Economic Growth and Cities

Why Did Japan's Rapid Growth End in 1974?

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Opening

- Thank you very much for the kind introduction.

- Today, I would like to explore the key factors that led to the end of Japan's era of rapid economic growth in 1974.

- I argue that the sudden decline in migration from rural areas to major cities marked the end of the rapid growth period.

- I will then analyze why migration declined so sharply, and how it shaped Japan's economic trajectory.

I.
Three Phases of Japanese growth
in the Postwar period

1. Three Periods

1. 1950–1973: Rapid Growth Phase

2. 1974–1991: Low-Growth Period

3. 1992–Present: Economic Stagnation

2. Real GDP growth rates
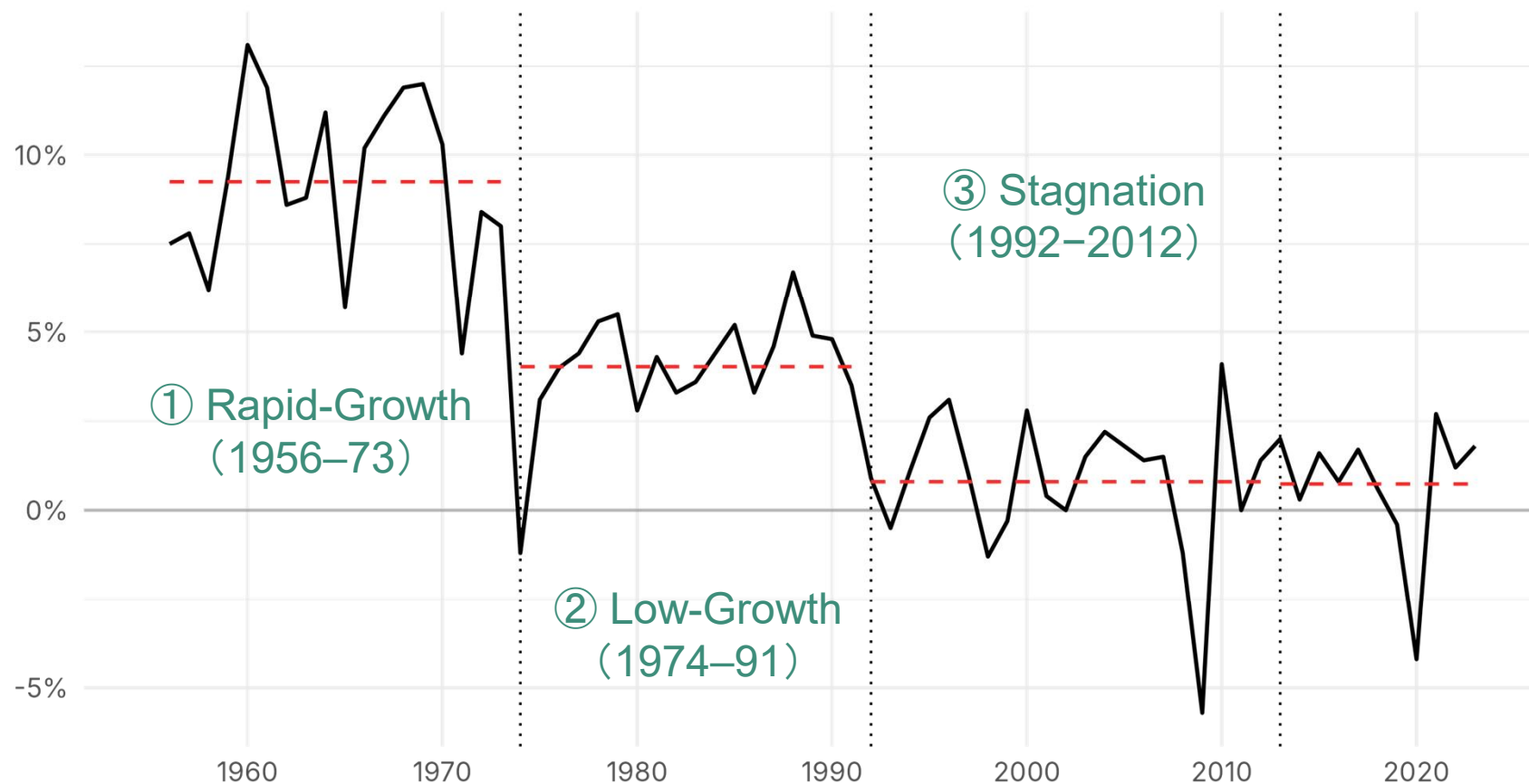
Source: Cabinet Office, "Annual Economic and Fiscal Report, Reiwa 6, SNA, Calendar year statistics."
Note: The mean growth rates indicated by the red dashed lines are 9.25% for the period 1956–1973, 4.03% for 1974–1991, 0.8% for 1992–2012, and 0.74% for 2013–2023.

3. Average growth rates of Japan, the U.S., and the U.K.

Mean annual GDP growth rates
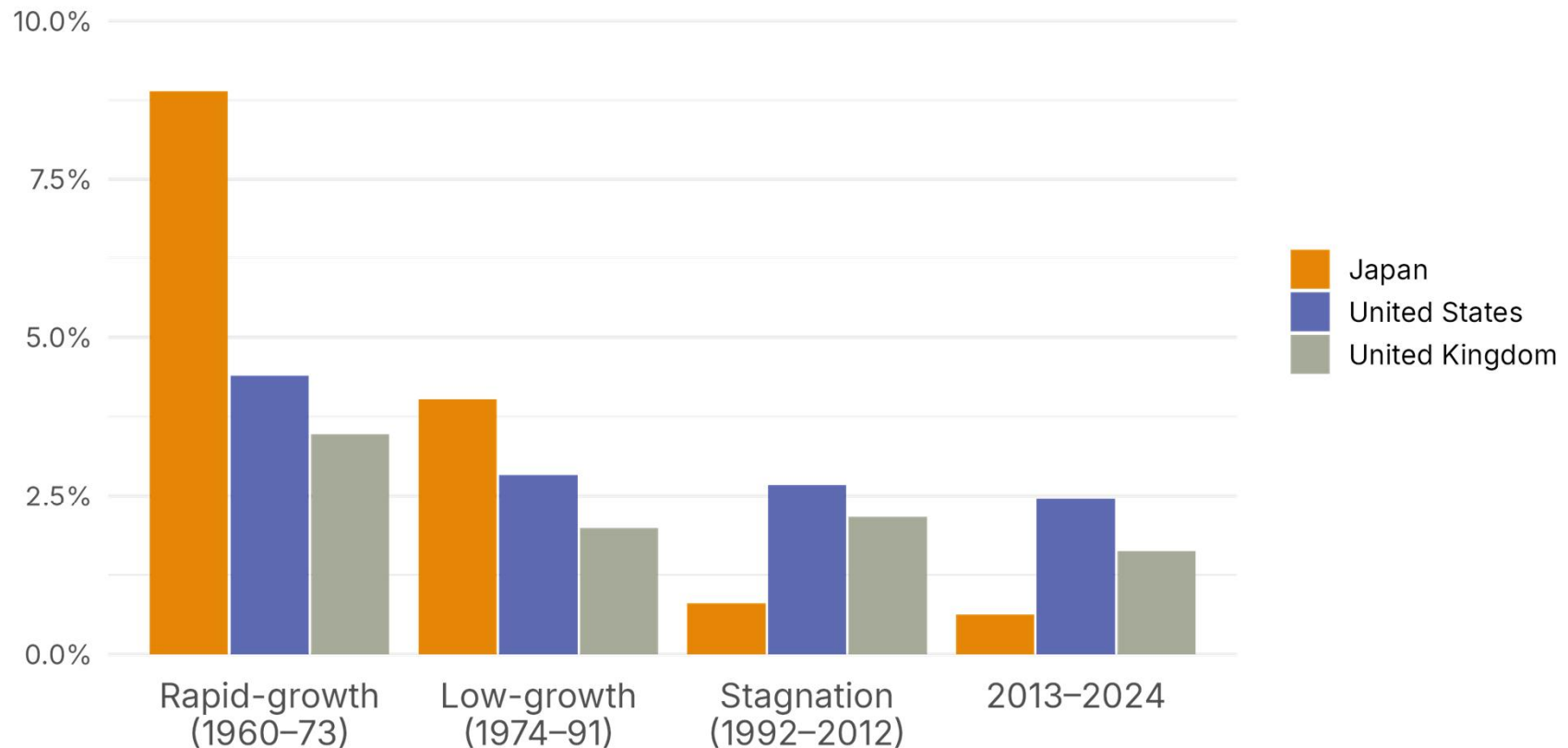
Source: World Bank, "World Development Indicator, GDP growth (annual %.)"

Ⅱ. Rapid-Growth Period

- Japan experienced remarkable economic expansion from 1950 to 1973. In the 1960s growth rates **frequently exceeded 11%.**

- What contributed to this remarkable growth?

1. The Main Source of Growth: Productivity improvement

- The graph breaks down the 10% average growth rate of the Rapid Growth Period into its contributing sources. **Less than half** can be explained by the accumulation of labor and capital. The principal contributor was a sharp rise in **total factor productivity (TFP)**.
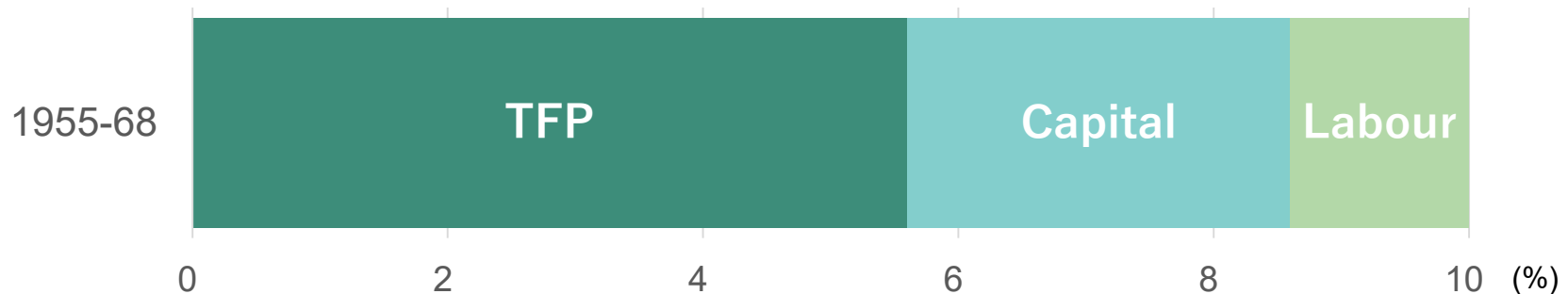
1955-68	TFP	Capital	Labour

0　　　　　2　　　　　4　　　　　6　　　　　8　　　　　10　(%)

Source: Kazumi Asako and Soichi Shinohara (1997) *Introduction to the Japanese Economy*, Yuhikaku Publishing Co., Ltd.

2. Two main determinants of productivity improvement

a. Innovation through capital accumulation and worker training.

b. Reallocation of resources from low- to high-productivity sectors, i.e., industries and areas.
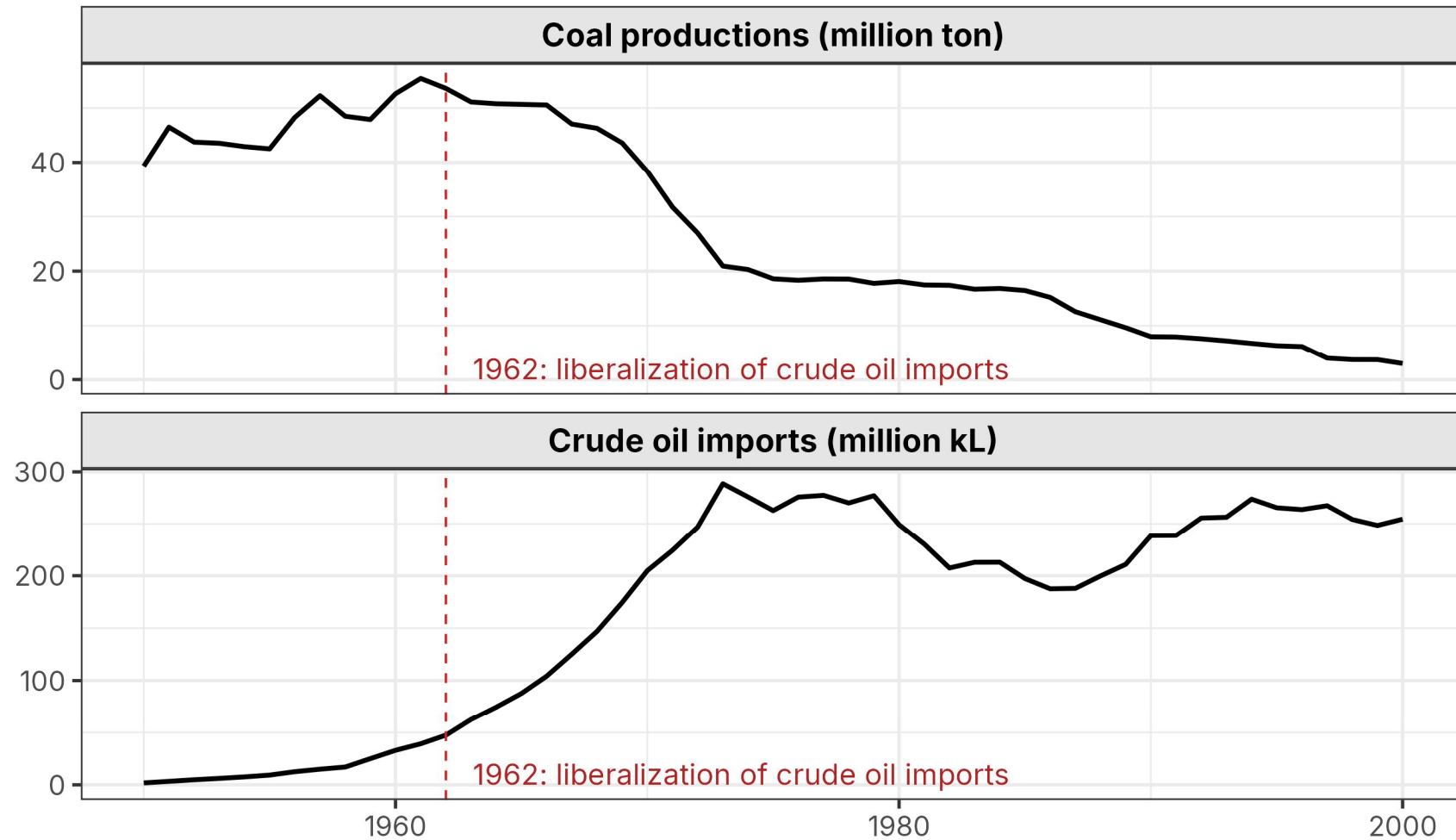
3. Massive migration to metropolitan areas took place in 1960–1973

- In some years of the 1960s, more than 600,000 people **migrated into** the three major metropolitan areas (hereafter, **MAs**) of **Tokyo, Osaka, and Nagoya** from other prefectures.

- This migration reallocated resources from low-productivity to high-productivity areas, **boosting TFP**.

4. Effect of trade liberalization in the 1960s

- Liberalization allowed new industries to expand, further reallocating resources toward higher-productivity sectors.

- Trade liberalization accelerated Japan's economic growth.

Fig. 8: Import liberalization of crude oil

Coal productions (million ton)

1962: liberalization of crude oil imports

Crude oil imports (million kL)

1962: liberalization of crude oil imports

Source: Agency for Natural Resources and Energy, "Energy White Paper 2024," Excel 213-1-2 and 213-1-20.

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Ⅲ.
Low-Growth Period
(between 1974-1990)

1. Sudden Decline of GDP Growth Rate in 1974

Real GDP growth rates
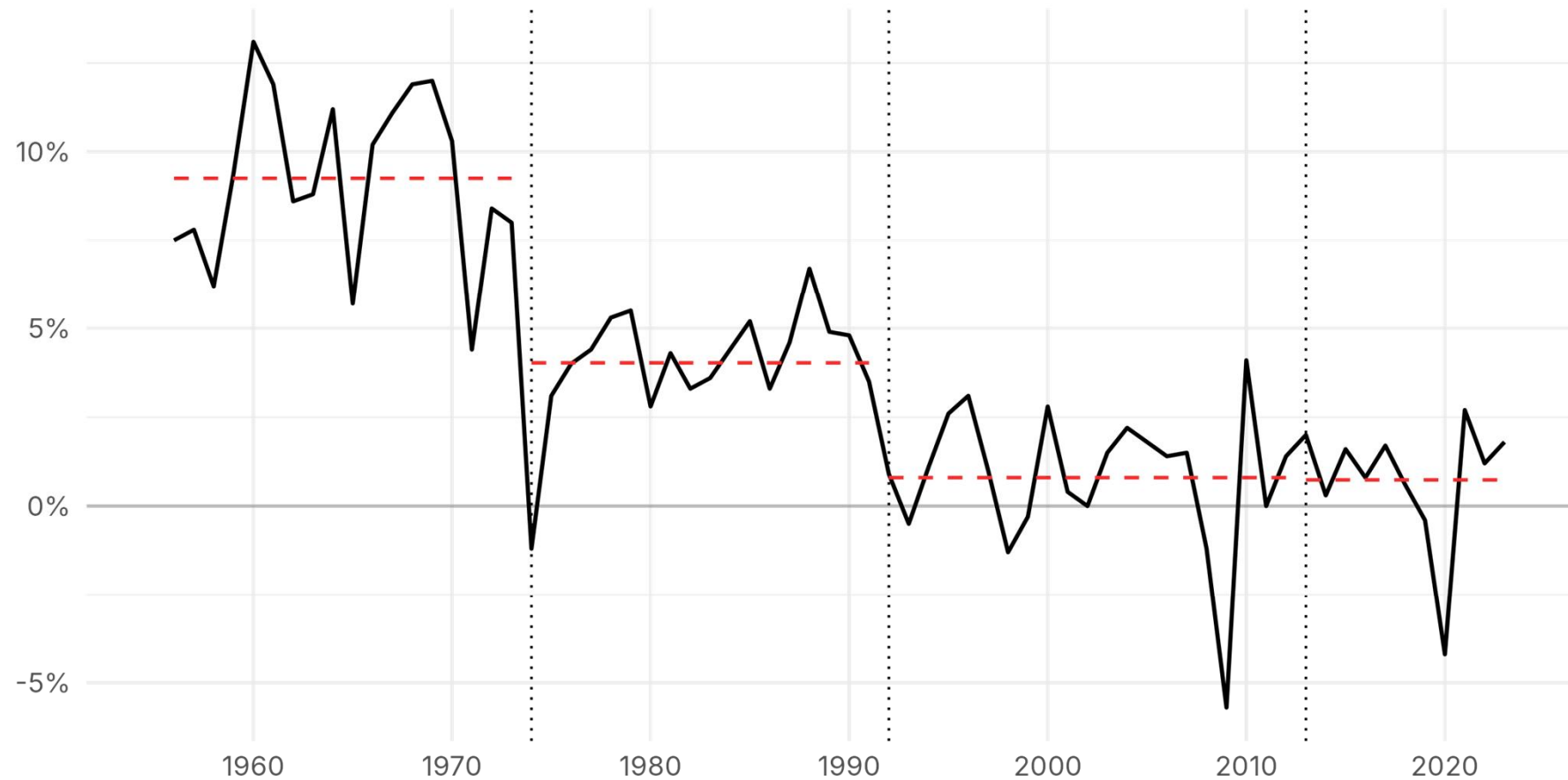
Source: Cabinet Office, "Annual Economic and Fiscal Report, Reiwa 6, SNA, Calendar year statistics."
Note: The mean growth rates indicated by the red dashed lines are 9.25% for the period 1956–1973,
4.03% for 1974–1991, 0.8% for 1992–2012, and 0.74% for 2013–2023.

2. Did the Oil Shock Cause the Growth Rate Decline after 1974?

- At the time, many attributed the economic slowdown to the 1973 oil shock. The sharp rise in oil prices did indeed trigger an initial decline.

- But oil prices later fell. Despite falling oil prices, TFP remained low, and growth failed to rebound.

  This indicates that the oil shock was not the fundamental cause. We have to look for other causes..

# 3. The first Oil Shock (Oct. 1973–Aug. 1974) and the second Oil Shock (Oct. 1978–Apr. 1982)

Crude oil price
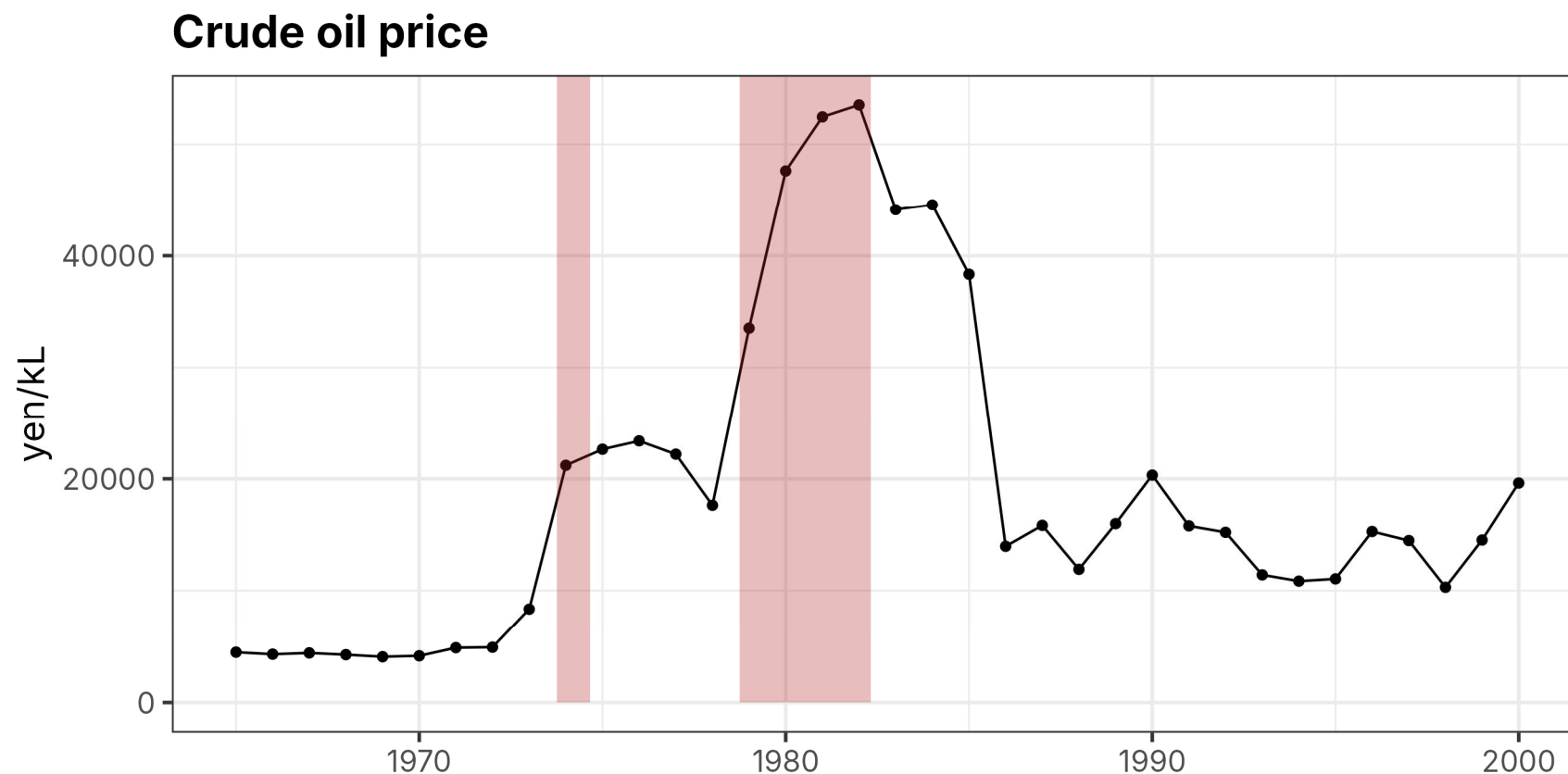
Source: Agency for Natural Resources and Energy, "Energy White Paper 2024," Excel 213-1-8.

# 4. Dramatic Decline in Migration to MAs in 1974

- The drop in GDP growth coincided with a sharp decline in migration to major metropolitan areas –to about one-tenth of the 1960s level.

- This striking similarity of the fall of the two indicators suggests that the slowdown in productivity growth was closely linked to the slowdown in migration.

5. Net population inflow into MAs
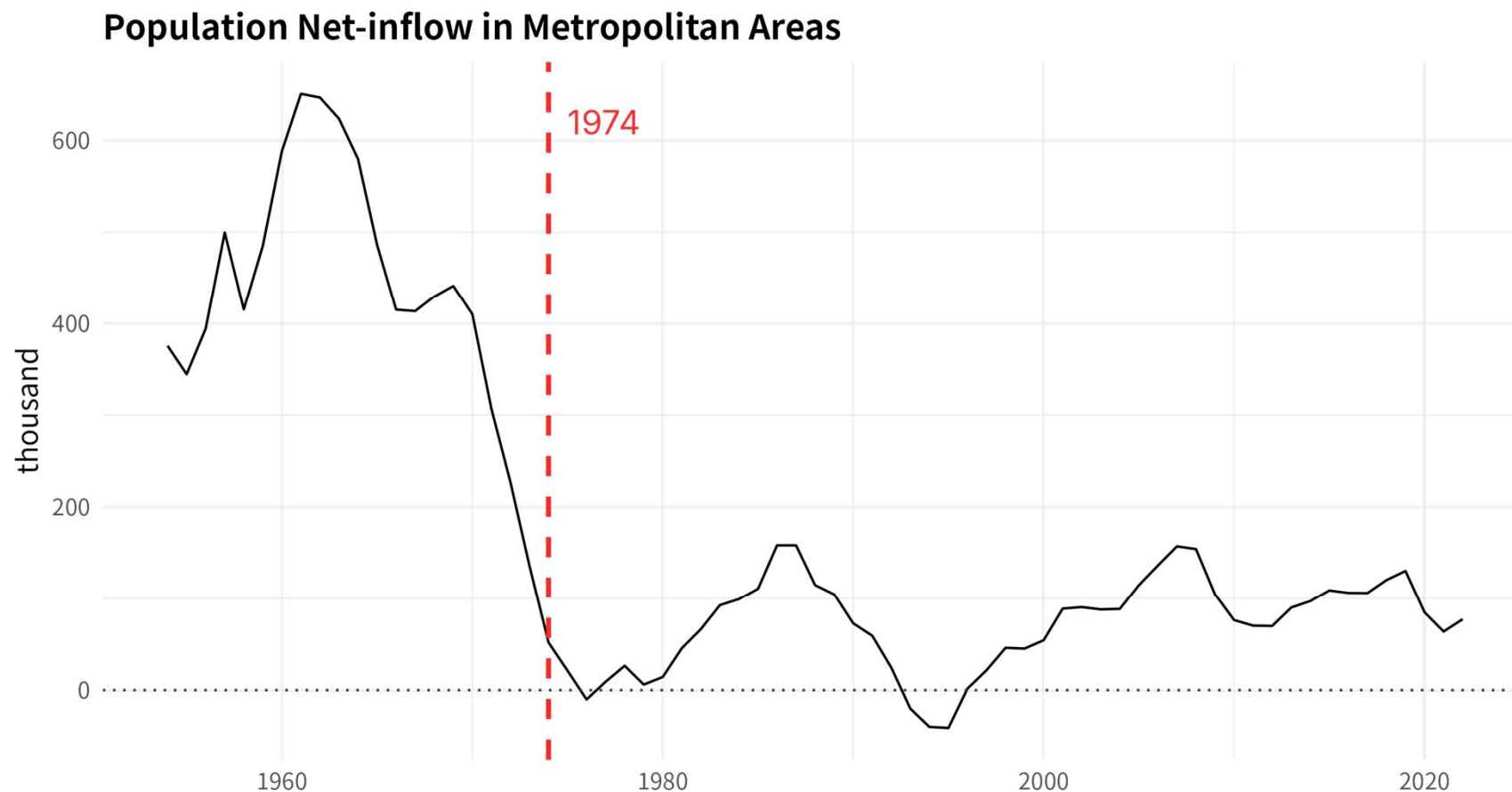
Population Net-inflow in Metropolitan Areas

Source: Ministry of Internal Affairs and Communications (2022) Population Estimates, Population by Prefecture (人口推計.) Note: The Metropolitan Areas consist of Tokyo, Kanagawa, Saitama, Chiba, Aichi, Gifu, Mie, Osaka, Hyogo, Kyoto and Nara prefectures.

6. Dramatic drop in total factor productivity
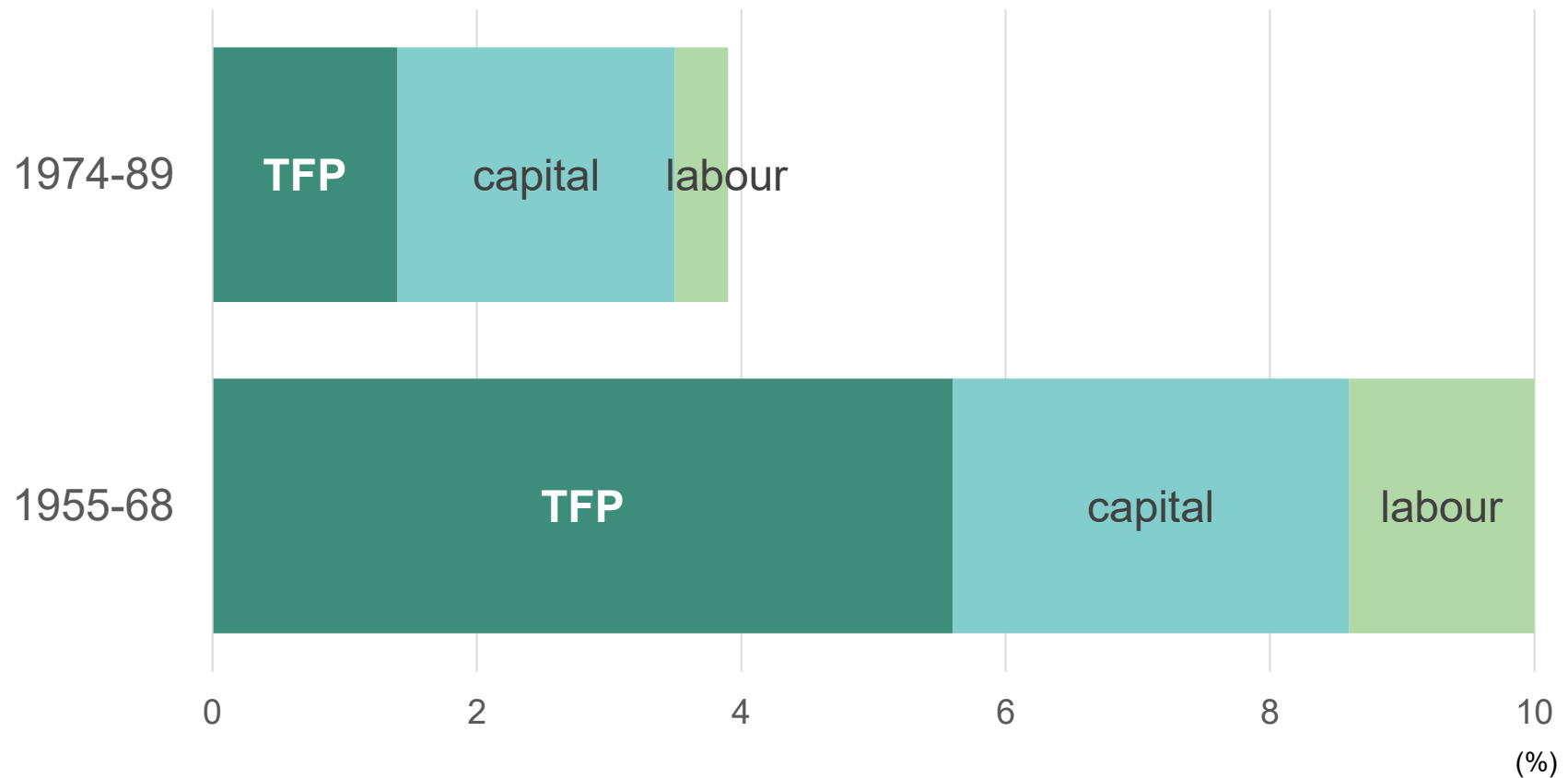
Source: Kazumi Asako and Soichi Shinohara (1997) Introduction to the Japanese Economy, Yuhikaku Publishing Co., Ltd.

7. Decline in Migration Explains the Fall of TFP

- The contribution of TFP dropped from over 5 percent to around 1 percent during this period. The TFP diagrams show that this fall was closely associated with the decline in rural-to-urban migration—the opposite of what had occurred during the high-growth years.

IV

What Caused the Decline in Migration?

1. Rural population did not begin to decline until 2000.

A common explanation is **rural depopulation**: that the rural population base had been depleted. However, as shown here, the rural population continued to grow through the early 1970s, and only began to decline after 2000. Therefore, depopulation cannot explain the sharp fall in migration during the early 1970s.
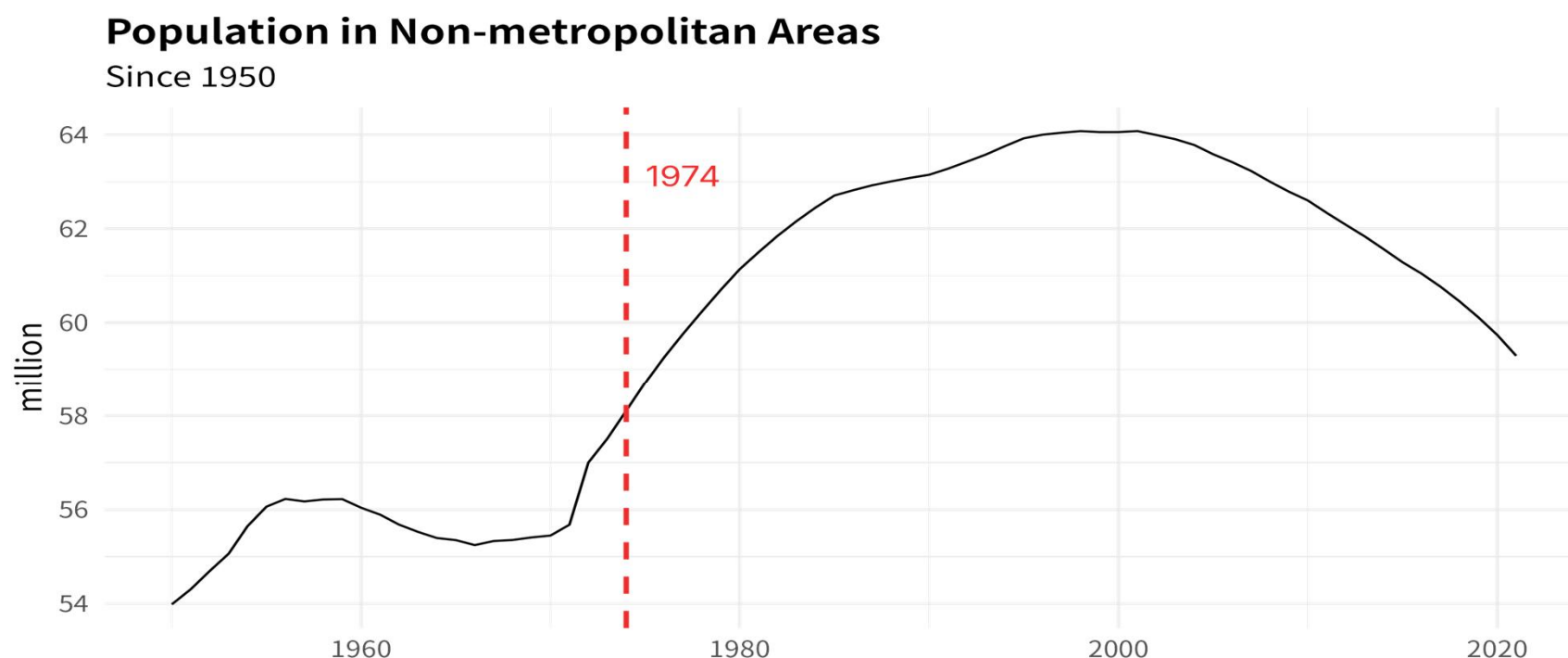
Population in Non-metropolitan Areas
Since 1950

Source: Ministry of Internal Affairs and Communications (2022) Population Estimates, Population by Prefecture (人口推計.) Note: The Metropolitan Areas consist of Tokyo, Kanagawa, Saitama, Chiba, Aichi, Gifu, Mie, Osaka, Hyogo, Kyoto and Nara prefectures.

2. Narrowing of income gap caused the decline in migration.

- Attention should be given to the **narrowing income gap** between rural and metropolitan areas.

- Economic theory suggests that as regional income disparities narrow, migration incentives diminish.

2. Narrowing of income gap between MAs and Rural Areas

MAs enjoyed a clear advantage in per capita income during the 1960s. But this advantage largely disappeared by the mid-1970s.This explains the cause of decline in population inflow.

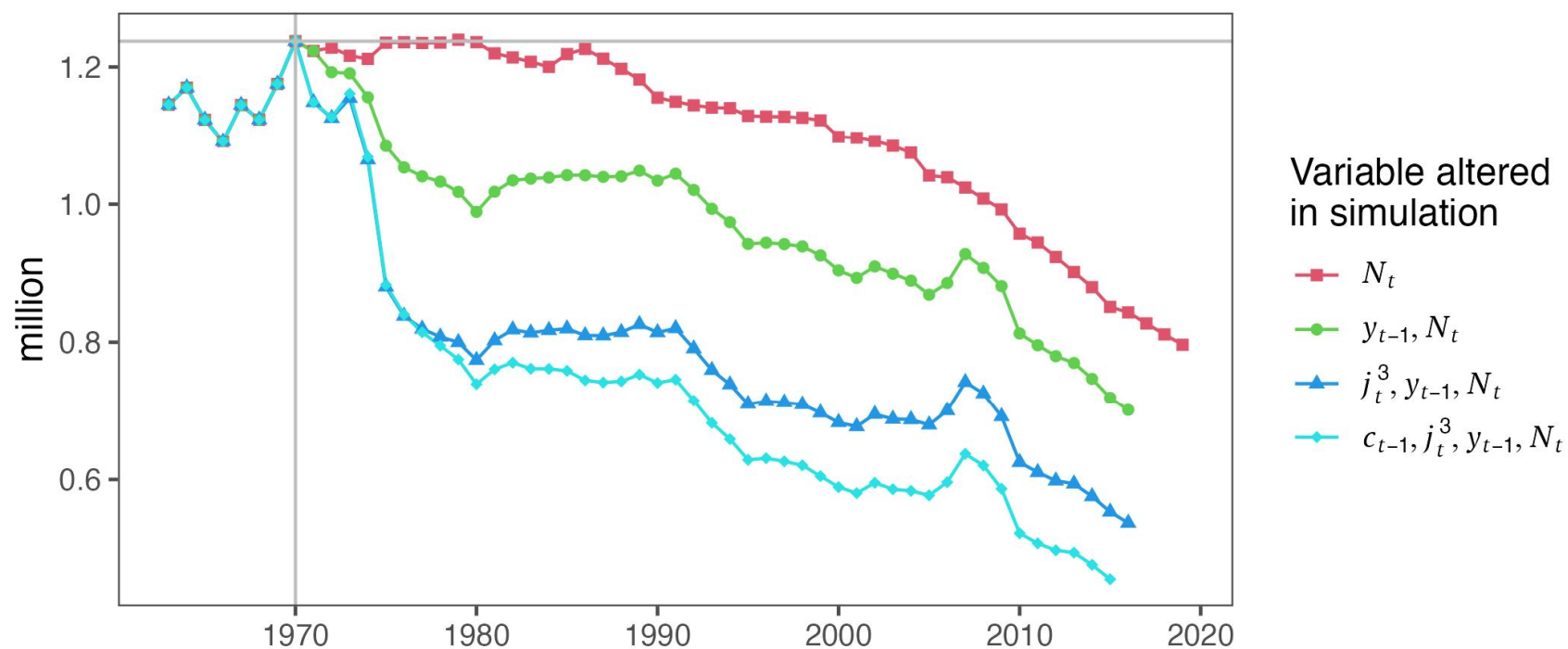Fig. 12: Per-capita income in MAs / Per-capita income in rural areas
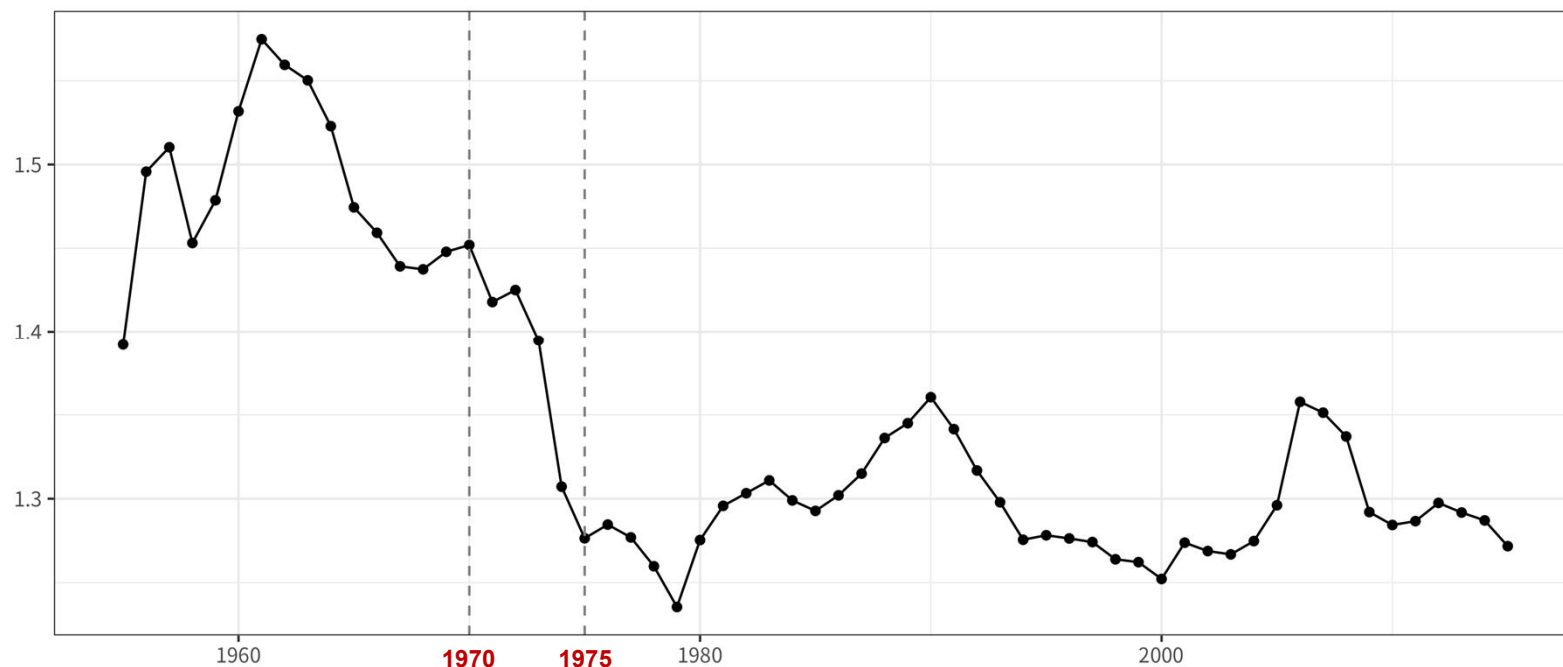
Source: Cabinet Office "Prefectural Economic Accounts (2020)," Ministry of Internal Affairs and Communications Statistics Bureau "Basic Resident Register Population Movement Report" and "Population Estimates"

3. Simulation results with changes in selected variables after 1970

Simulation results with selected variables controlled at the 1970 level

LHS: M_t

Variable altered in simulation

- N_t
- y_{t-1}, N_t
- j_t^3, y_{t-1}, N_t
- $c_{t-1}, j_t^3, y_{t-1}, N_t$

$$m_t = \alpha + \beta_1 y_{t-1} + \beta_2 c_{t-1} + \beta_3 j_t^3 + \beta_4 D + \varepsilon$$

Symbol	Definition
m_t	Number of people moving from rural areas to urban areas in year t / Number of rural people of age group i in year t.
y_{t-1}	The ratio of per capita income between urban and rural areas in year t-1.
c_{t-1}	The ratio of social capital stock per capita between urban and rural areas in year t-1.
j_t	RJAR in year t.
D	Dummy variable for the year 1973

V. What caused the Narrowing of Income Gap?

1. A Happy Ending?

- What caused this narrowing?

- One explanation is the law of diminishing returns. Mass migration during the 1960s raised the marginal productivity of labor in rural areas, while reduced productivity in urban areas.

- This would have been a natural, benign process.

- But **agricultural productivity** in the rural area **continued to increase** through 70s and 80s, and the diminishing returns cannot explain the sudden relative rise in the rural income.in 1974.

2. Government handouts to rural areas in the early 1970s

- However, another factor was decisive in narrowing the gap was:

  government policy.

VII
Political Motivation for the "Balanced National Development" (BND) Policies

1. "Balanced National Development" (BND) Policy.

- Beginning in the early 1970s, the government introduced extensive subsidies to rural areas under **the "Balanced National Development" (BND) policy.**

2. BND's aim

- BND sought to redistribute economic gains to rural regions, aiming to foster **'mini Tokyos.**'

- The policy of BND clearly benefited rural prefectures, which were disproportionately represented in parliament.

3. Kakuei Tanaka

- The publication of
  former Prime Minister Kakuei Tanaka's book,

  "Japanese Archipelago Remodeling Theory"

  in 1972 forcefully promoted the policy of BND.

VIII

Policies of
"Balanced National Development"
(BND)

1. Public investment in rural areas

A) Reversal of the regional intensity

- During the 60s, per capita public investment in urban areas exceeded that in small cities

- After 1972, this relative position was reversed.

Fig. 13: Per capita public investment in MAs over that in other areas


Met. > Rul.

Met. < Rul.
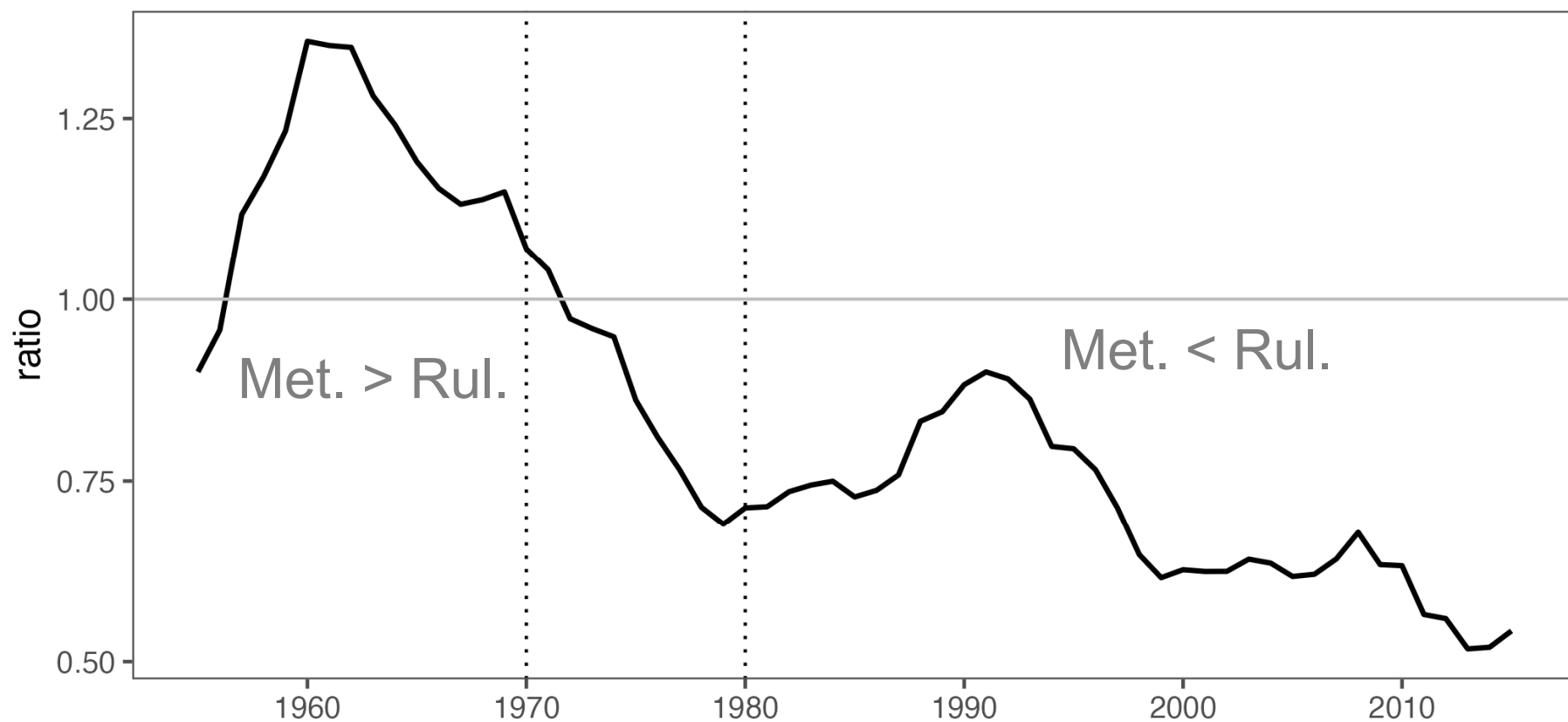
Source: MIC, "Administrative Investment."

B) Examples:

    a) Rural highways were funded using toll revenues from urban expressways.

    b) Rural railway lines financed by surpluses from Tokyo commuter lines and the Shinkansen.

    c) Airports funded through the national airport network.

d). 91% of nuclear power plants are located in regions within the lower half of the national income distribution.

Generating Capacity of nuclear Plants (MW)

Cumulative prefectural GNP
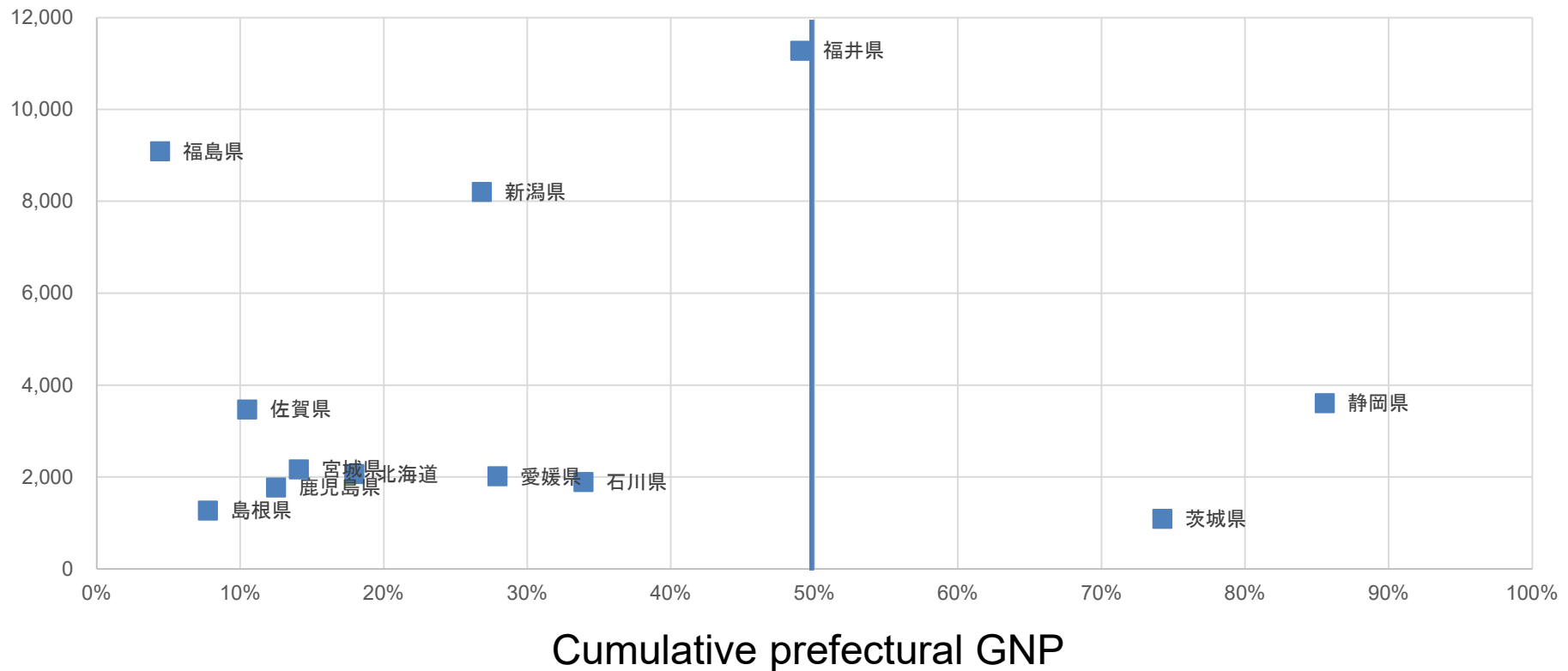
2. Regulations to divert resources from large cities

- Reallocation taxes and subsidies

- Factory Restriction Act (strengthened in 1972)

- Floor Area Ratio regulations

- Attempts to create "mini Tokyos"

3. Rice price support policies:

- Fiscal support of rice prices in the 60s and 70s.

- Rice import banned until 1999

- Tariff rate was 778% after the import liberalization.

- Acreage reduction program (1977)

4. Outcomes of BND

- ◦ These intervenntions boosted the rural income and further reduced the incentives to migrate into large cities.

IX
Justifications for BND

- The rural policymakers could not admit that BND was solely for their interests.

- They advanced two justifications:

1. That the policy was an **anti-congestion measure** for metropolitan areas.

2. That **unipolar concentration** in Tokyo was inefficient.

1.Anti Congestion Measures Using Prices are more Efficient than Migration Restrictions.

Peak-load pricing and market-based **rents** offer more efficient solutions to urban congestion. Those who truly need to be in the cities can remain, while others relocate.

By contrast, **migration restrictions** exclude rural individuals who might have contributed more productively, while protecting the interests of existing urban residents .

2. Unipolar Concentration can be more Efficient than Rural Dispersion.

The second justification—that unipolar concentration was inefficient—is unfounded.

Unipolar concentration can be efficient if managed with proper congestion controls.

When industrial restructuring occurs, Balanced National Decline is possible rather than Balanced National Development.

Fig. 14: Population Growth Rates of Major Japanese Cities, 1965–2010
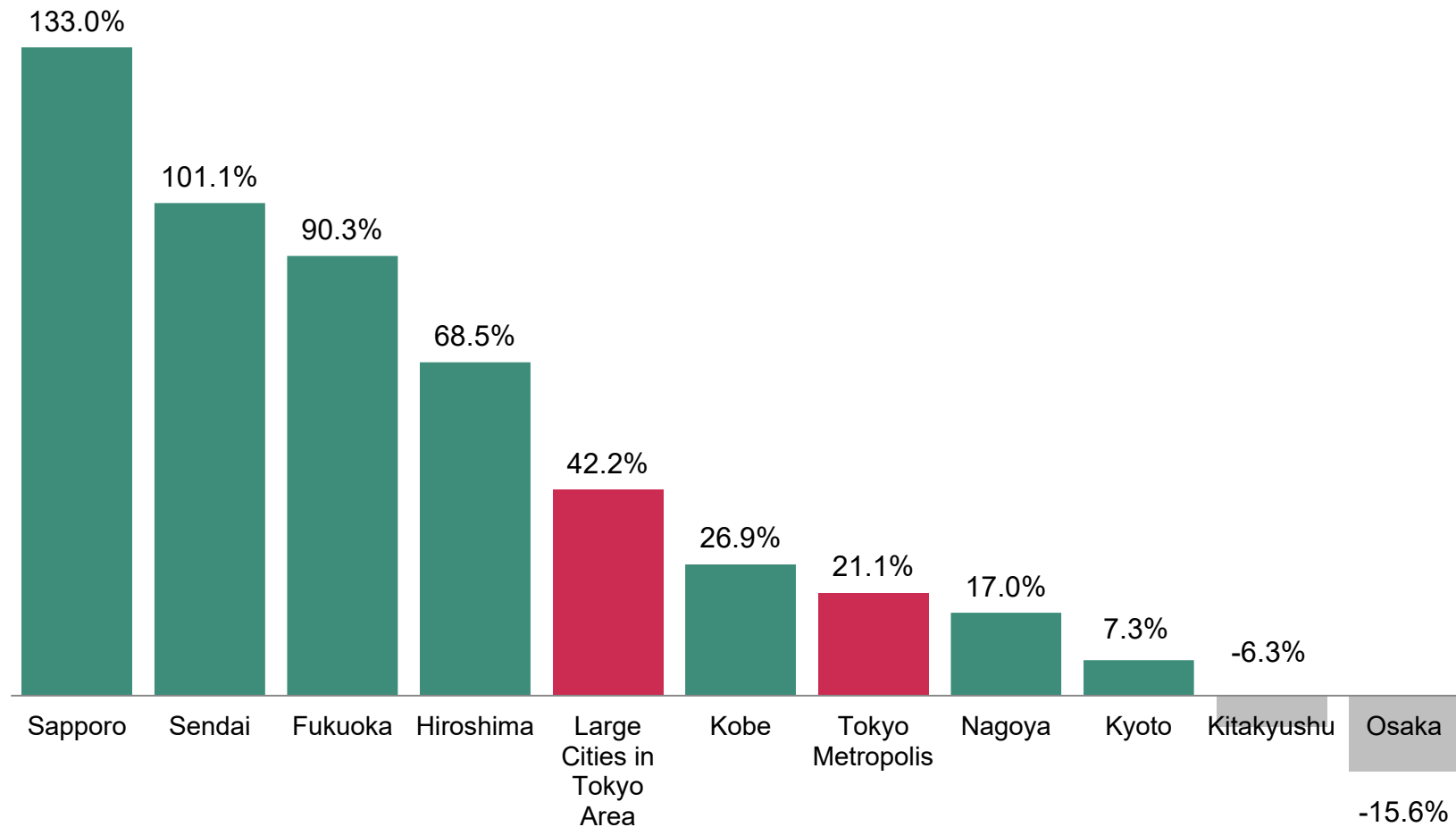
Source: Daitoshi Tokei Hikaku Nenpyo. Note: Large Cities in Tokyo Area consist of Yokohama City, Kawasaki City, Chiba City, Saitama City, and Tokyo Metropolis.

3. Multipolar Growth Took Place in Reality

During the 1960s and 1970s, not only Tokyo, Osaka, and Nagoya, but also Sapporo, Sendai, Fukuoka, and Hiroshima grew rapidly.

Thus, multipolar, rather than unipolara, growth what took place, as shown in Figure 16.

4. Causes for multipolar concentration

Across the country,
 large cities (pop. > 500,000) grew while
small cities (pop. < 100,000) declined
for two reasons:

1) Decline of primary industries

2) Rise of automobile transport enabling
small-city residents to commute to
nearby large cities

5. Failure of BND

- No "mini Tokyo" emerged from these measures.

- The policy artificially halted migration from low- to high-productivity areas.

X Conclusion

1. BND

- The politically motivated BND policy:
  ⇒   Narrowed the income gap between MAs and rural areas
  ⇒ Reduced migration to MAs
  ⇒ Halted improvements in national productivity

- The BND policy effectively ended Japan's rapid economic growth by diverting resources from productive urban centers to less efficient rural areas.

2. Lesson for today's developing countries.

- Many of them, after achieving rapid growth, now face pressures to redistribute resources to rural areas.

- Lesson: Emerging economies should be cautious not to replicate this policy misstep.

Appendix：Simulation Model

Tatsuo Hatta, Shinsuke Ikeda, Hiroki Hoshina,
"Causes of the Sharp Decline in Migration to Major Metropolitan Areas in the 1970s,"
Working Paper Series, Vol. 2024-18
December 2024

. Estimated results of the total population migration model for m_t.

	Total Migration Model	
	OLS	FMOLS
(Intercept)	-0.044	-0.043
	(-10.597)	(-8.400)
y_{t-1}	0.051	0.049
	(15.1129)	(12.227)
c_{t-1}	0.008	0.001
	(7.1179)	(8.287)
j_t^3	0.621	0.001
	(7.815)	(8.251)
D	-0.005	-0.004
	(-2.869)	(-2.666)
Num.Obs.	53	50
R2	0.966	0.966
R2 Adj.	0.963	0.963

The numbers in parentheses below each coefficient are all t statistics.

For FMOLS, the standard errors are based on the long-run covariance matrix

estimated nonparametrically using the quadratic spectral kernel and

Andrews's automatic bandwidth selection rule.