

RIETI Special BBL Seminar Handout

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Comments on
Japan's new growth strategy and the world
economy

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What should be the growth objectives?

① Enhance productivity growth

- Services sectors

② Restore the sustainability of Japan's government debt

- Tax increase and cuts on social security spending

③ Income Inequality

- What is the implication on growth?

Stylized Facts on economic growth

▶ Jorgenson and Timmer (2011)

- ▶ Services accounts for 3/4 of GDP and hours worked.
- ▶ Distribution services: rapid TFP growth.
- ▶ Finance, business services, personal services: low TFP growth.
- ▶ Labor share in value added is declining.
- ▶ Share of Skilled labor and ICT increased.
- ▶ Distribution, finance, business services: Most skill- and ICT-intensive.

What area of innovation are promising?

- ▶ Induced innovation (Yujiro Hayami)
- ▶ Directed Technological Change (Daron Acemoglu)
- ▶ Direction of technological change is determined by market environment.
 - Endowment of resources in the market: Increase in supply of skilled labor enhanced the skill augmenting technology (Acemoglu)
 - **Demographic change = Population aging**

What area is promising? - Gerontechnology

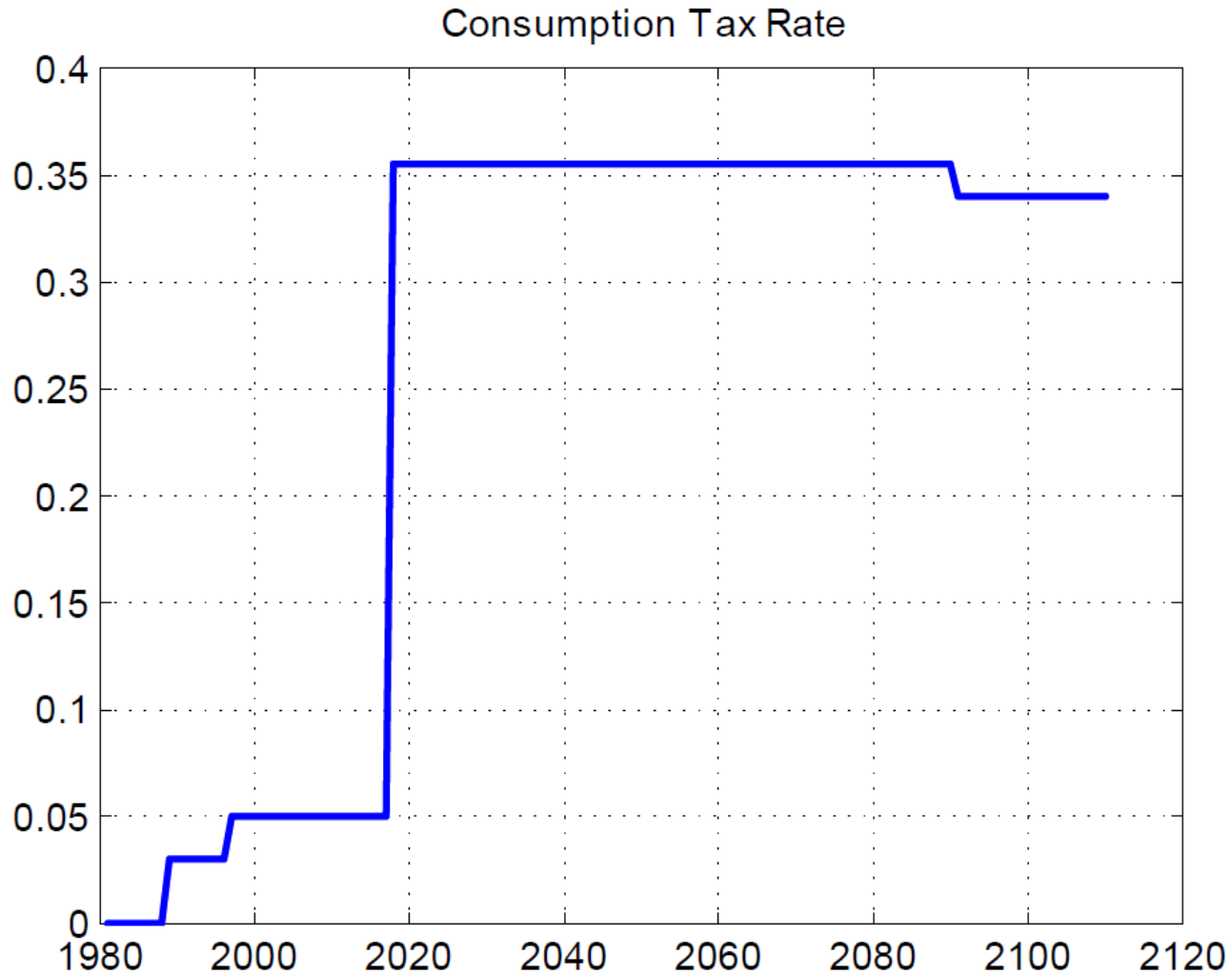
- ▶ Population aging continues in Japan and all over the world
 - ▶ Increasing demand and decreasing supply for nursing care service
 - ▶ Social security reform is not sufficient to keep the current living standard
- ▶ Technological innovation in nursing care services is necessary, e.g., Elderly care robots.
- ▶ Gerontechnology (= Gerontology + Technology)

Necessary Tax increase to restore the fiscal sustainability of Japan: 25—30 %

- ▶ Doi (2009): Accounting method
 - ▶ Consumption tax rate 5% → 17%
- ▶ Shirakawa Hiromichi (2010): Accounting method
 - ▶ Consumption tax rate 5 → 32%
- ▶ Hansen and Imrohoroglu (2011): Neoclassical growth model
 - ▶ Consumption tax rate 5 → 35%
- ▶ Braun and Joines (2012): OLG Model
 - ▶ Consumption tax rate 5 → 33%

Hansen and Imrohoroglu (2011)

Tax schedule for fiscal sustainability



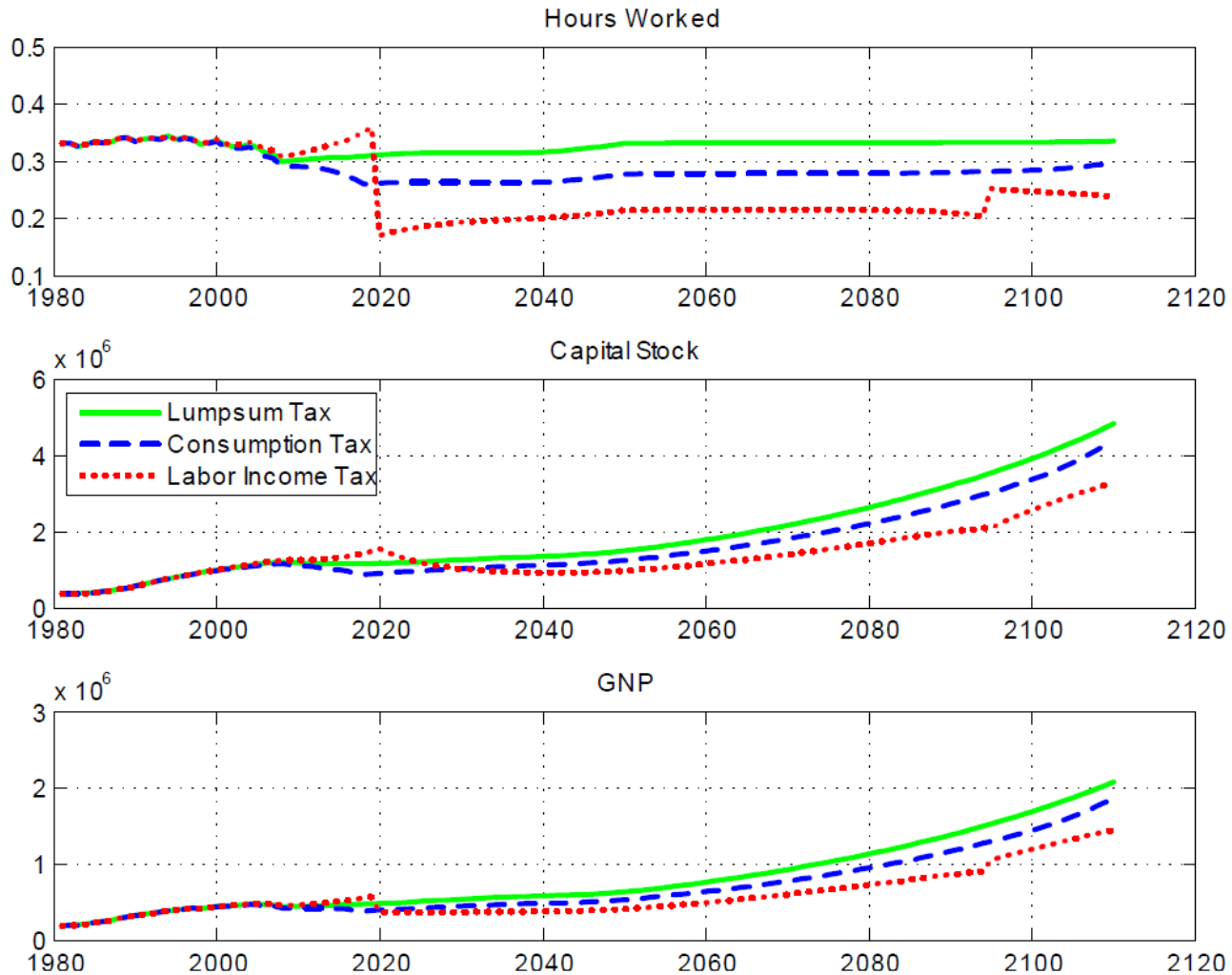
Hansen and Imrohoroglu (2011)

Tax schedule for fiscal sustainability



Hansen and Imrohoroglu (2011)

Effect of tax hike on Japanese economy



A comprehensive fiscal consolidation plan (Braun and Joines 2012)

- ▶ Consumption tax rate: Gradually raise to 33 % in 2050-2080 then decrease to 17% in 2100.
- ▶ Raise Copayment of medical services for elderly from 10% to 20%
- ▶ Substantial decrease in pension benefits
- ▶ 2% inflation
- ▶ General spending cut

Income inequality – Implication to Growth

- ▶ Simple calculation of neoclassical growth model
- ▶ Two type of agents – Worker and Capitalist
- ▶ They have identical preferences and technology
- ▶ Capitalist own a large amount of capital stock, while worker owns a very small amount.

- ▶ What happens in Steady State Equilibria?
- ▶ There are infinitely many equilibria corresponding to the share of capital stock owned by Worker.

Income inequality – Implication to Growth

- ▶ If share of Worker's capital stock decreases,
 - ① Labor supply by worker increases.
 - ② Income of Worker decreases.
 - ③ Income of Capitalist increases.
 - ④ Total output increases.

- ▶ Redistribution policy of capital stock
 - ① decreases the total output
 - ② decreases Worker's labor supply and increase consumption and income of Worker