

# Post War Growth and Lost Decade

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# Outline of the Talk

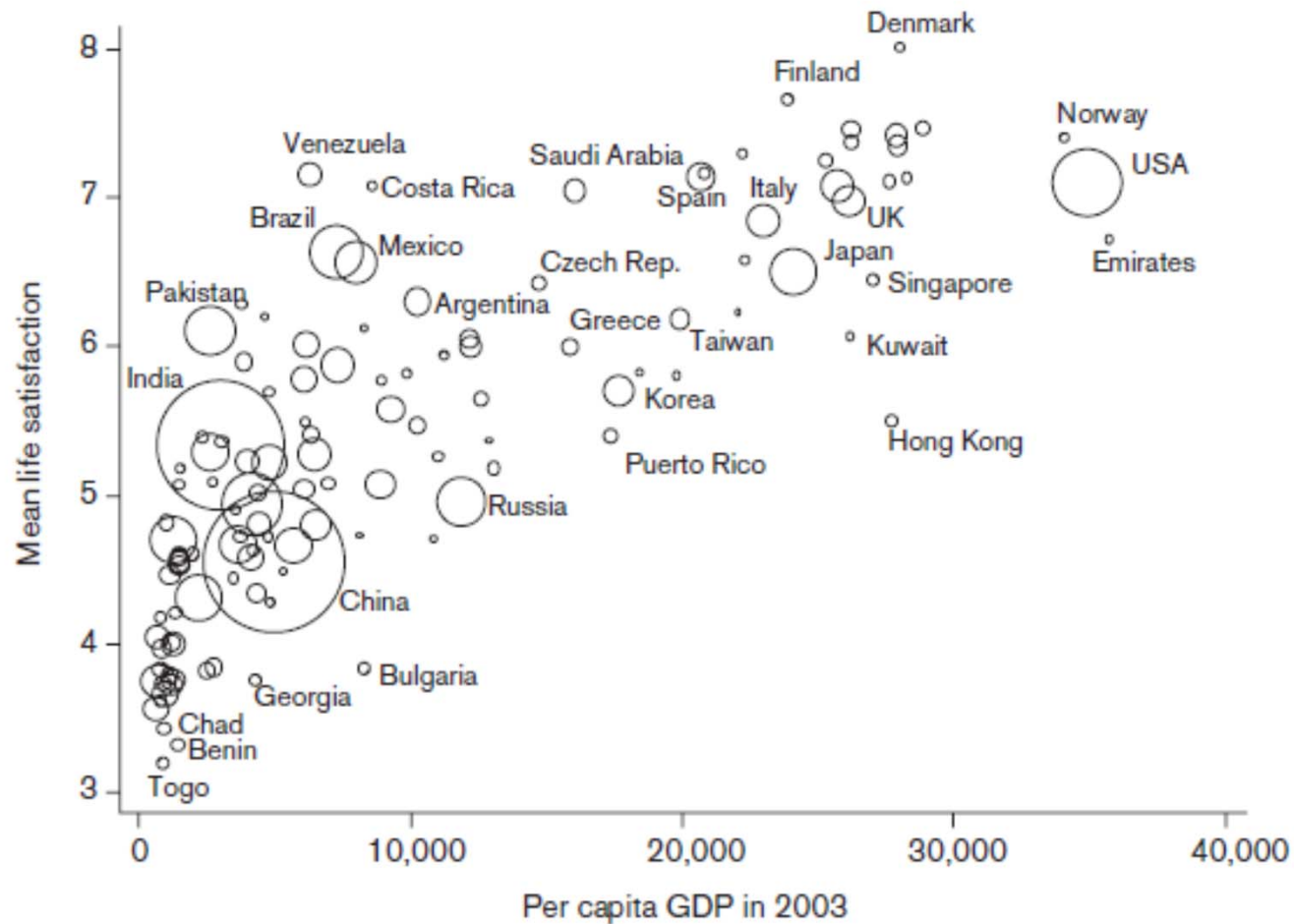
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- Life Satisfaction
- Too Big To Bail
- Sustainable Growth
- Analysis and Remarks

# Life Satisfaction

Source: Income, Health, and Well-Being Around the World: Evidence from the Gallup Poll World Poll

**Life Satisfaction and Per Capita GDP Around the World**





THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

# OECD Your Better Life Index (2008)



- Average Household Earnings (USD)
  - \$27,039 (AU); \$23,210 (JP); \$37,690 (US); \$22,284 (Ave)
- Employment
  - 72% (AU); 70% (JP); 67% (US); 65% (Ave)
- A High-School Diploma
  - 70% (AU); 87% (JP); 89% (US); 73% (Ave)
- Life Expectancy (Years)
  - 81.5 (AU); 82.7 (JP); 77.9 (US); 79.5 (Ave)
- % of Answers for Satisfied with their Life
  - 75% (AU); 40% (JP); 70% (US); 59% (Ave)

# Too Big To Bail

# Public Debt as a % of GDP from 2010

- Source: CIA Factbook

1. Japan 225.8%

⋮

5. Greece 144%

6. Iceland 123.8%

⋮

108. Australia 22.4%

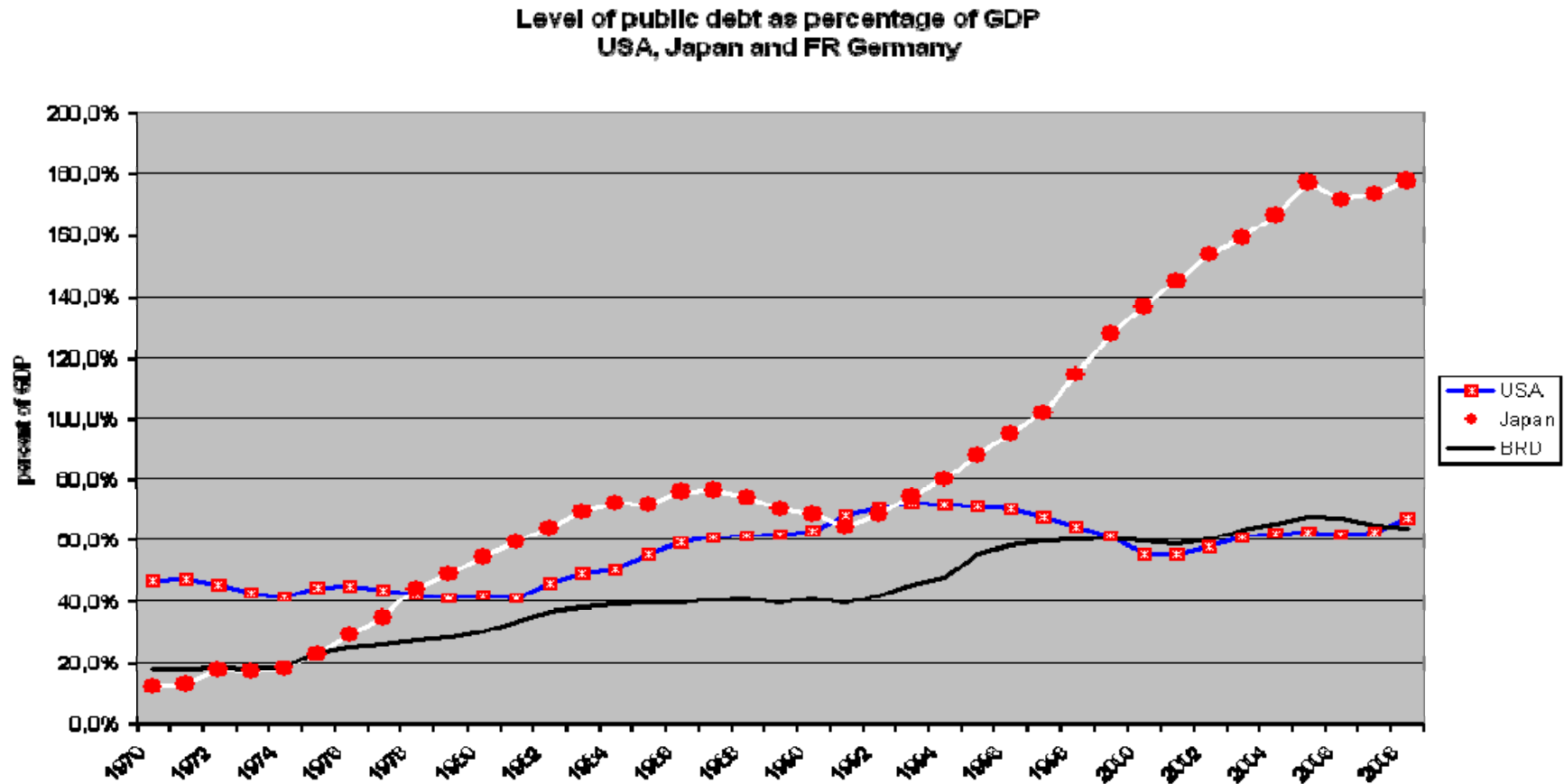


# Who holds the Debt?

- Source: Bank of Japan, 2010
- Total 877 Trillion yen (100%)

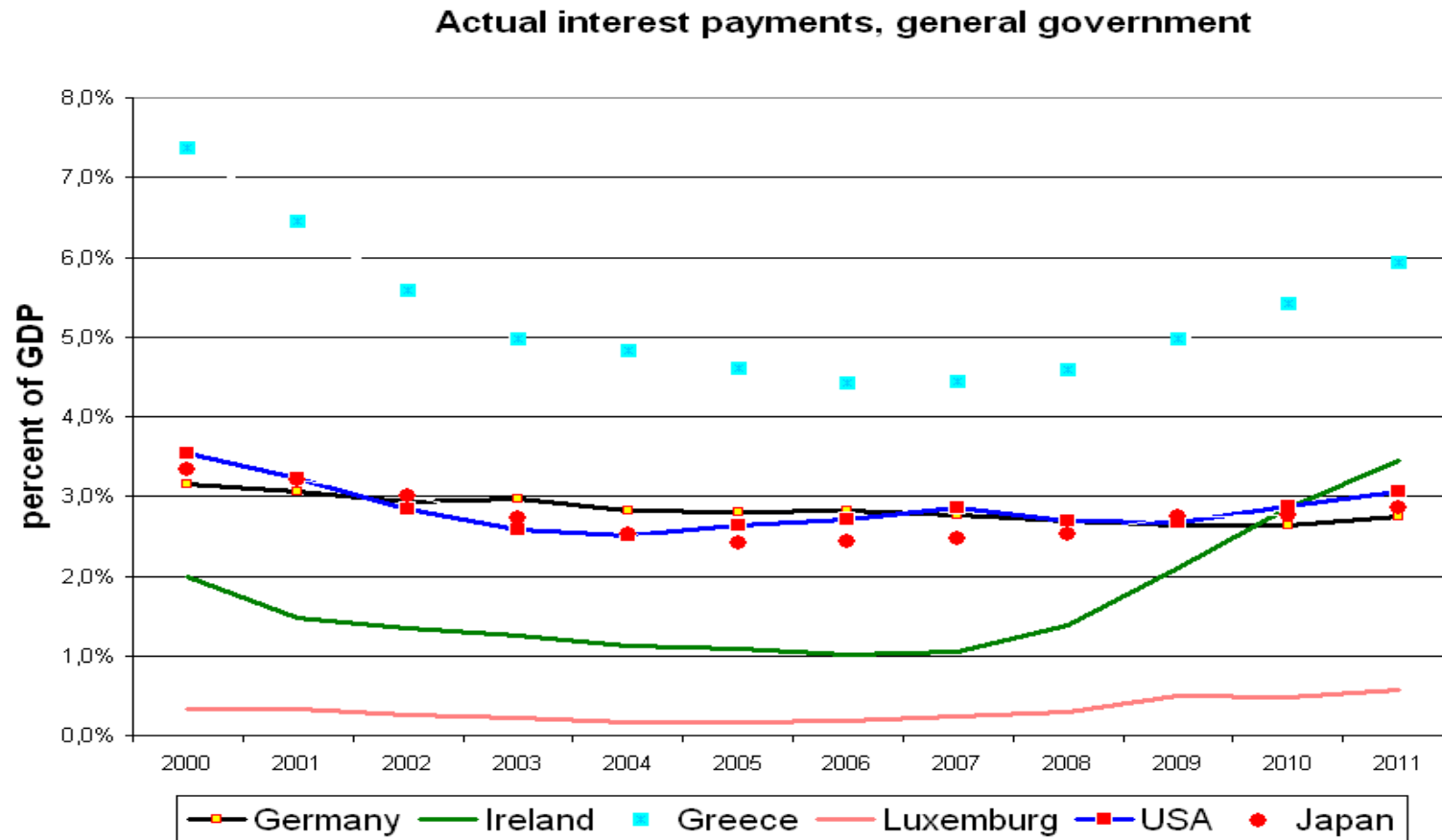
Private Financial Institution	587 (66.9%)
Public Institution	101 (11.5%)
Bank of Japan	78 (8.9%)
<u>Foreign Institution</u>	<u>56 (6.4%)</u>
Households	33 (3.8%)
Others	22 (2.6%)

# Public Debt



(Source: wikipedia)

# Actual interest payments



(Source: wikipedia)

# After WWII and Economic Growth

# Annual GDP Growth Data across Countries

	'61	'63	'65	'67	'69	'71	...	'05	'07	'09	'11	'13	'15
Japan	12.0	8.5	5.8	11.1	12.5	4.7	...	1.3	2.2	-5.5	-0.5	1.4	0.5
Australia	2.5	6.2	6.0	6.3	7.0	4.0	...	3.2	3.8	1.8	2.4	2.4	2.2
China	-27.3	10.3	17.0	-5.8	16.9	7.1	...	11.4	14.2	9.4	9.5	7.8	6.9
USA	2.3	4.4	6.4	2.5	3.1	3.3	...	3.3	1.8	-2.8	1.6	1.7	2.6

- Unit: %
- Source: World Bank

# Growth led by exports

- Growth led by exports is a strategy aiming at finding a niche in international trade such that a country can attain advantage in competition.
- In the 1950's, Japanese companies and technicians quickly absorbed technological advances and business models in the western world through imports.
- Japan's government implemented industrial policies so that Japan could obtain comparative advantage in production of the high-value added industries.
- The strategy of growth led by exports is also taken by other countries. South Korea, Hong Kong, Singapore and Taiwan went through rapid industrialization and achieved high growth rates, similarly to the case of Japan.

# Comparative Advantage

- Apples and oranges, and country A and B.
- Suppose that in country A, 5 minutes of labour are necessary to produce one apple while 6 minutes of labour are necessary to produce one orange.
- Suppose that in country B, 9 minutes of labour are necessary to produce one apple while 8 minutes of labour are necessary to produce one orange.
- Then by the amount of labour to produce one apple,
  - in country A,  $\frac{5}{6}$  of an orange can be produced;
  - in country B,  $\frac{9}{8}$  of an orange can be produced.
- In this situation, we say that country A has comparative advantage in producing apples.

# The plan of doubling national income

- Ikeda Administration: 1960 – 1964
  - restrengthening labour discipline
  - making production processes more efficient
  - promoting investments in targeted industries
- Japan's comparative advantage was shifted toward the heavy and chemical industries from textiles or other light industries in the 1960's.
- Promoting investment in capital and technological advances was the key principle in Ikeda's plan of doubling national income, and was one of the most important factors in economic growth.

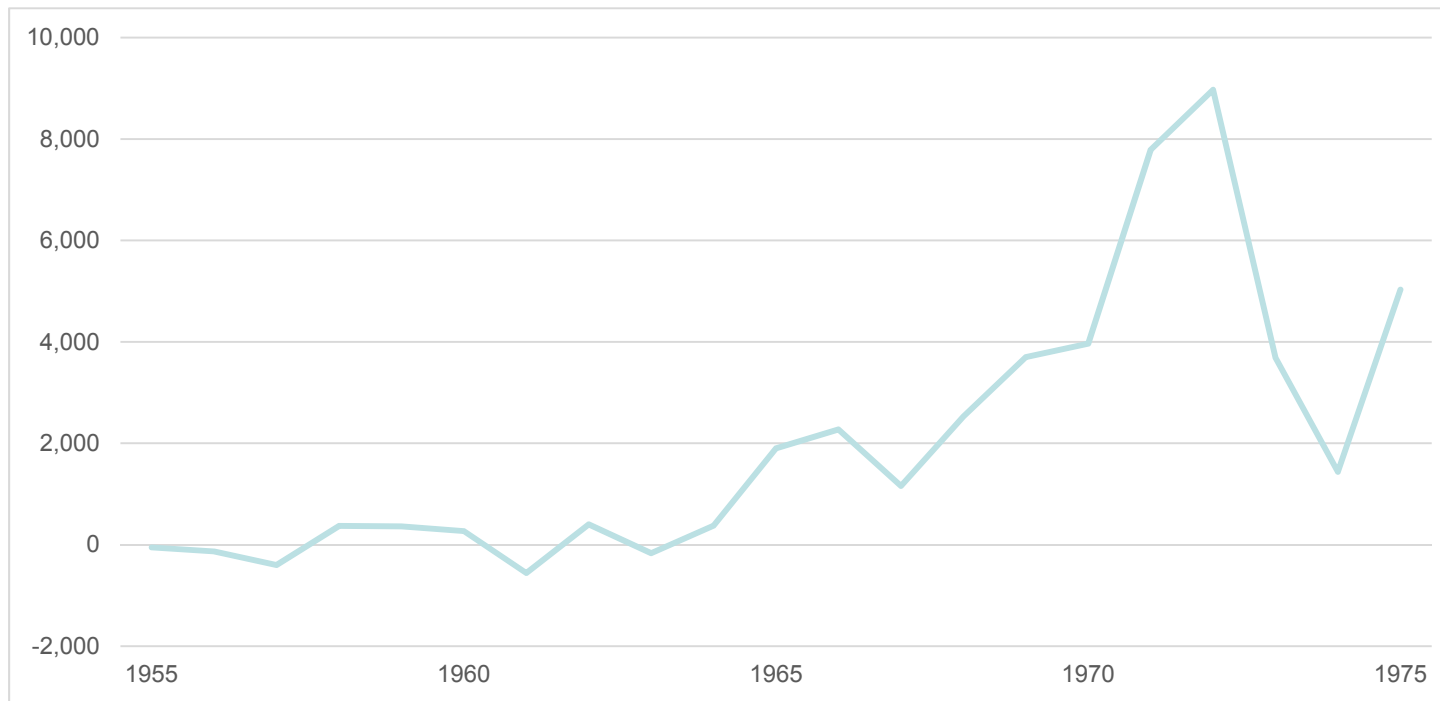


# Gross Domestic Saving

	'61	'65	'71	'75	'81	'85	'91
<b>Japan</b>	<b>*36.3</b>	<b>*32.3</b>	<b>38.2</b>	<b>32.6</b>	<b>31.7</b>	<b>31.5</b>	<b>33.8</b>
<b>Australia</b>	<b>30.5</b>	<b>31.6</b>	<b>31.9</b>	<b>26.4</b>	<b>26.9</b>	<b>26.0</b>	<b>24.1</b>
<b>China</b>	<b>22.7</b>	<b>27.1</b>	<b>34.0</b>	<b>34.8</b>	<b>33.7</b>	<b>36.1</b>	<b>39.7</b>
<b>USA</b>	<b>23.3</b>	<b>24.6</b>	<b>21.9</b>	<b>21.2</b>	<b>23.9</b>	<b>21.5</b>	<b>19.6</b>

- Unit: %
- Source: World Bank and Statistics Bureau, Japan

# Trade Balance



- Unit: Millions of US Dollars
- Source: Statistics Bureau, Japan

# Macro-Economic Analysis

# Nikkei Index

Figure 2: Nikkei 225



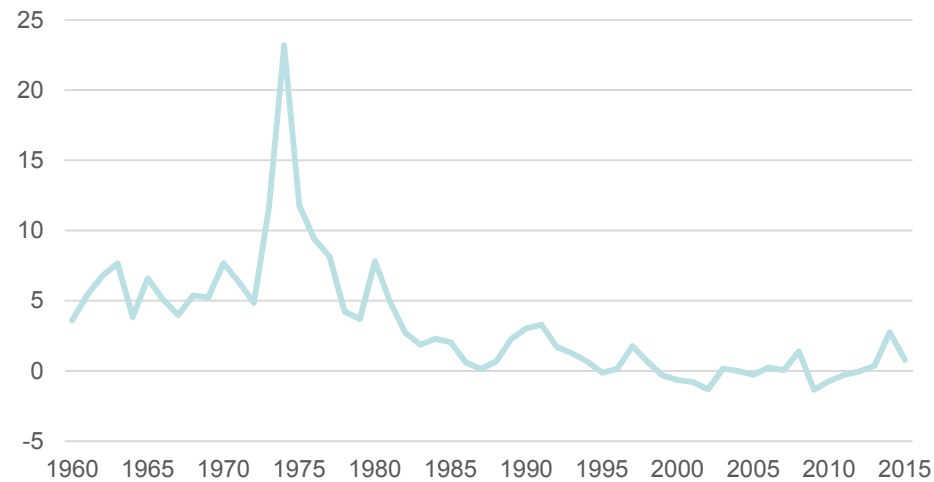
# Inflation Rate (Comparison)

	2008		2009	2010	2010				2011
					Q4-'09	Q1-'10	Q2-'10	Q3-'10	Q1-11
Australia		4.35	1.82	2.85	2.11	2.89	3.05	2.79	3.33
Japan		1.38	-1.35	-0.70	-2.03	-1.16	-0.93	-0.80	0.00
United Kingdom		3.61	2.17	3.29	2.09	3.26	3.44	3.09	4.13
United States		3.84	-0.36	1.64	1.44	2.36	1.77	1.18	2.14
OECD - Total		3.69	0.54	1.88	1.12	2.03	1.88	1.66	2.40

(source: OECD)

# Inflation Rate in Japan

Figure 3: Inflation Rate (%)



- Unit: %
- Source: World Bank

# Macro-Economics Framework

- The **AD/AS analysis** is a macroeconomic tool that demonstrates the relationship between output and price level in both sides of Aggregate Demand and Aggregate Supply.
- The intersection of the AD and AS curves is the "general equilibrium" where there is simultaneous equilibrium in both markets.
- They are defined by:  $Y = C(Y-T(Y)) + I(r) + G + NX(Y)$ 
  - $C(Y-T(Y))$ : Consumer Spending (increasing in  $Y$ )
  - $I(r)$ : Investment (decreasing in  $r$ )
  - $G$ : Government Spending
  - $NX(Y)$ : Net Exports (decreasing in  $Y$ )

# AD and AS (Liquidity Trap)

Figure: AS and AD

- Price Level

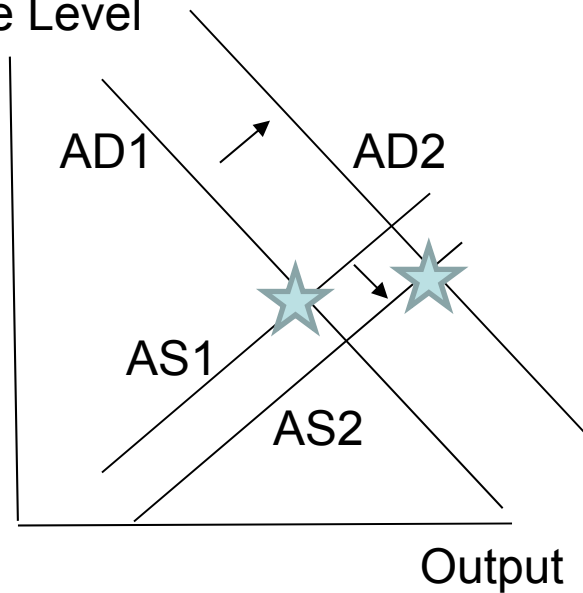
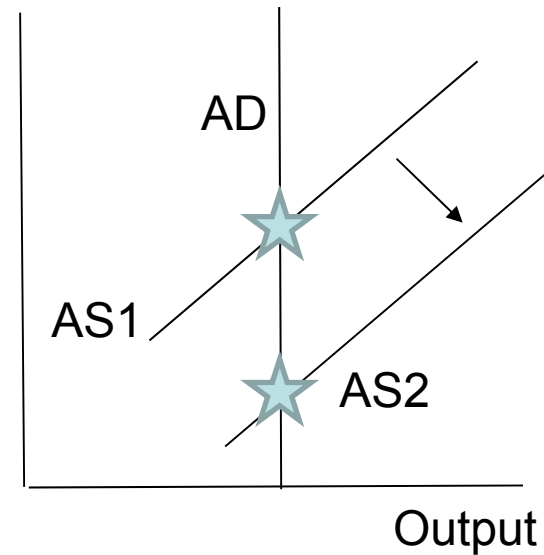


Figure: Liquidity Trap

- Price Level





# The Quantity Theory of Money

- $MV = PY$ 
  - M : The Money Supply
  - V: How Many Times Money Changes Owners
  - P: The Price Level
  - Y: National Income
- When Y and V do not change, more money in the market increases the price level.

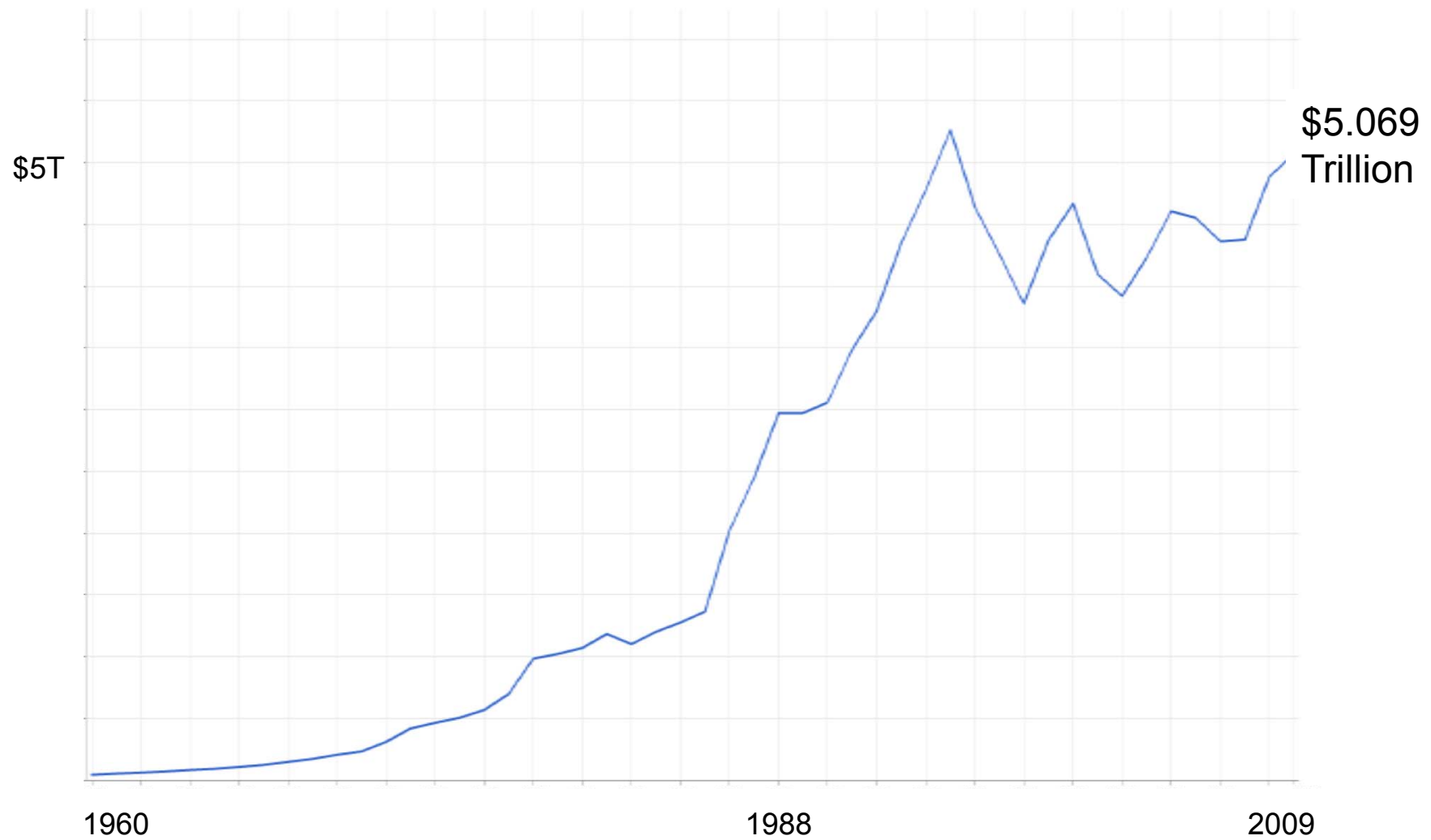
# Some Solutions Proposed

- Krugman
  - “Japan should print money like crazy.”
  - Announce a target rate of inflation over the long term.
- Bernanke: Quantitative Easing
  - A central bank implements quantitative easing by buying financial assets from commercial banks and other private institutions with newly created money, in order to inject a pre-determined *quantity* of money into the economy.
  - Quantitative easing increases the excess reserves of the banks, and raises the prices of the financial assets bought, which lowers their yield.

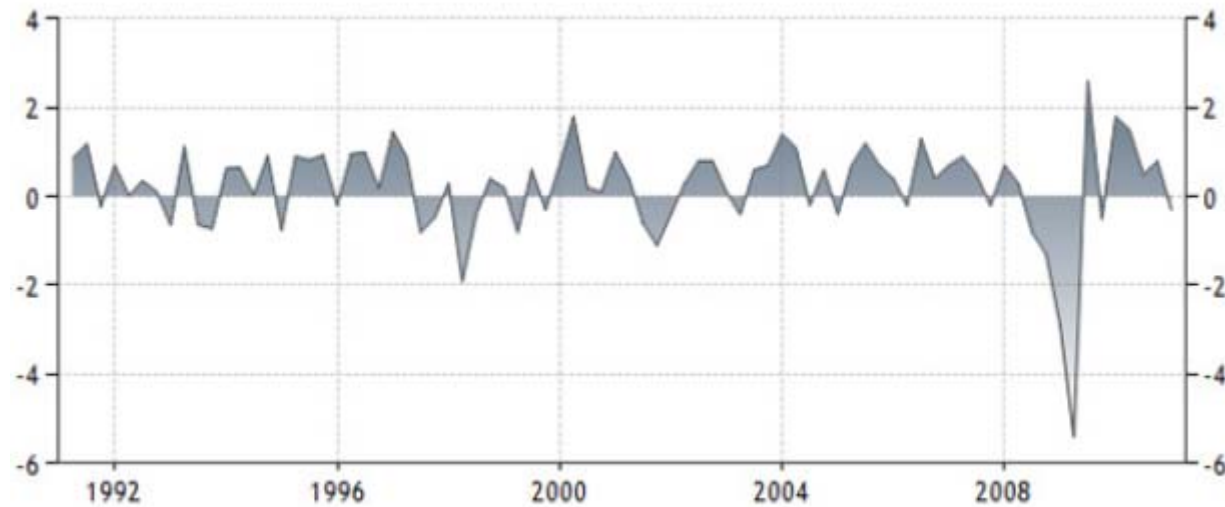
# Abenomics

- A set of policies in the hope of stimulating macroeconomic growth — is often described as having “three arrows”.
  1. A monetary policy aimed at dispelling the deflation mindset.
  2. A flexible fiscal policy aimed at igniting the economy through expansion of public investment.
  3. A program to achieve growth through stimulating private investment.

# Japan's GDP (source: world bank)



# Japan Annual GDP Growth Rate



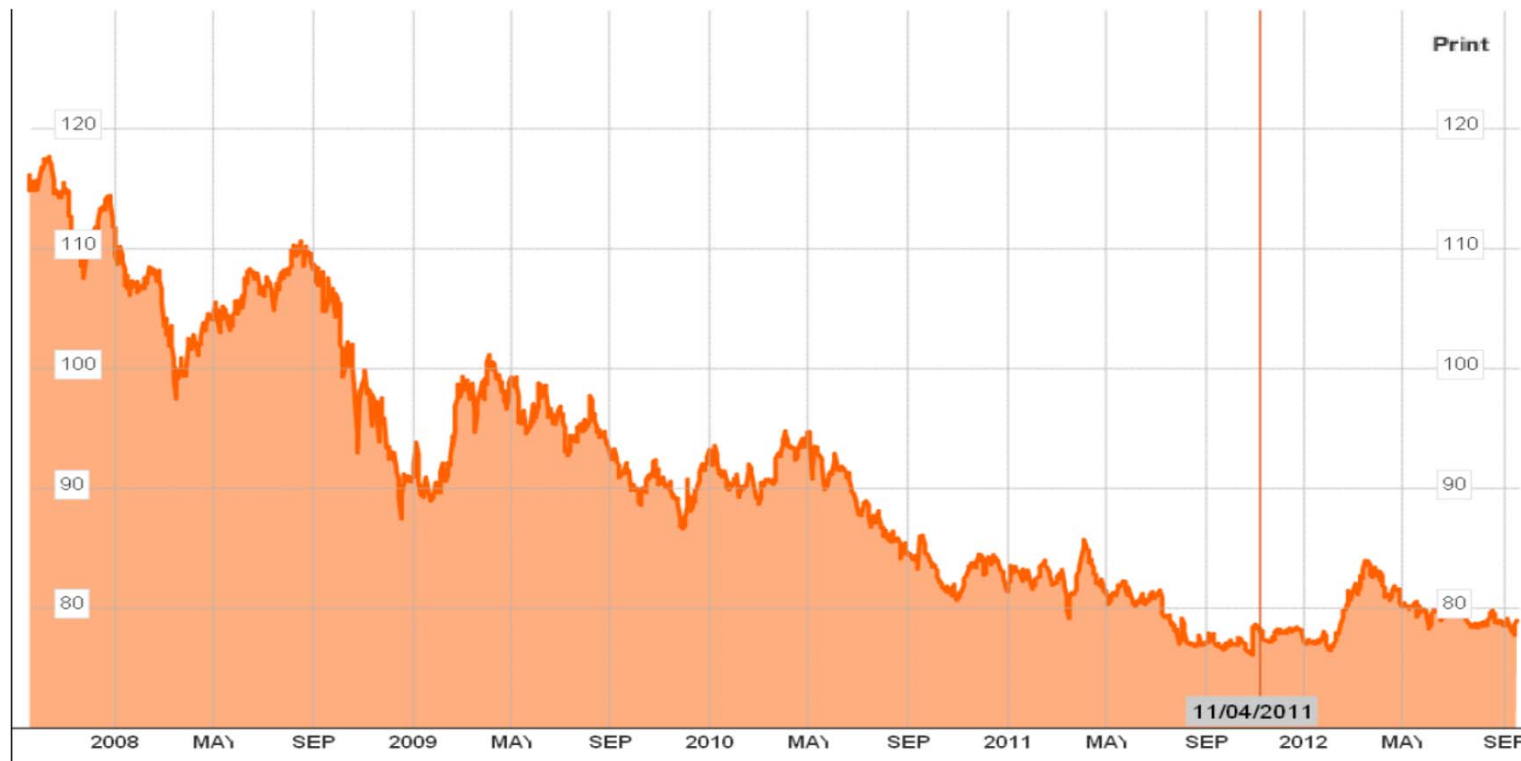
- From Japan's Liquidity Trap by Noven Chan.
- (Inflation Adjusted)

# Japan Unemployment Rate



- From Japan's Liquidity Trap by Noven Chan.
- (% of Labor Force)

# USD to JPY



- From bloomberg.bom

## Japan/US Foreign Exchange Rate (Yen)

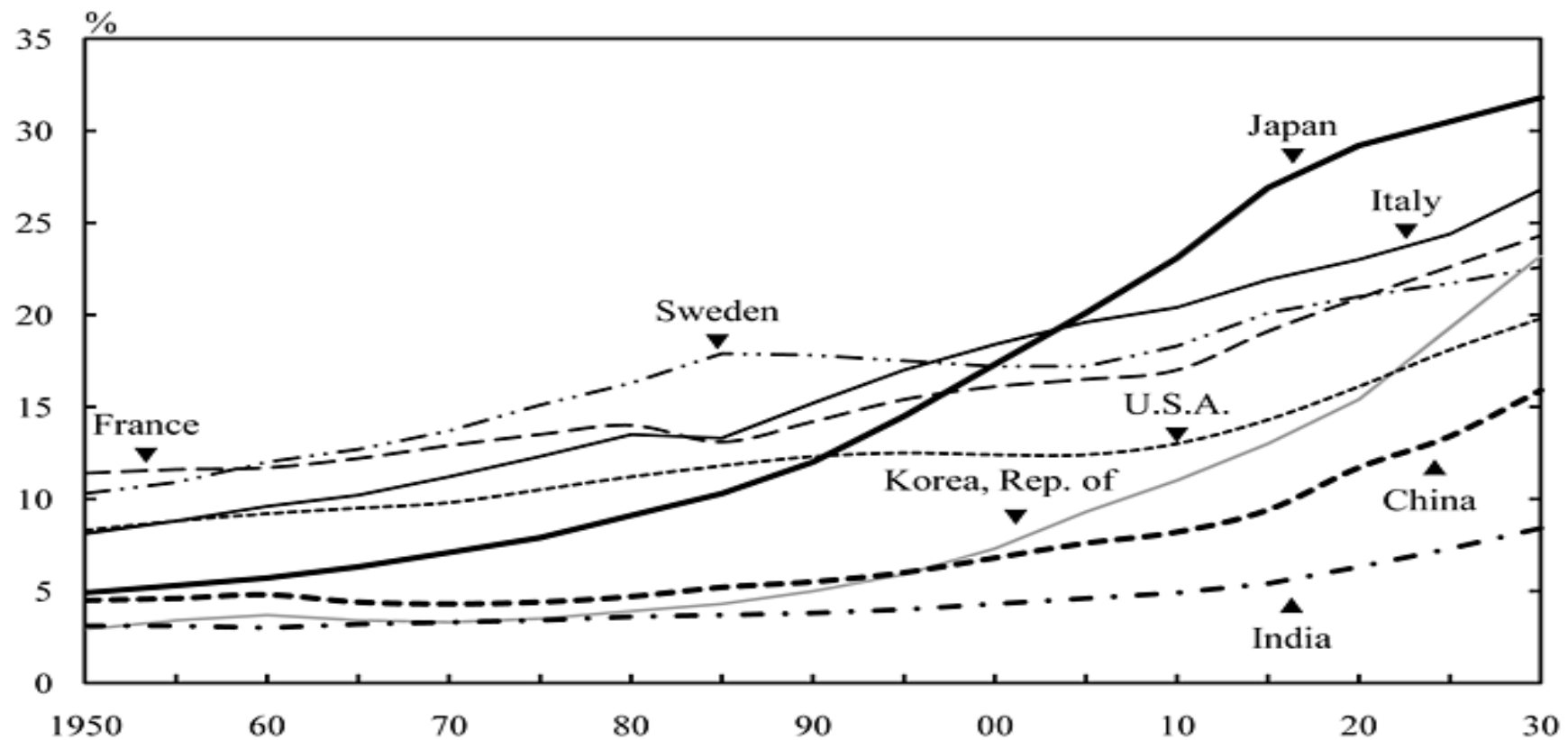




# Sustainable Growth

# Population

**Proportion of Elderly Population by Country (Aged 65 years and over)**



Source: Statistics Bureau, MIC; Ministry of Health, Labour and Welfare; United Nations.

# Population age structure, International comparison 2010 - 2015

		2015		2010-15	2015
	0-14	15-64	65-		Life Expectancy
	Years	Years	Years	Birth Rate	(Years)
<b>Japan</b>	12.4%	61.3%	26.3%	1.3	83.7
<b>Australia</b>	17.6%	66%	16.4%	1.9	82
<b>China</b>	19%	71.5%	9.4%	1.8	74
<b>US</b>	19.8%	65.9%	14.3%	2	80
<b>World</b>	26%	65.8%	8.2%	2.5	81

# Percentage of Non-Regular Employees (%)

