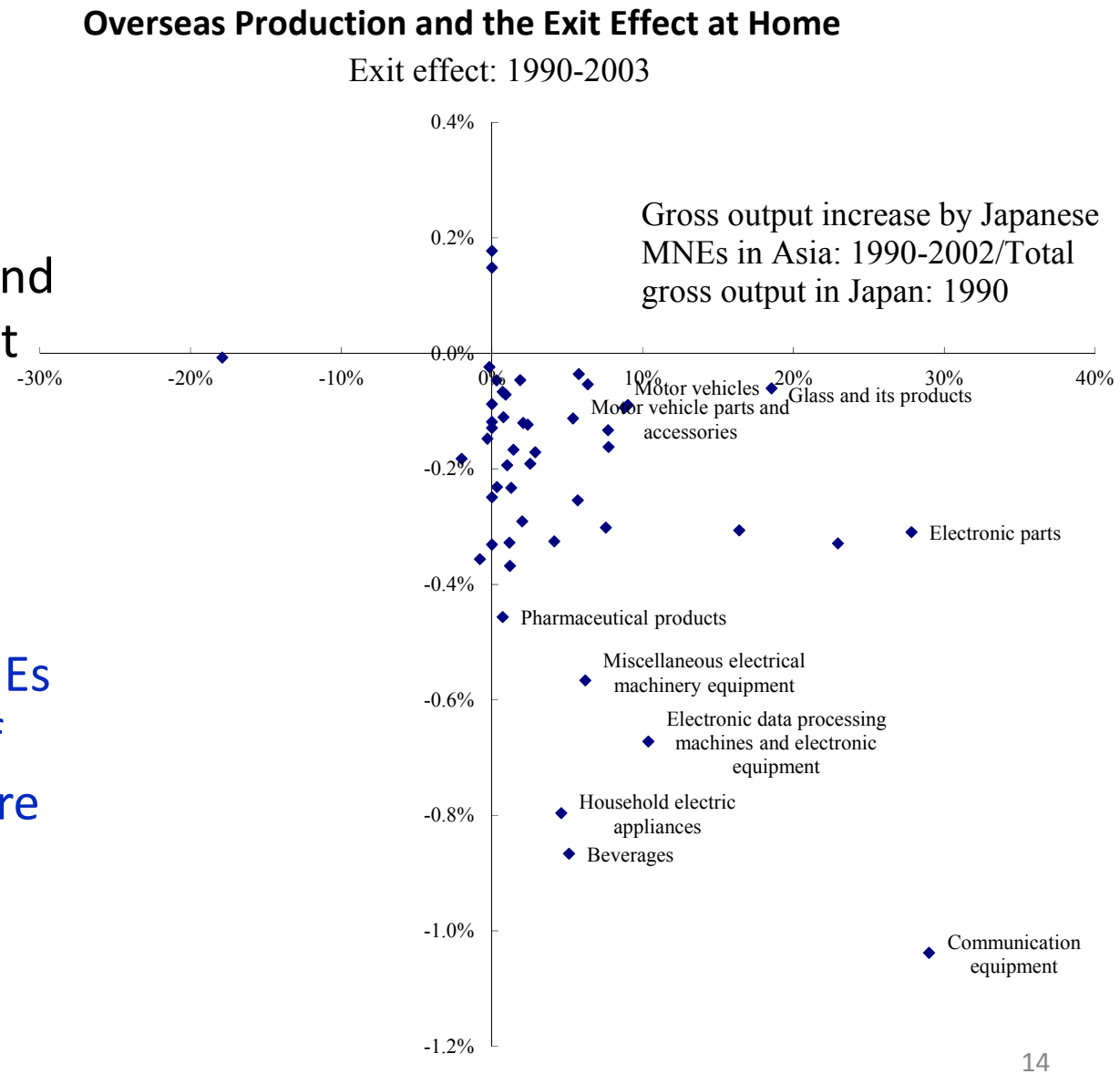
(b) decrease in technology spillovers from large firms.



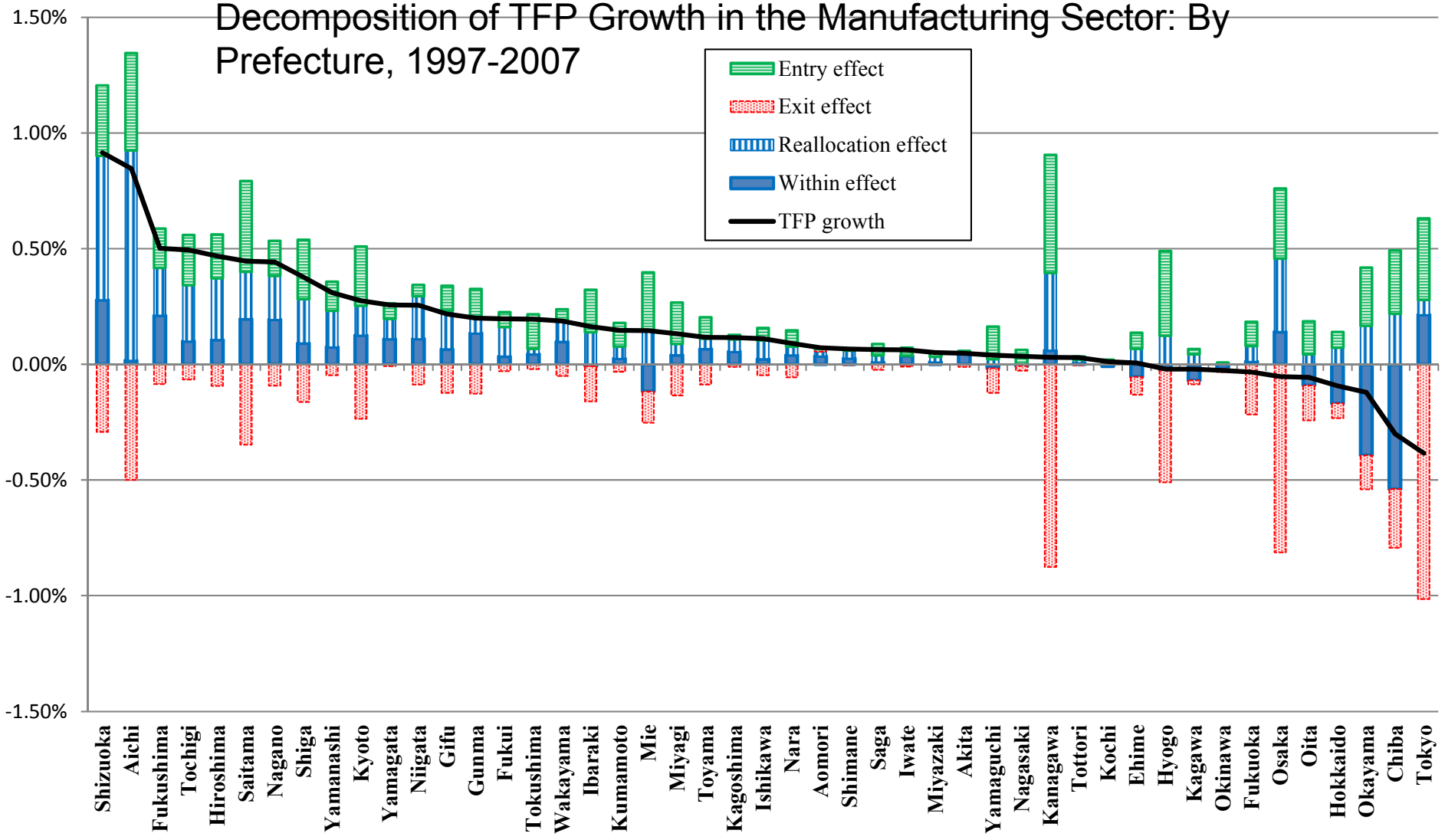
Why Was the Exit Effect Negative?

There is a statistically significant negative correlation between the industry-level exit effect and industry-level gross output growth by Japanese multinational enterprises (MNEs) in Asia.

MNEs have higher productivity than non-MNEs (Fukao 2012) and many of them have relocated, or are relocating, production activities abroad.

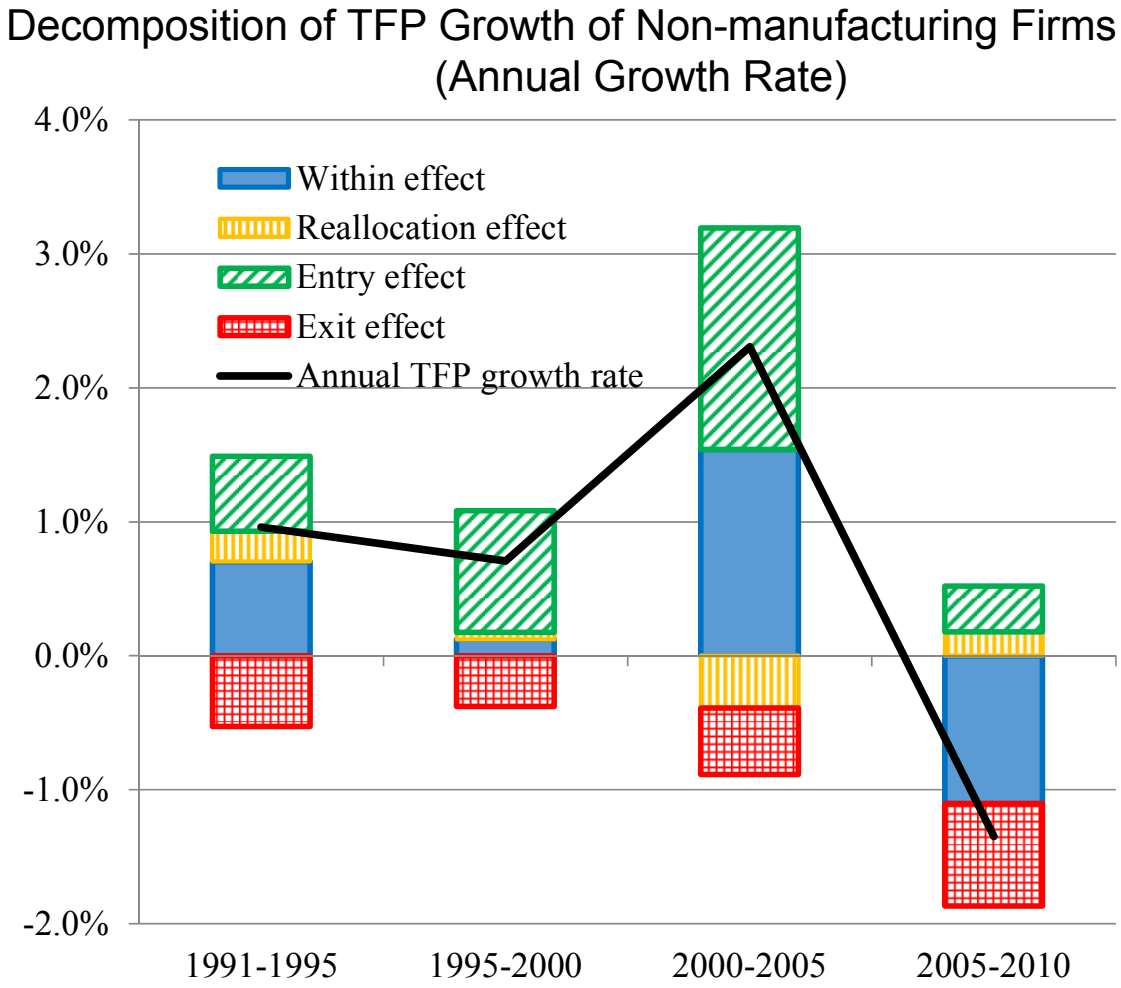


The large negative exit effect appears to be mainly concentrated in industrial districts in prefectures such as Kanagawa, Tokyo, and Osaka. The closure of productive factories, most of which are owned by R&D-intensive firms, potentially reduced geographical spillovers to SMEs in these districts.



Productivity Dynamics in the Non-Manufacturing Sector

- In the non-manufacturing sector, just as in the manufacturing sector, the exit effect is negative throughout the entire period covered by the data. Moreover, the reallocation effect, depending on the period, is either very small or negative.

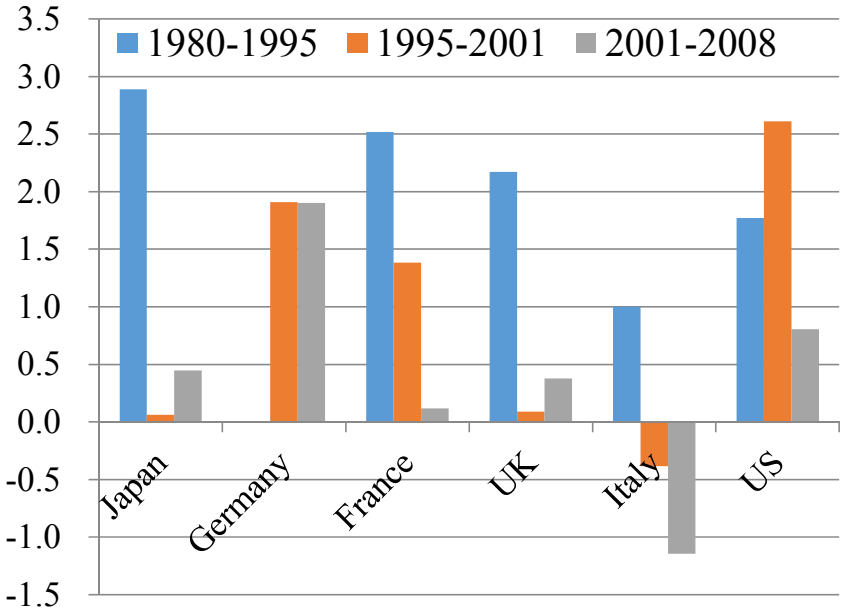


ICT Investment in the Non-Manufacturing Sector

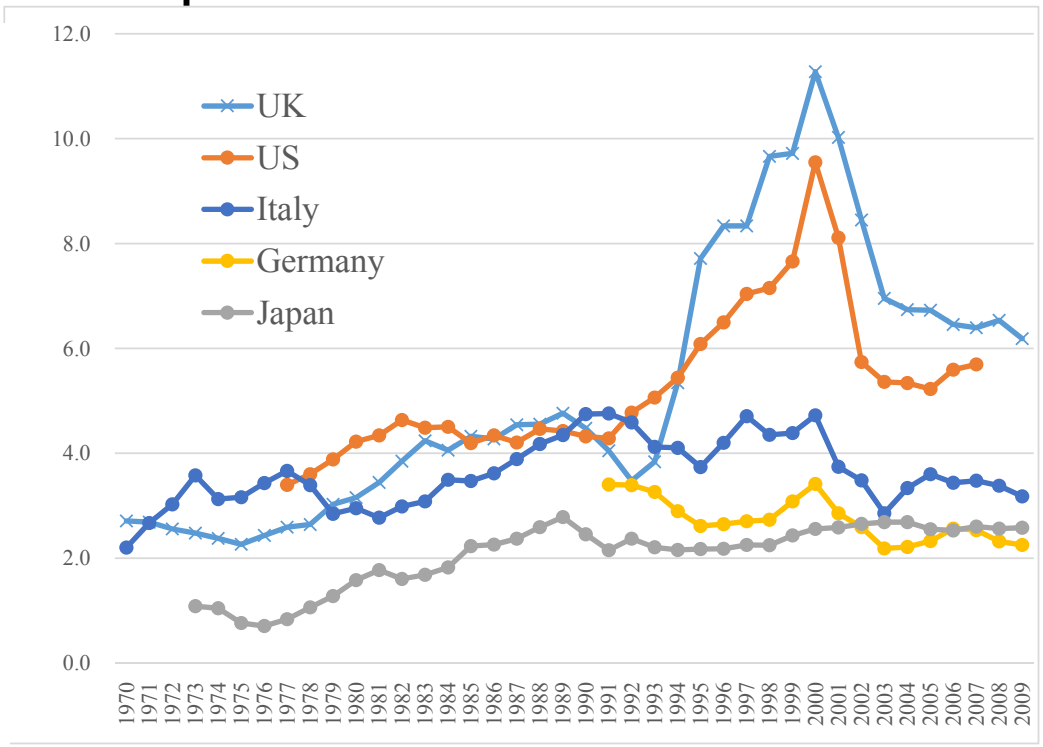
TFP growth in ICT-using sectors, such as distribution services (retail, wholesale and transportation), declined substantially after 1995.

It appears that the ICT revolution did not happen in Japan simply because Japan has not accumulated sufficient ICT capital.

TFP Growth in the Distribution Sector



ICT Investment-Gross Value Added Ratio in Major Developed Economies: Distribution Services



Source: EU KLEMS Database, Rolling Updates.

Structural impediments to ICT investment in Japan

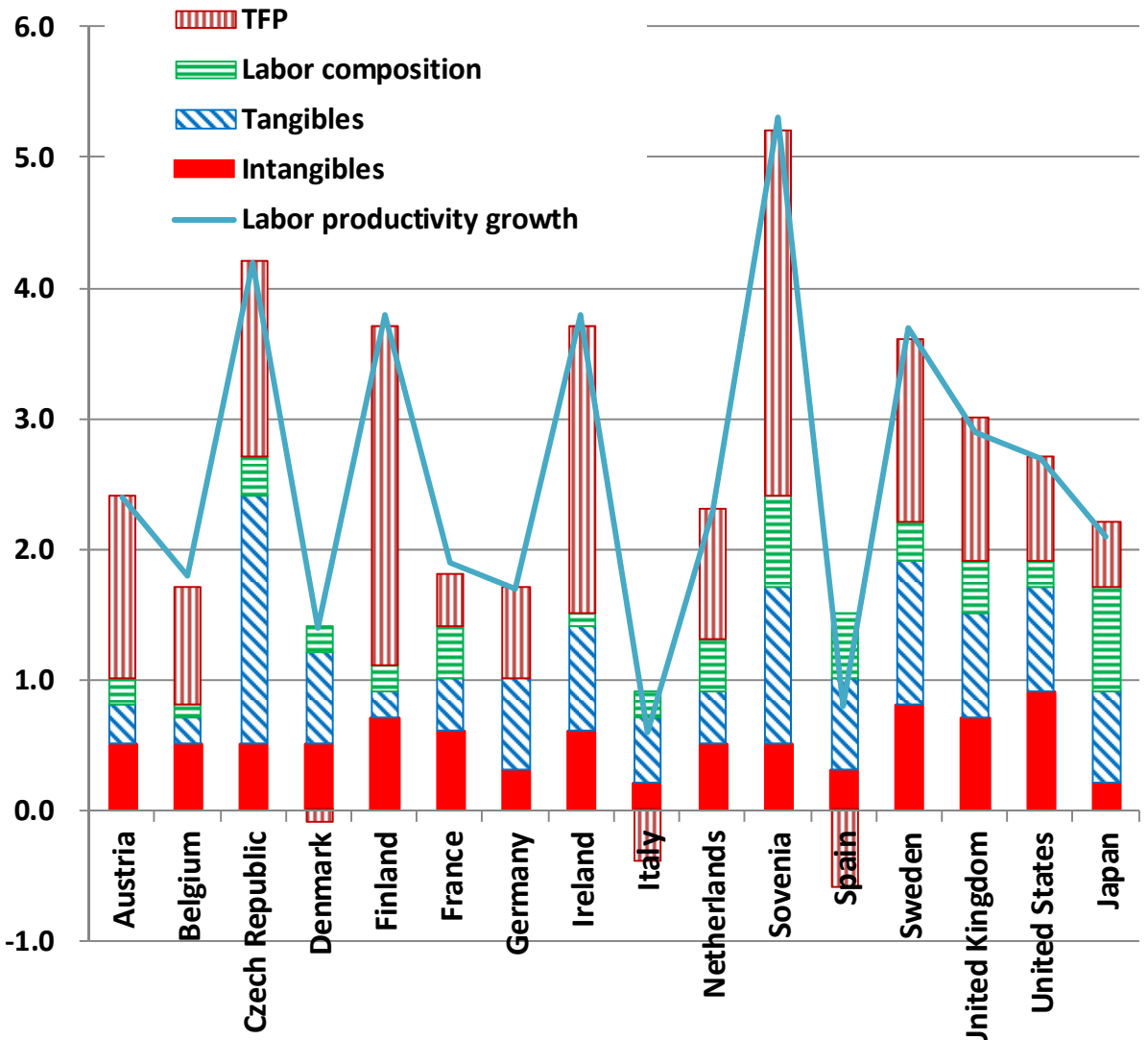
1. One of the main contributions of the introduction of ICT is that it allows firms to save unskilled labor input. However, because of the high job security in Japan, it may be difficult for firms to actually cut jobs.
2. Young and growing firms tend to be more active in ICT investment. However, because of the low entry and exit rates in Japan, firms that have been around for 45 years or more have a majority of market share in most industries.
3. Japan's retail sector is characterized by small shops. And these smaller firms in Japan probably have found it more difficult to introduce ICT because of their small scale.
4. In order to avoid changes in corporate structure, employment adjustment, and training of workers, Japanese firms tend to choose custom software rather than packaged software, making ICT investment more expensive and network externality effects smaller, because each firm uses different custom software.

ICT capital and intangible assets are close complements.

The contribution of intangible investment to labor productivity growth in Japan is the lowest among the major developed countries.

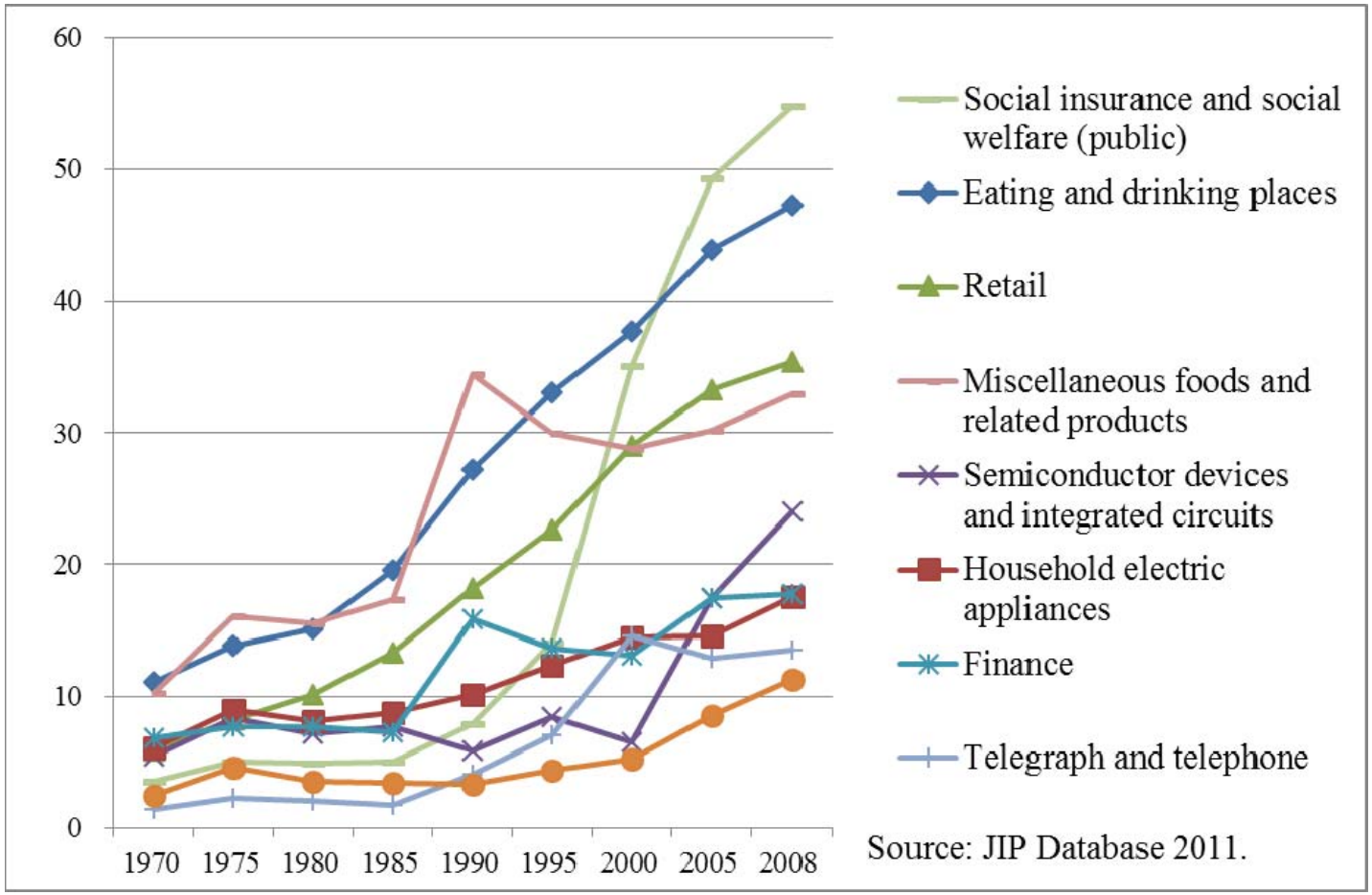
Japan invests a lot in R&D but very little in economic competencies such as brand equity, firm-specific human capital, and organizational structure.

Contribution to the growth in output per hour: 1995 to 2007 (annual rate, %)



Source: Corrado et al. (2012) and Miyagawa and Hisa (2012).

It seems that the decline in the accumulation of economic competencies was partly caused by the harsh restructuring resulting from the long-term economic stagnation. For example, many firms increased the percentage of part-time workers in total workers and did not provide intensive training in the case of part-time workers. This change reduced training expenditure substantially.



5. Conclusion

1. Through the BOJ's massive stimulus measures and active fiscal policies, Japan finally appears to be escaping from deflation.

2. From an I-S balance viewpoint, the recover in aggregate demand heavily relies on huge government deficits, which is not sustainable.

3. The government is pursuing policies to overcome deflation and seems to be planning to stimulate private investment through a reduction in real interest rates.

4. However, Japan continued to accumulate capital rapidly after 1990 despite slow GDP growth and the decline in the working age population. That must have contributed to the continuous decline in the rate of return on capital in Japan.

1. For sustainable growth, it is necessary to raise the rate of return on capital through productivity growth.

6. Japan experienced a substantial decline in TFP growth after 1991 both in manufacturing and non-manufacturing.

7. The natural selection mechanism does not work well both in manufacturing and non-manufacturing.

8. MNEs have higher productivity than non-MNEs and many of them have relocated, or are relocating, production activities abroad. → Decrease in technology spillovers from large firms.

9. Large firms enjoyed an acceleration in TFP growth → Increase in productivity gap between large firms and SMEs in 1990s and 2000s.

10. The ICT revolution did not happen in Japan simply because Japan has not accumulated sufficient ICT capital.

11. Low levels of ICT and intangible investment closely related with labor market problems.