

# Recent Issues of Logistics Strategy in Japan

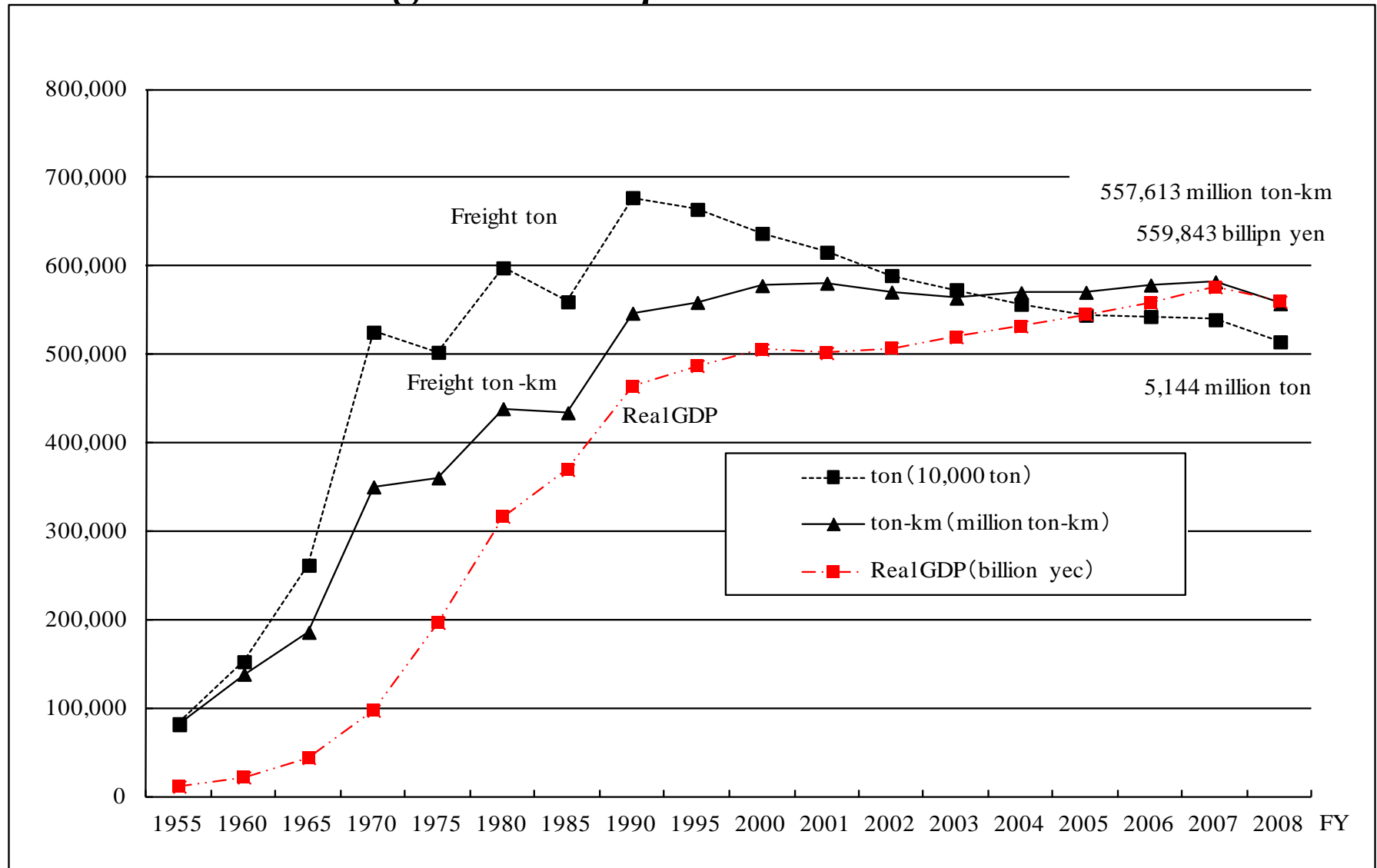
Lehman Shock, Earthquake and Tsunami, Flood in Thailand and its Aftermath

Recent Economic Condition of Japan  
Earthquake and Tsunami and Fukushima  
Floods in Thailand  
Lessons learned from Disasters

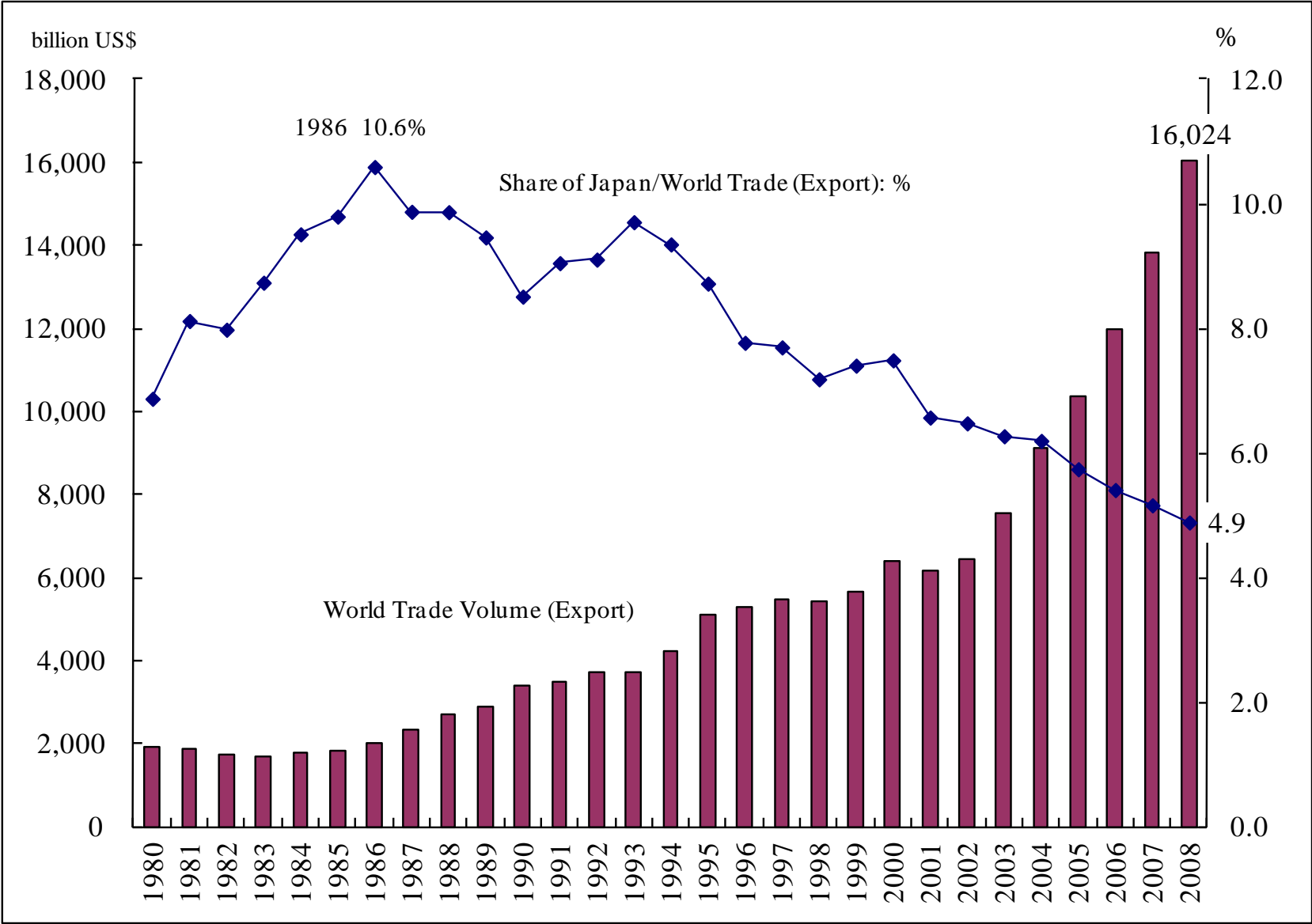
Ryuichi Yoshimoto

# Recent Economic Condition of Japan

## *GDP and Freight Transport*



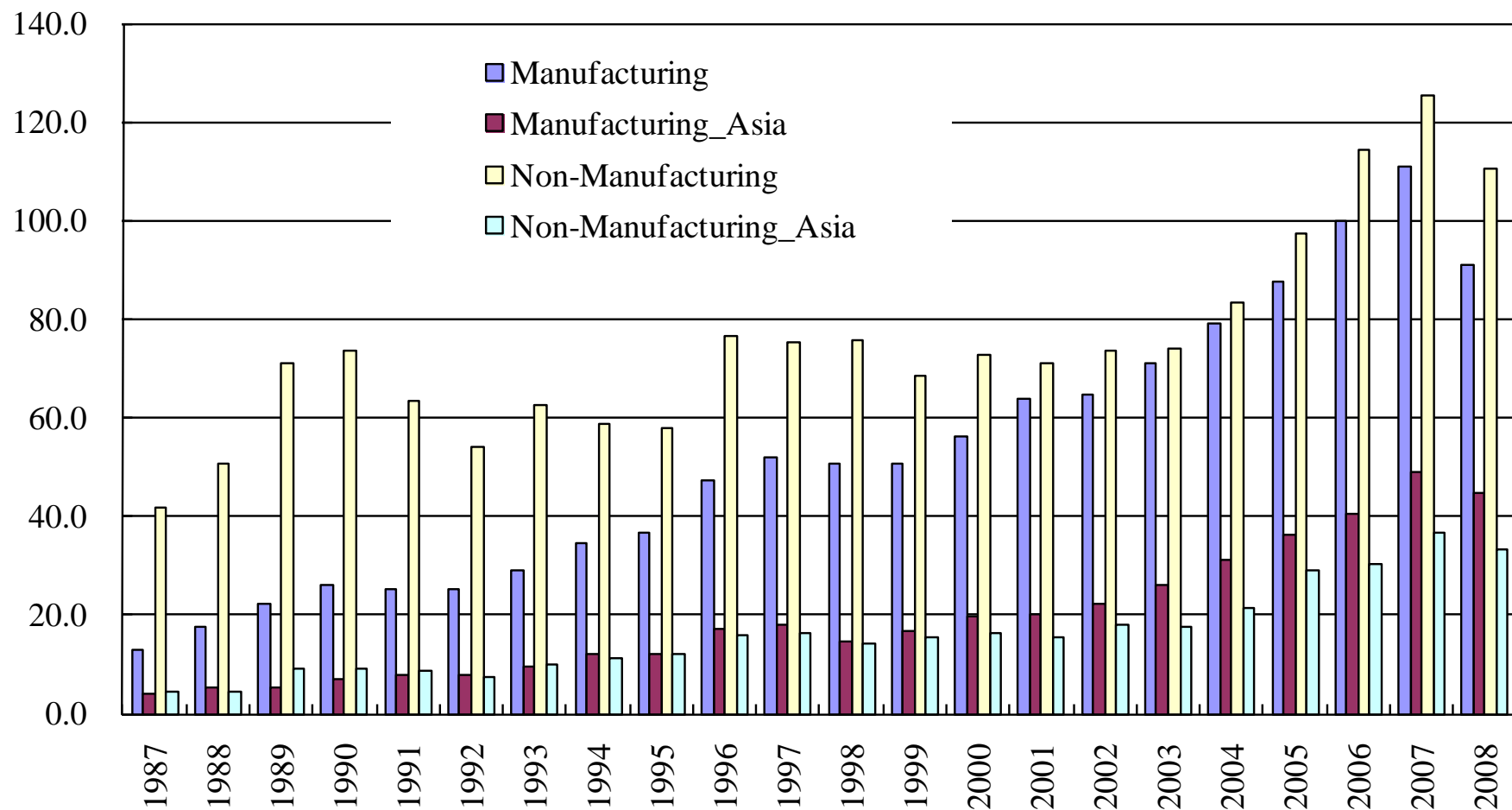
# World Trade and Share of Japan



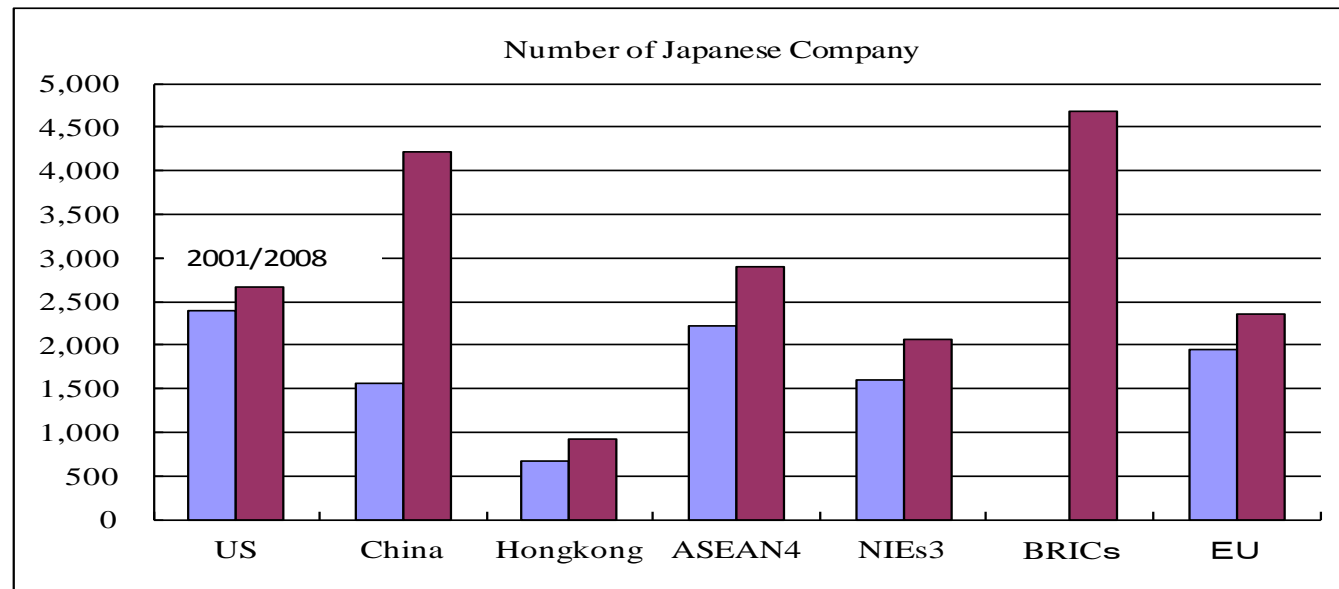
# Overseas Activity of Japan Companies

Trillion Yen

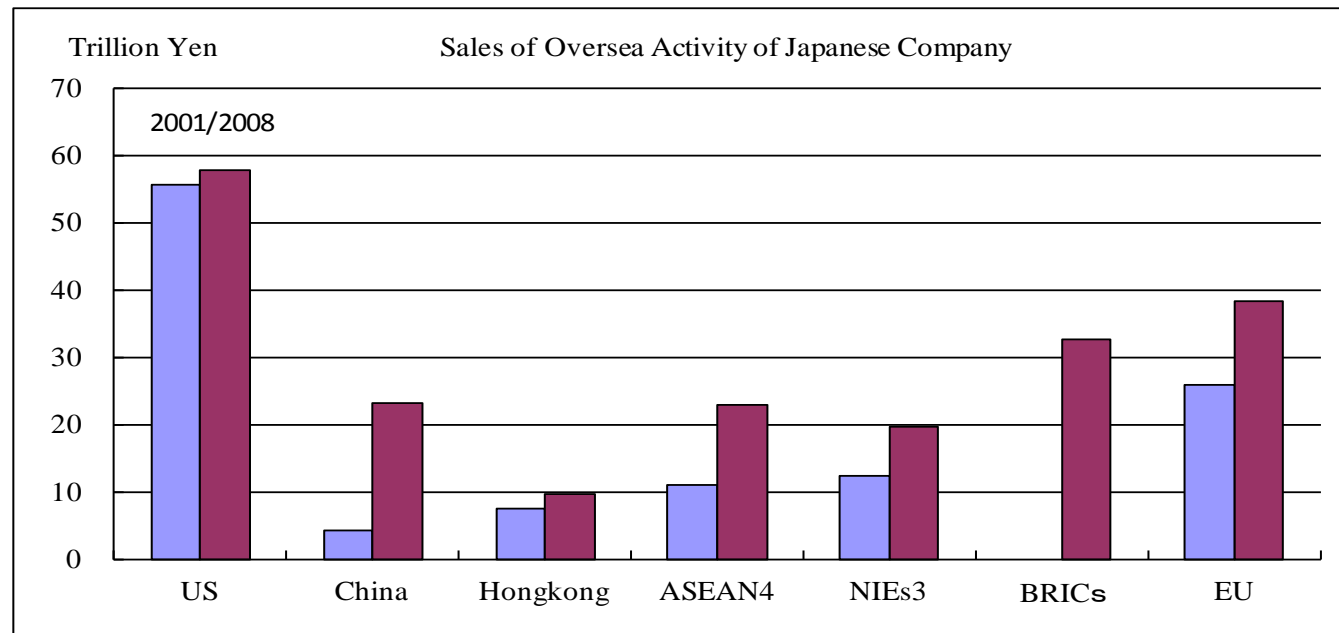
## Sales of Oversea Activity of Japanese Companies



# Number of Company By Country/Region



# Sales of Oversea Activity By Country/Region



# Earthquake and Tsunami and Fukushima

## 3.11/2011



### The Great East Japan Earthquake

#### Earthquakes

##### Main shock

- Magnitude : 9.0 (Mar. 11th)

##### Aftershocks

- Magnitude 7 or greater : 6 times
- Magnitude 6 or greater : 96 times
- Magnitude 5 or greater : 580 times  
(As of Oct. 21st)

#### Casualties

- Dead : over 15,700
- Missing: over 4,500
- Injured: over 5,700 (As of August 24th)

#### Evacuees

- Over 124,000

**Enormous earthquake, tsunami and nuclear accident**

# 4 Nuclear Power Stations with 14 Units



		automatic shut down	cold shut down
Onagawa			
Unit 1	524 MW, 1984-	✓	✓
Unit 2	825 MW, 1995-	✓	✓
Unit 3	825 MW, 2002-	✓	✓
Fukushima Dai-ichi			
Unit 1	460 MW, 1971-	✓	
Unit 2	784 MW, 1974-	✓	
Unit 3	784 MW, 1976-	✓	
Unit 4	784 MW, 1978-	Periodical inspection	
Unit 5	784 MW, 1978-		✓
Unit 6	1,100 MW, 1979-		✓
Fukushima Dai-ni			
Unit 1	1,100 MW, 1982-	✓	✓
Unit 2	1,100 MW, 1984-	✓	✓
Unit 3	1,100 MW, 1985-	✓	✓
Unit 4	1,100 MW, 1987-	✓	✓
Tokai Dai-ni			
Unit 1	1,100 MW, 1978-	✓	✓

Estimated Population attacked by Tsunami  
390 thousands people

Estimated Area attacked by Tsunami  
443 km<sup>2</sup>, (urban area; 92 km<sup>2</sup>)

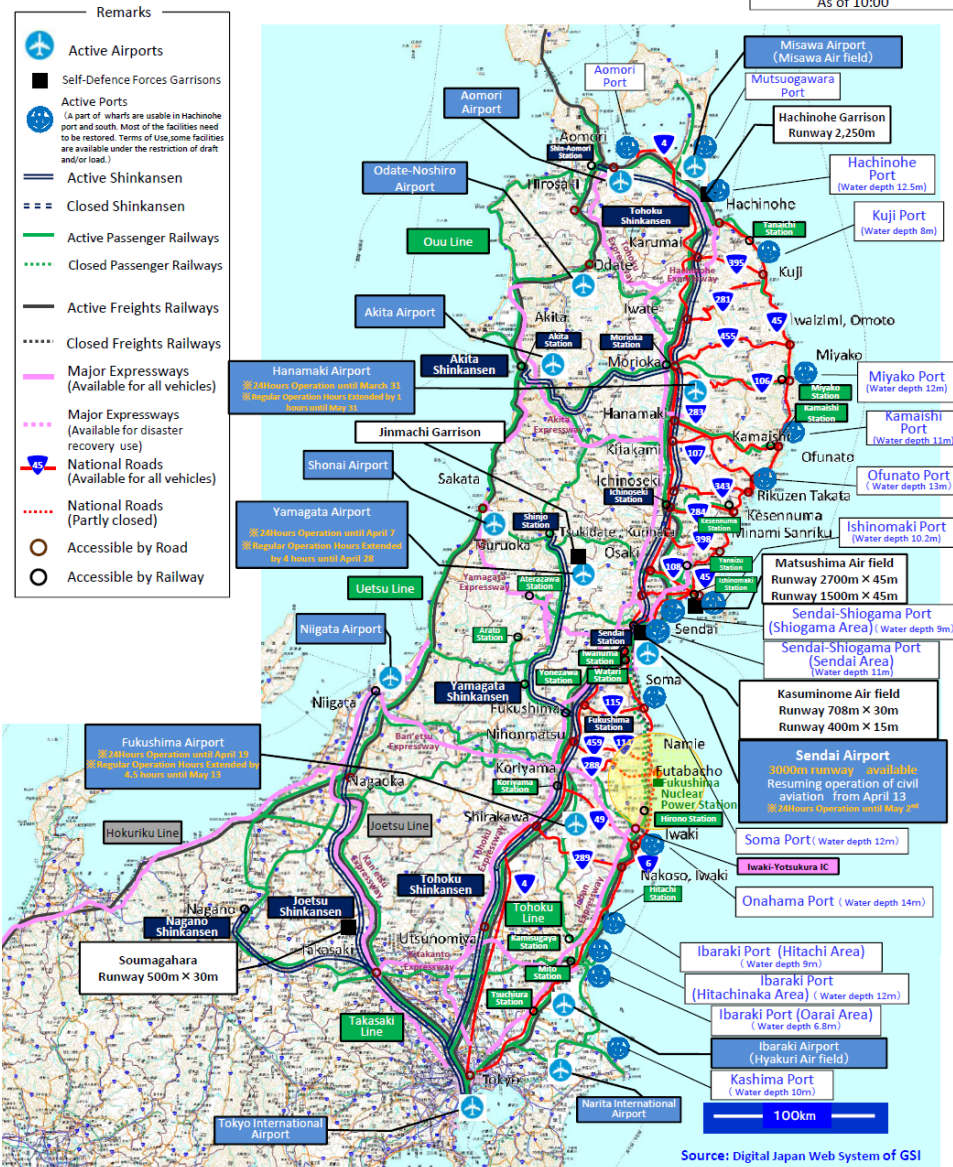
Economic Loss of Physical Infrastructure  
\*17 trillion yen (about 200 billion US\$)  
(10 trillion yen for building )

Main Social Issues at Initial stage  
\*Stop of Mobile phone system  
\*Stop of Commuter in Tokyo  
\*Supply of Emergency goods  
\*Shortage of Fuel supply  
\*Shortage of Power supply  
\*Response to Radiation pollution

Activity of Supply Chain Players  
\*Supply by Mega Retailer and Food maker  
\*Restoration of Shifted Load

# Recovery of Transportation

Emergency Headquarters  
October 31, 2011  
As of 10:00



(Prepared by Disaster Prevention and Relief Division/Geospatial Information Authority of Japan from the information of Road, Railway, Civil Aviation and Ports & Harbors Bureaus)

## Situation of Load-Shift in Logistics Platform



Source: AEON



## Tohoku manufacturing industry and the transportation network underpinning it

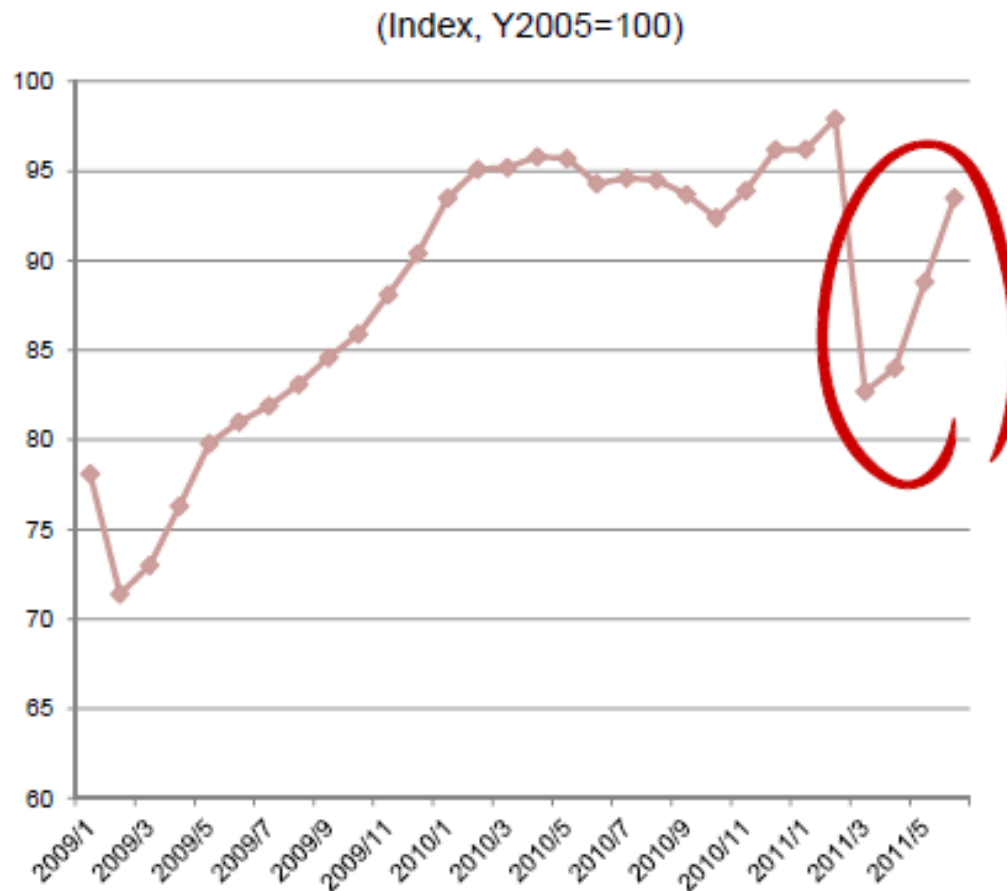


# Example of Suffered Key Factories of Parts and Materials Supply in Electronics Industry

- \*Synthetic Quartz Crystal; Global share 100%
- \*Negative electrode material of Lithium-ion rechargeable battery; Global Share 50%
- \*Indium Tin Oxides target material; Global share 40%
- \*Silicon wafer; Global share 33% or 29%
- \*Ultra-Thin Copper Foil; Global share 20% or 18%
- \*Liquid Panel; Global Share 6% or 8% companies
- \*Hydrogen peroxide of ultra high purity; Domestic share 60%
- \*Ethylene Propylene Rubber(EPDM); Domestic share 20%
- \*Polypropylene for Automobile; Domestic share 20%

## Speedy recovery of supply chain beyond expectation

### Production Index of mining and manufacturing industry



**Month-over-month growth rate of mining and manufacturing industry production was 5.7% in May 2011**

- the largest ever since recorded

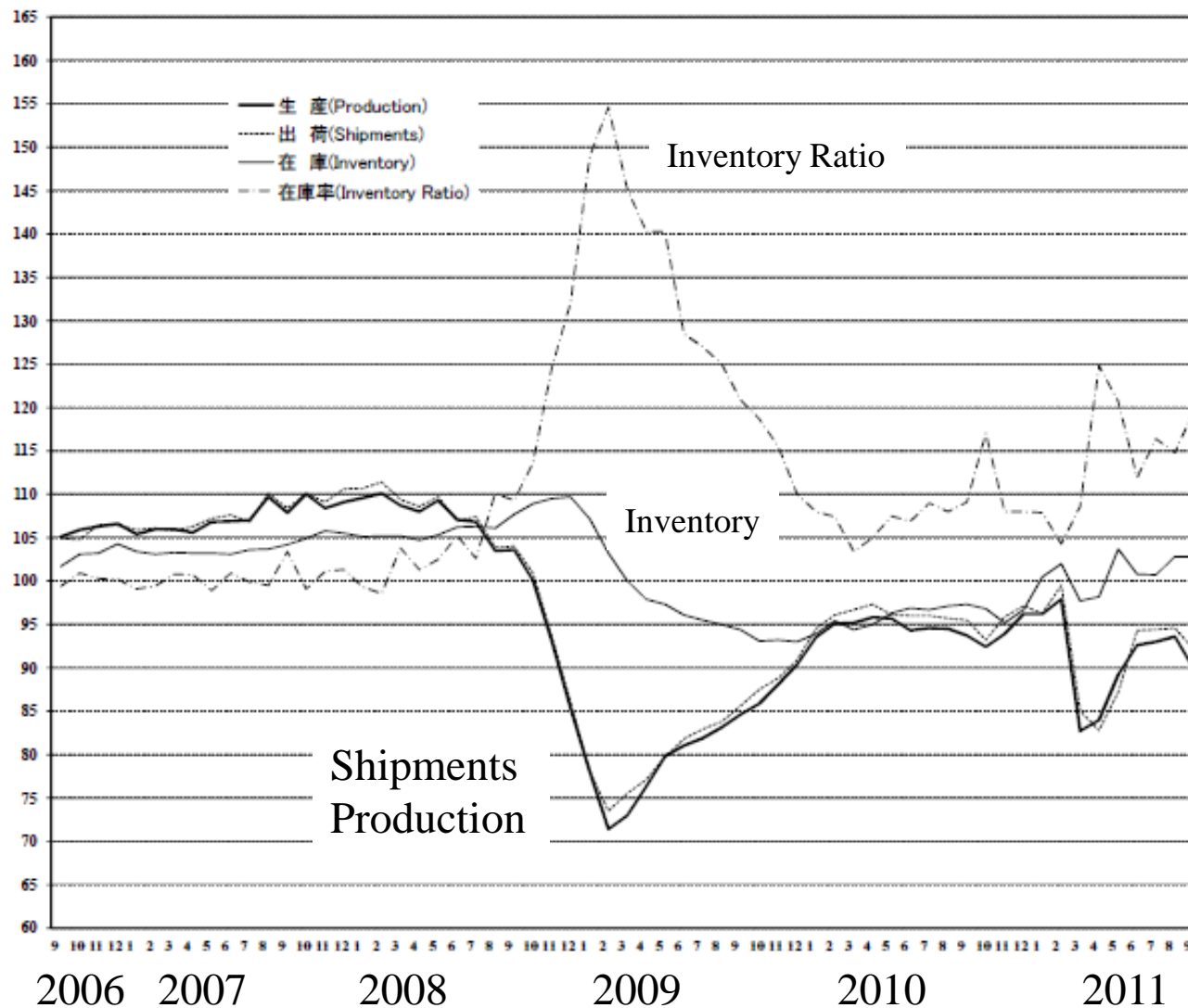
**Automobile industry has lead the growth**

- Has realized supply chain recovery at a speed faster than expected
- Related industries have also achieved high growth rate.
  - Metal
  - Chemical products
  - Transport equipment

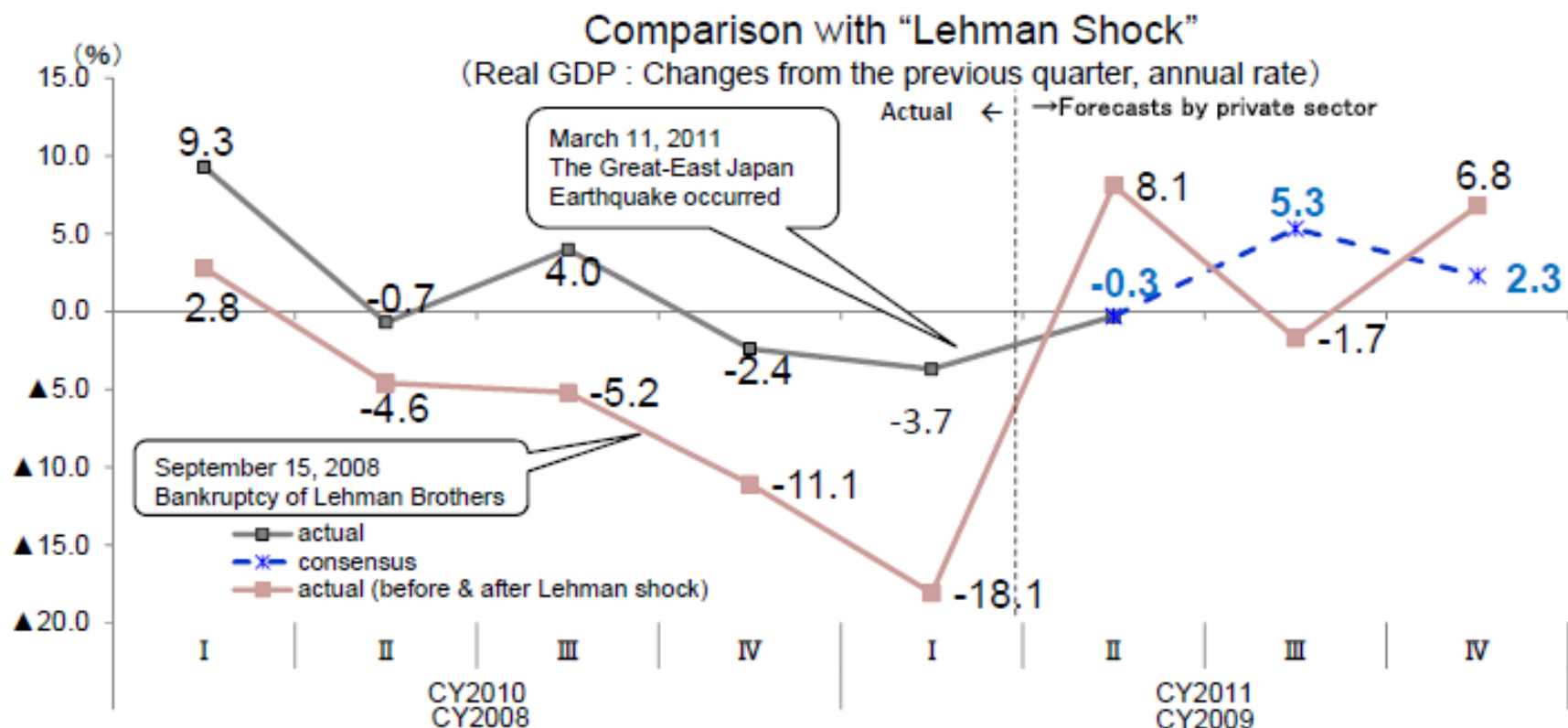
Note: Data of 2011/6 is estimated based on production growth prospects 5.3% as of July 2011  
Source: METI(Ministry of Economy, Trade and Industry) "Japan's Challenges Towards Recovery" (METI, July,2011),

# Indices of Industrial Production of Japan

2005 average=100, Seasonal Adjustment Index



# Macroeconomic impact



【Source】"National Accounts" (Cabinet Office) , "Monthly Survey of Japanese Economic Forecasts" (Economic Planning Association, October 12, 2011)

**According to private sector forecasts, Japan's economy will grow in Q3 and Q4 2011 after slowing down in the Q1 and Q2.**

**The degree of the slowdown is expected to be much less than after the "Lehman Shock."**

Source: "National Accounts" (Cabinet Office) , "Monthly Survey of Japanese Economic Forecasts" (Economic Planning Association, August 11, 2011 )  
 METI(Ministry of Economy, Trade and Industry) "Economic Impact of the Great East Japan Earthquake and Current Status of Japan" (September 1,2011)

# Flood in Thailand

Number of Member Company of Bangkok Japanese Chamber of Commerce

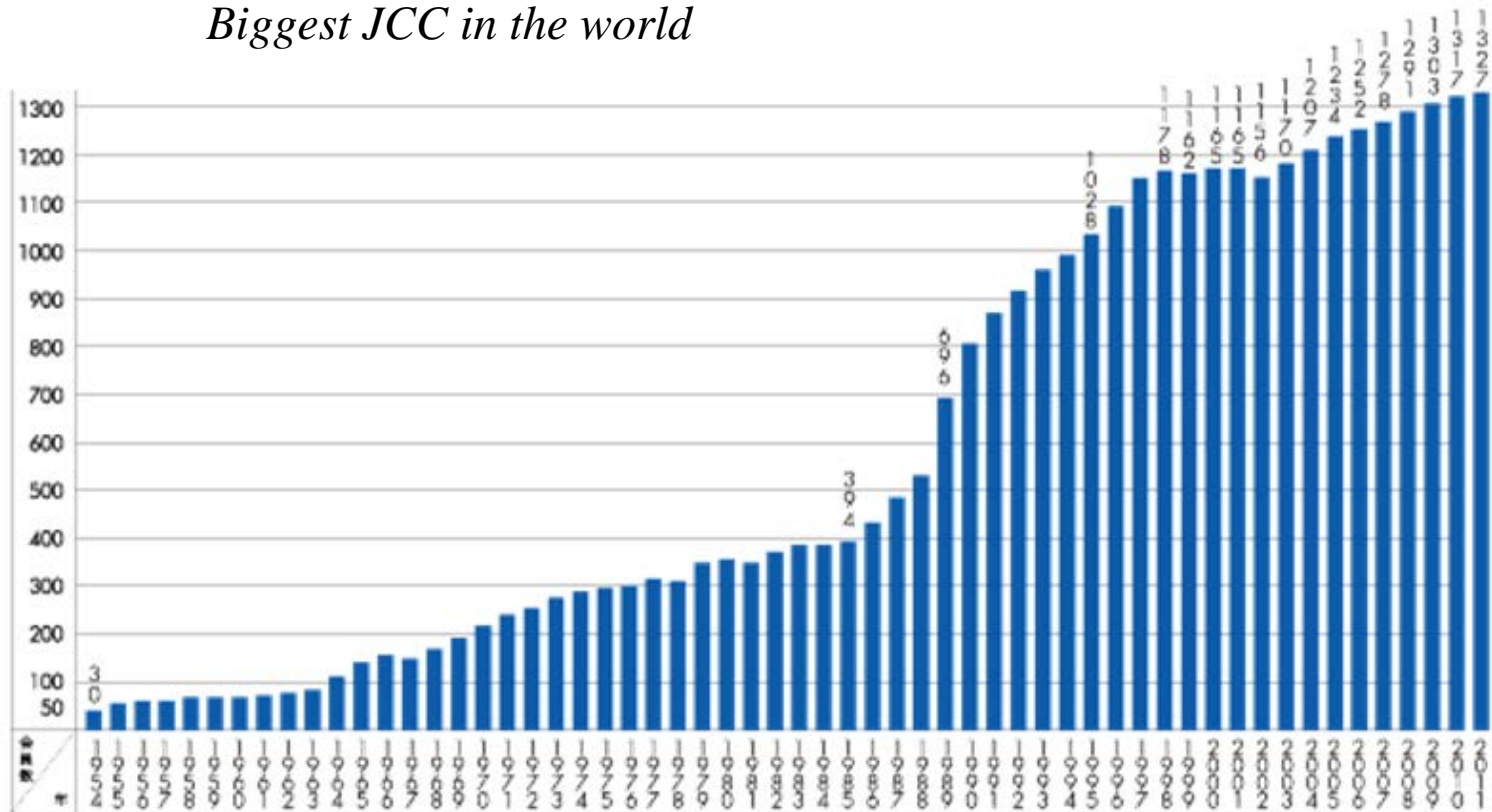
Most increase from 394 companies in 1985 to 696 in 1989

1994, 1,000 companies

2009, 1,300 companies

2011, 1,327 companies

*Biggest JCC in the world*



注: 1954年は9月27日現在、その他は4月1日現在。

# Industrial Park in Thailand and Floods Area



- (1) Saha Ratta Nakorn Industrial Estate  
Flooded in 4 Oct., 42 factories (Japanese, 35)
- (2) Rojana Industrial Estate  
Flooded in 9 Oct., 218 factories (Japanese, 147)
- (3) Hitech Industrial Estate  
Flooded in 13 Oct., 143 factories (Japanese, 100)
- (4) Bang Pa-in Industrial Estate  
Flooded in 14 Oct., 84 factories (Japanese, 30)
- (5) Factory Land  
Flooded in 16 Oct., 14 factories (Japanese, 5)
- (6) Nava Nakorn Industrial Estate  
Flooded in 17 Oct., 190 factories (Japanese, 104)
- (7) Bangkadi Industrial Park  
Flooded in 20 Oct., 34 factories (Japanese, 28)

Source: Nikkei Newspaper

## Transportation

Roads and railroads remain underwater,  
Suvarnabhumi International Airport continues to operate.  
Don Mueang Airport is closed after floodwaters reached the runways.

# *Impact of Global Supply Chain during One month after floods*

## *The automotive : Reduction of 200 thousands vehicles*

Toyota and Honda both have had to halt production at facilities even in North America

because their Thai suppliers are flooded.

## *Hard disk drive manufacturing industries: 30% Reduction*

World Market 176 million units from Oct. to Dec. in 2011, but 130 million supply  
Thailand is the second largest country for production of hard disk drives after China.

Toshiba, 60% of NIDEC corporation, 60% of Western Digital  
40% of TDK magnetic head

HDD Prices have already increased 20%-40%

Shortage of goods for Christmas and New Year Sales

## *Digital Camera*

Nikkon, 90% production of a single-lens reflex camera

# Lessons learned from Disasters

More attractive topics for reliable supply chain are  
BCM(Business Continuity Management)

Importance of Supply Chain & Logistics Network

- Review of Location and its network

- Review of Automatic Warehouse Operation

- including preventing methods on load shifting

- Alternative Information System: Cloud Computing

Energy Saving System

- Alternative in-house power plant

- Use of LED (light-emitting diode) and

- Photovoltaic power generation

*Thank you for your attention!*