

GETTING OUT OF DEFLATION

AN EXPERIENCE OF UNCONVENTIONAL MONETARY POLICY

1

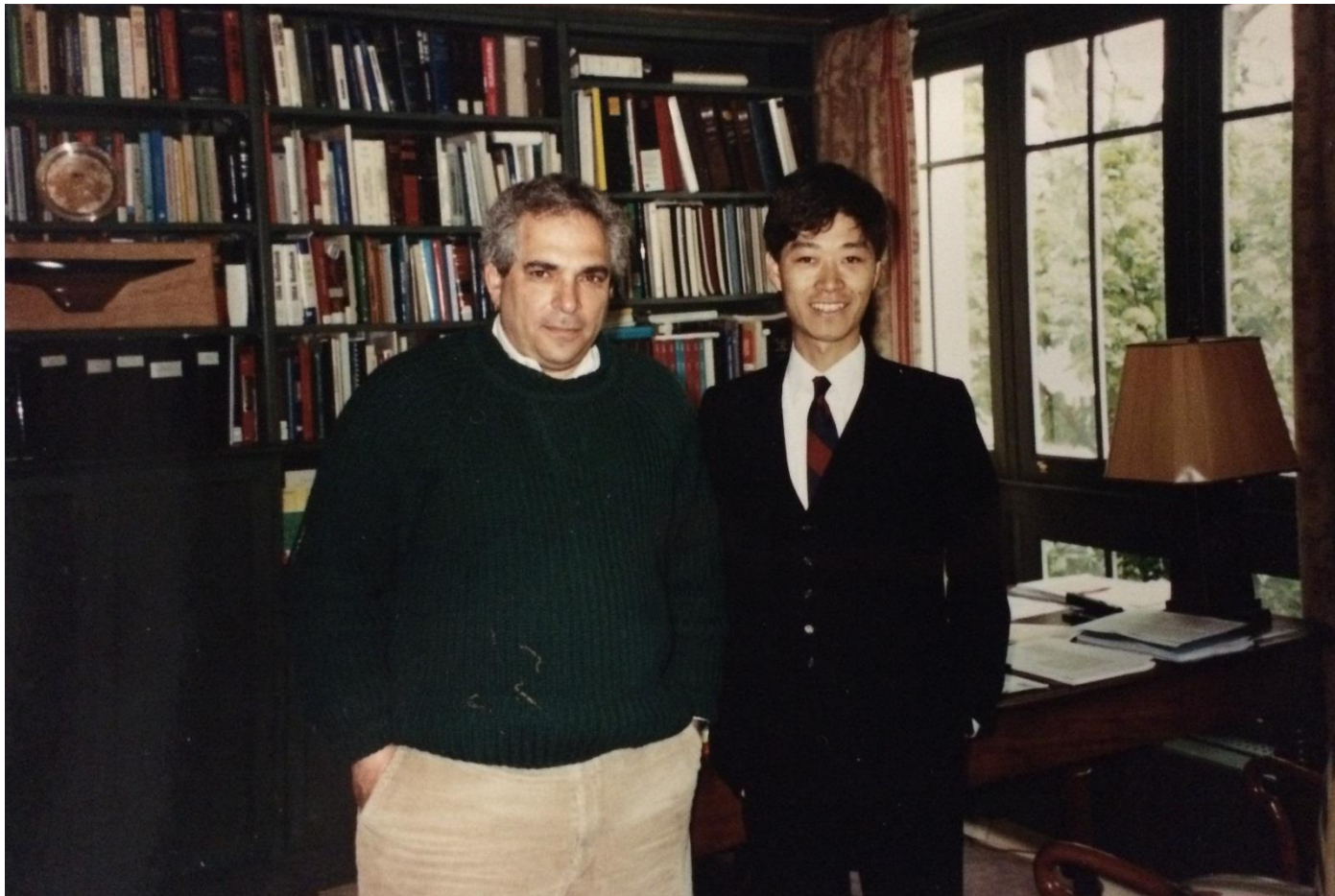
Bank of Japan

Shinichi Uchida

Prologue (1990)

IN 1990

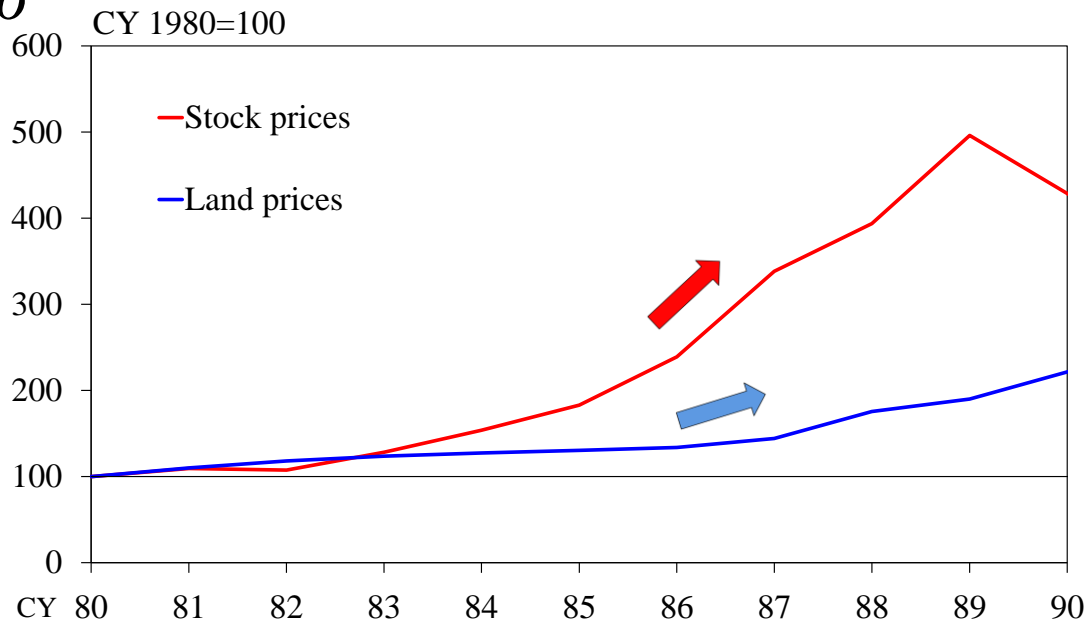
- I was an LLM Student at HLS.



AT THAT TIME

- Japan was at the peak of "Bubble Economy."
- The land prices and stock prices more than tripled.

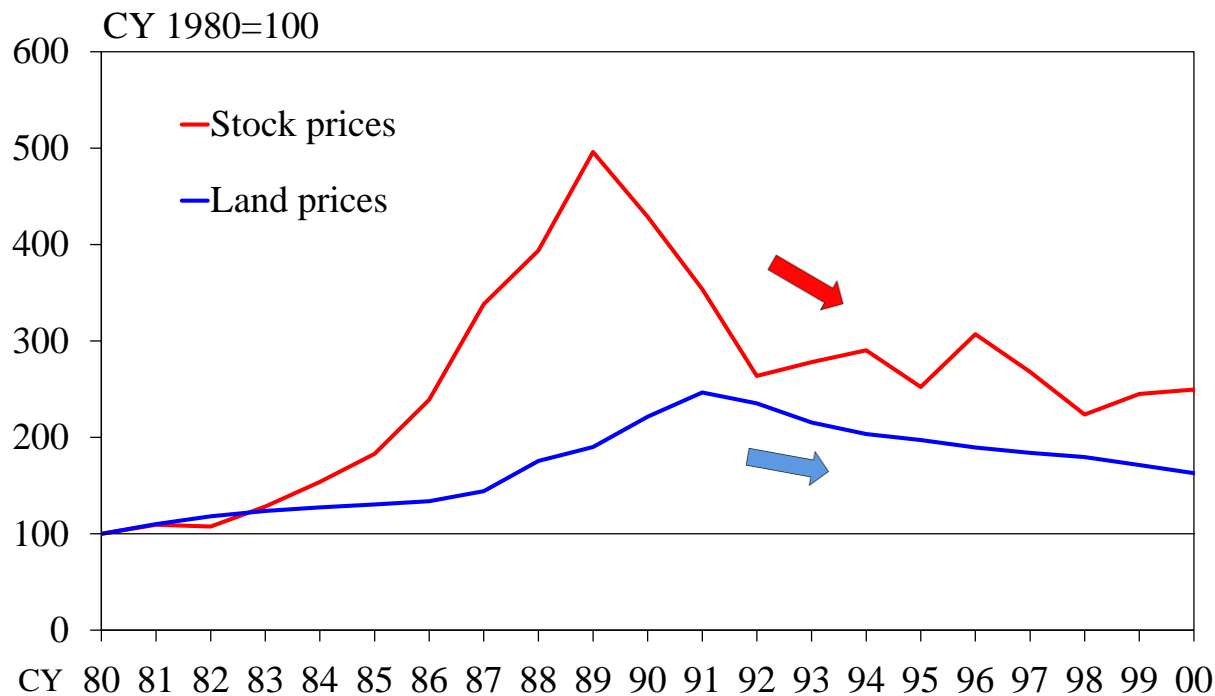
"You can buy all lands of the USA in exchange of Tokyo"



Sources: Bloomberg; Ministry of Land, Infrastructure, Transport and Tourism.

BUT

- “Bubble economy” collapsed in early 1990s.
- The economy slowed down and the land prices and stock prices dropped sharply.



Sources: Bloomberg; Ministry of Land, Infrastructure, Transport and Tourism.

THEN

- Banks' balance sheets were deteriorated: “non-performing loan problem”
- Some large commercial and investment banks failed in 1997 and 1998: “financial crisis”



Source: Bank of Japan.

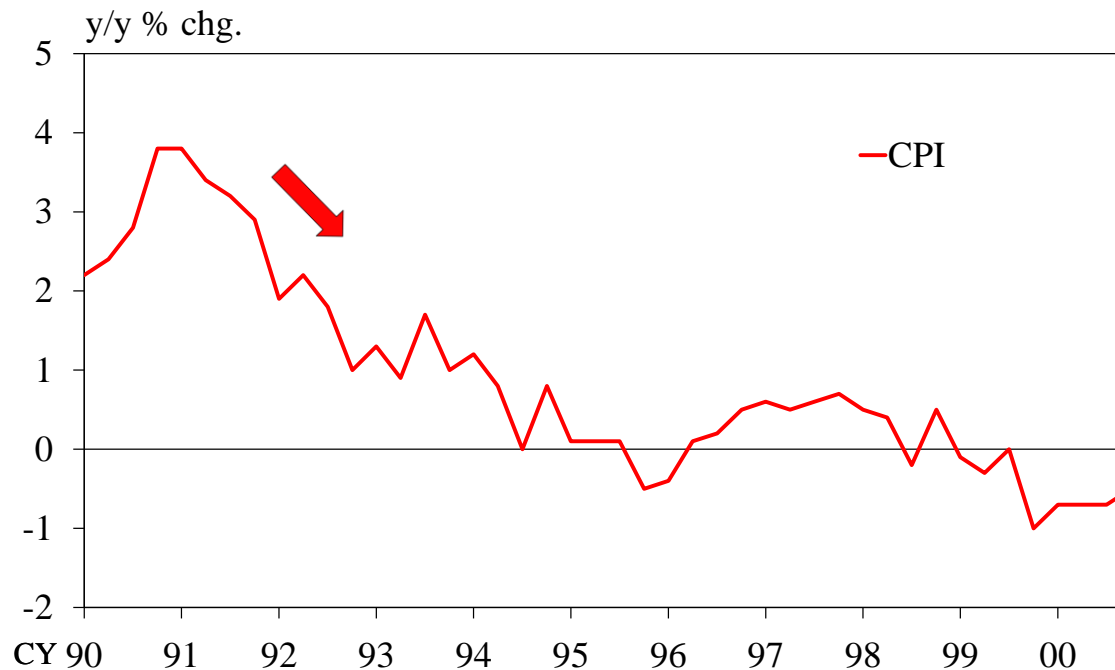
Chapter 1

Era of Deflation

(1998-)

15 YEARS OF DEFLATION STARTED

- Coupled with the slowdown of economic growth and financial system problems, inflation rate became negative in 1998.
- 15 years of deflation started.



Source: Ministry of Internal Affairs and Communications.

FOOTNOTE: IS DEFLATION A PROBLEM?

It is easy to understand that inflation is a problem.

Under 10% inflation, you have to pay \$110 to buy a book you could buy at \$100 last year.

Value of your \$ 100 bill declines by 10% every year.

“It’s a problem”

FOOTNOTE: IS DEFLATION A PROBLEM?

But,

Under deflation, you can buy the book at \$90.

“Is it a problem?”

Yes, it is a problem

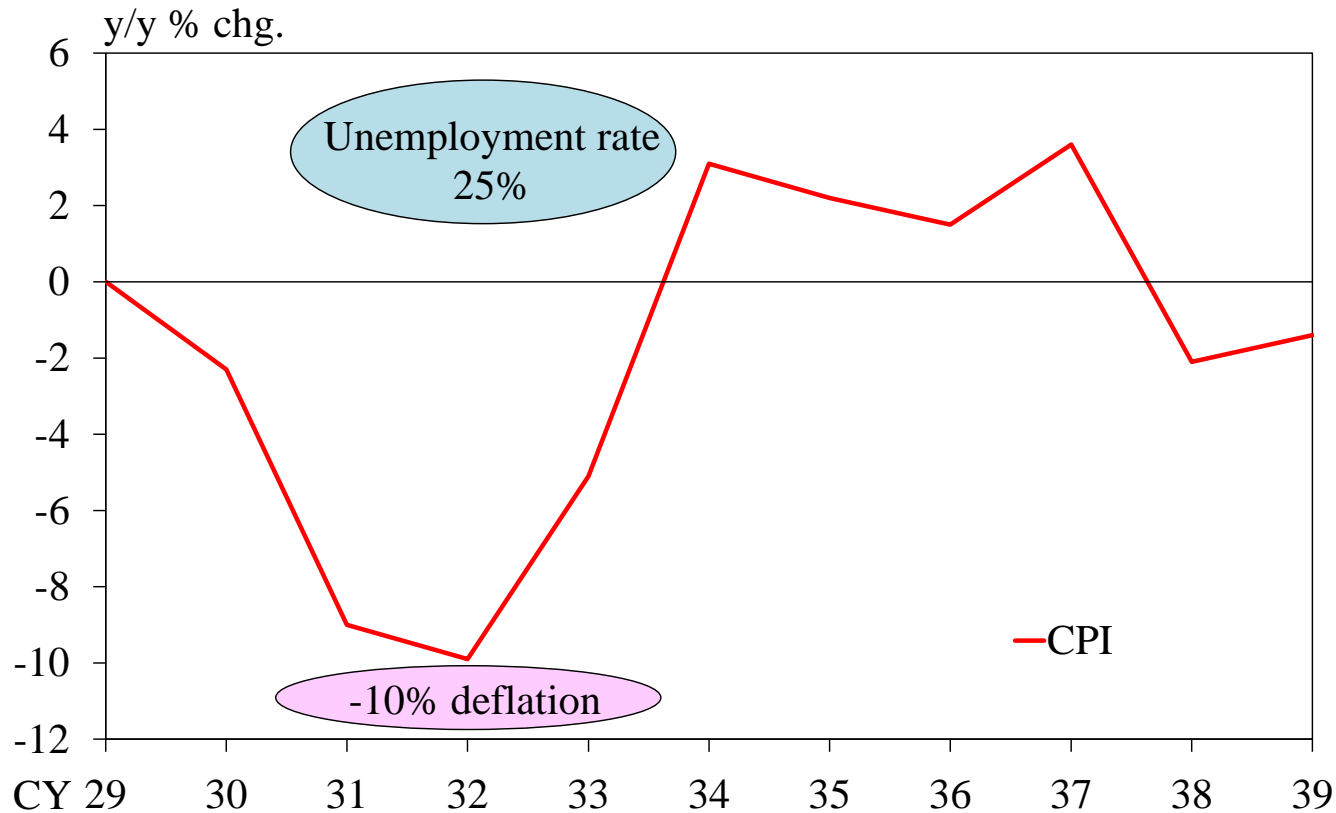
for

Book Store, Author of the Book,

Bank which lent money to the Book Store.....

EPISODE OF DEFLATION - 1

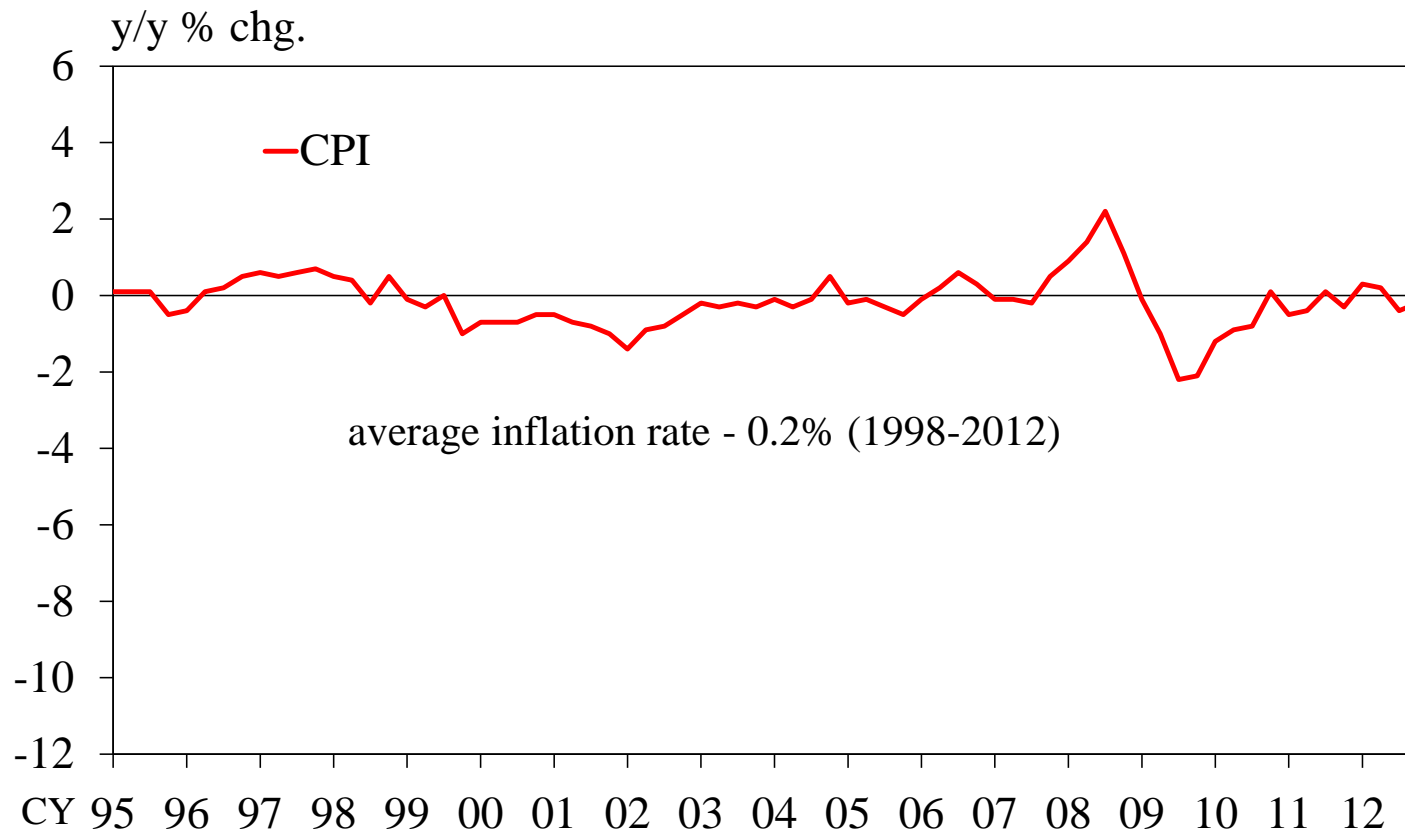
The Great Depression (1929-34)



Source: Bureau of Labor Statistics.

EPISODE OF DEFLATION - 2

Japan (1998-)



Source: Ministry of Internal Affairs and Communications.

THE GREAT DEPRESSION VS. JAPAN'S DEFLATION

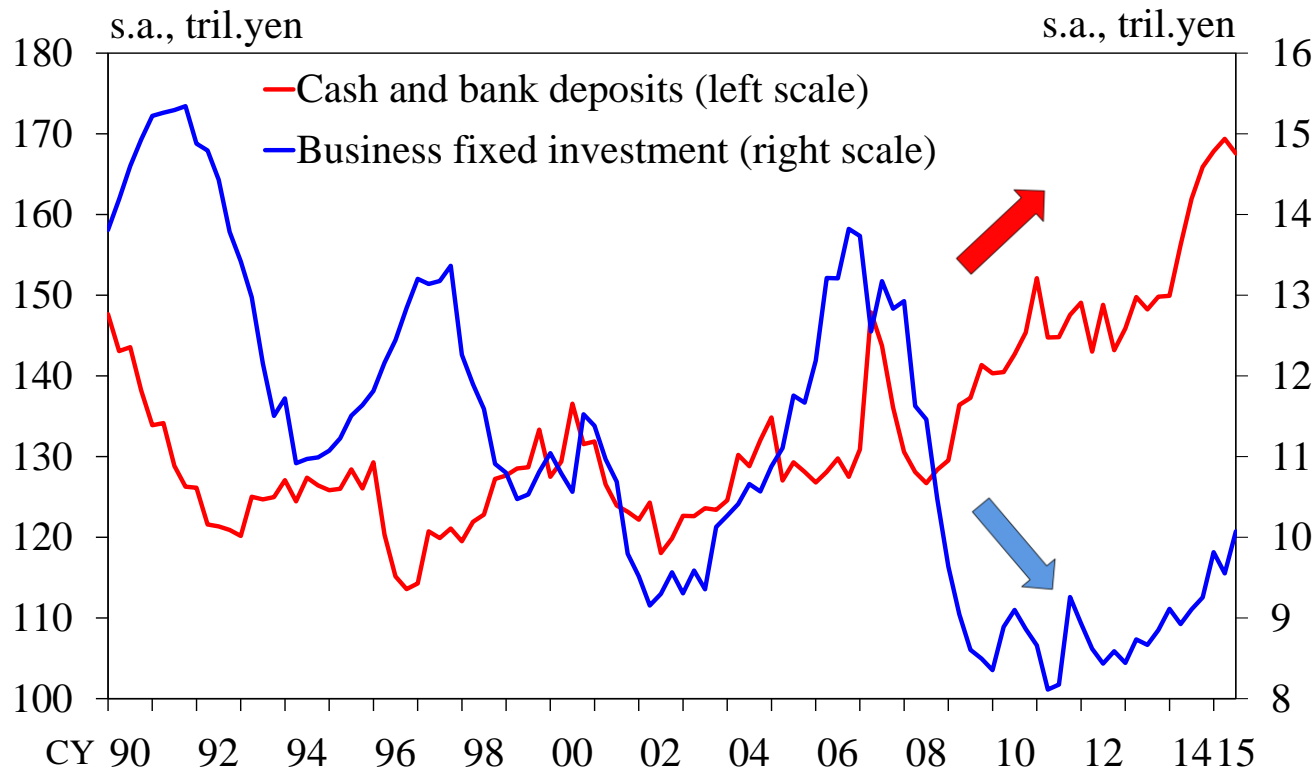
The Great Depression:
sharp decline in prices in a very short period

Japan's Deflation:
mild but very persistent decline in prices

WHAT HAPPENED IN 15 YEARS OF DEFLATION?

Companies

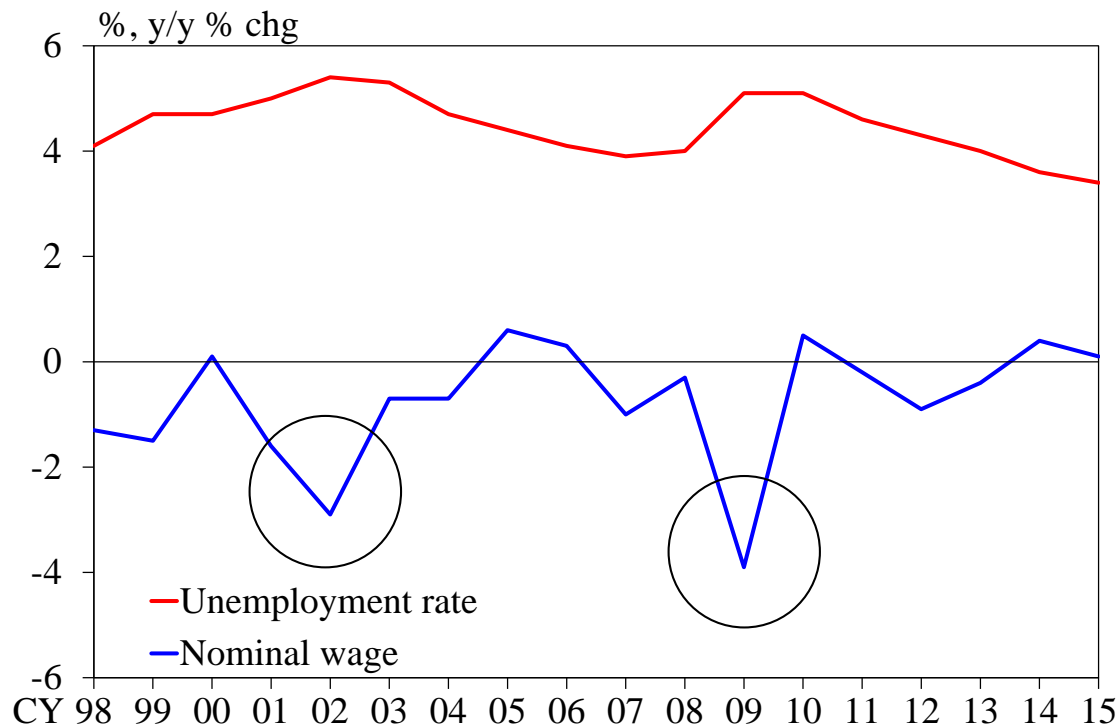
stopped investing and held “cash & deposit”



Source: Ministry of Finance.

WHAT HAPPENED IN 15 YEARS OF DEFLATION?

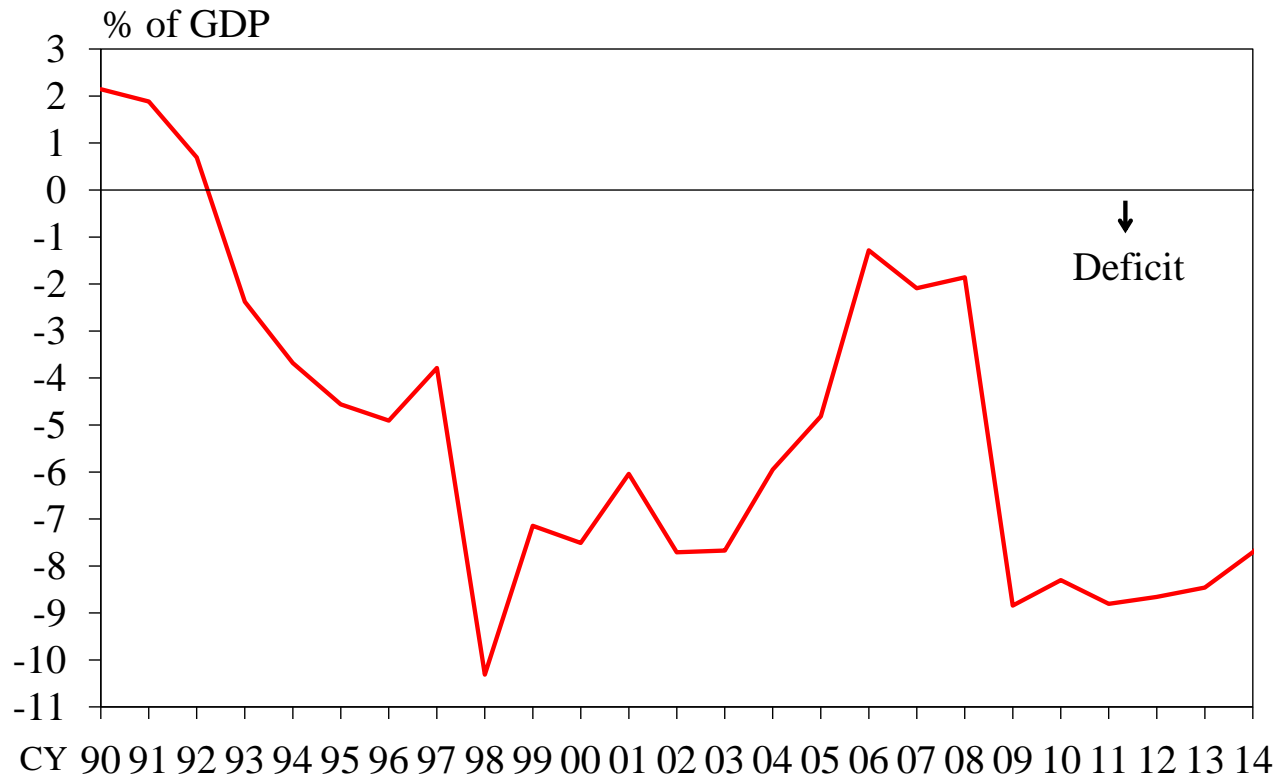
Household
accepted “wage decline”
in exchange for “job security”



Sources: Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare.

WHAT HAPPENED IN 15 YEARS OF DEFLATION?

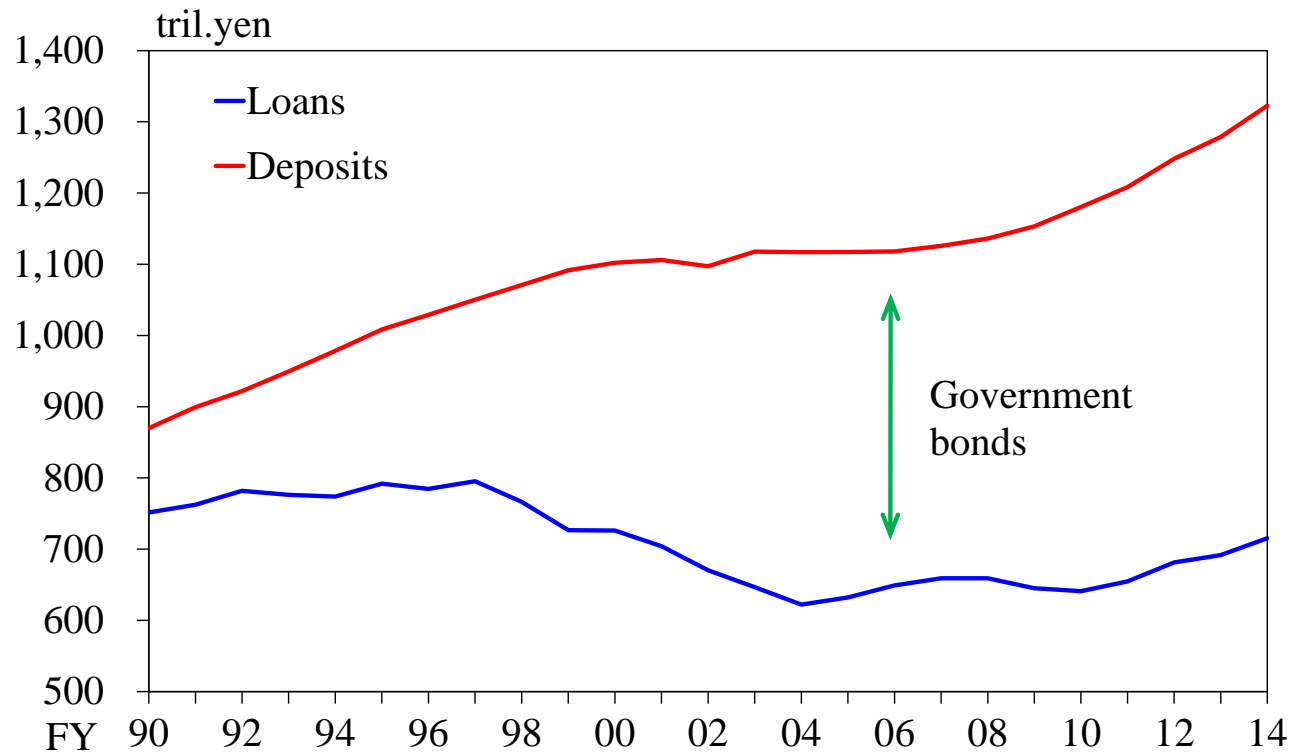
Government
spent more



Source: OECD.

WHAT HAPPENED IN 15 YEARS OF DEFLATION?

Banks
bought government bonds



Source: Bank of Japan.

WHAT HAPPENED IN 15 YEARS OF DEFLATION?

Is it all right?

No, it is not sustainable.

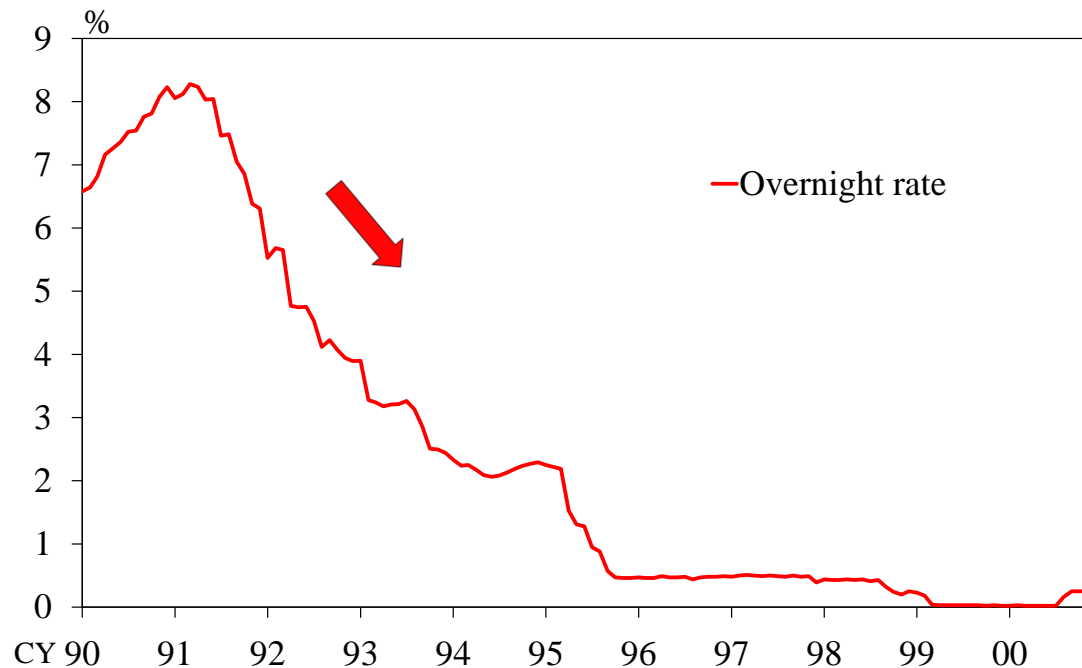
Slow economic growth,
decline in wage and prices,
more fiscal deficit and
bad environment for bank's profitability

So we have to change!

Chapter 2
Battle with Deflation
#1
(1998-2007)

ZERO INTEREST RATE POLICY (1999-2000)

- To stop deflation, the Bank of Japan cut the interest rate.
- The policy rate (overnight rate) became 0% in 1999.



Source: Bank of Japan.

FOOTNOTE: CONVENTIONAL MONETARY POLICY

- Usually a central bank raises or cuts interest rate to stabilize economy and inflation.
- If economy slows and inflation rate drops, central bank cuts interest rate.
 - Companies can borrow money cheaper, and buy more machines.
 - Consumers can borrow money and buy more cars and houses.
- Stimulate economy and prices.

QUANTITATIVE EASING (2001-2006)

Interest rate was already 0% and the Bank of Japan can not “cut” the rate.

So the Bank introduced the first Unconventional Policy: “QE”

- Increase the volume of money

 - BoJ provided more money to financial institutions.

 - (effective for preventing bank runs, but the effects on the economy was unclear)

- Promise to keep 0% for some time

 - BoJ promised to continue QE until CPI become 0% or higher.

 - (Long-term interest rates dropped, which boosted the economy)

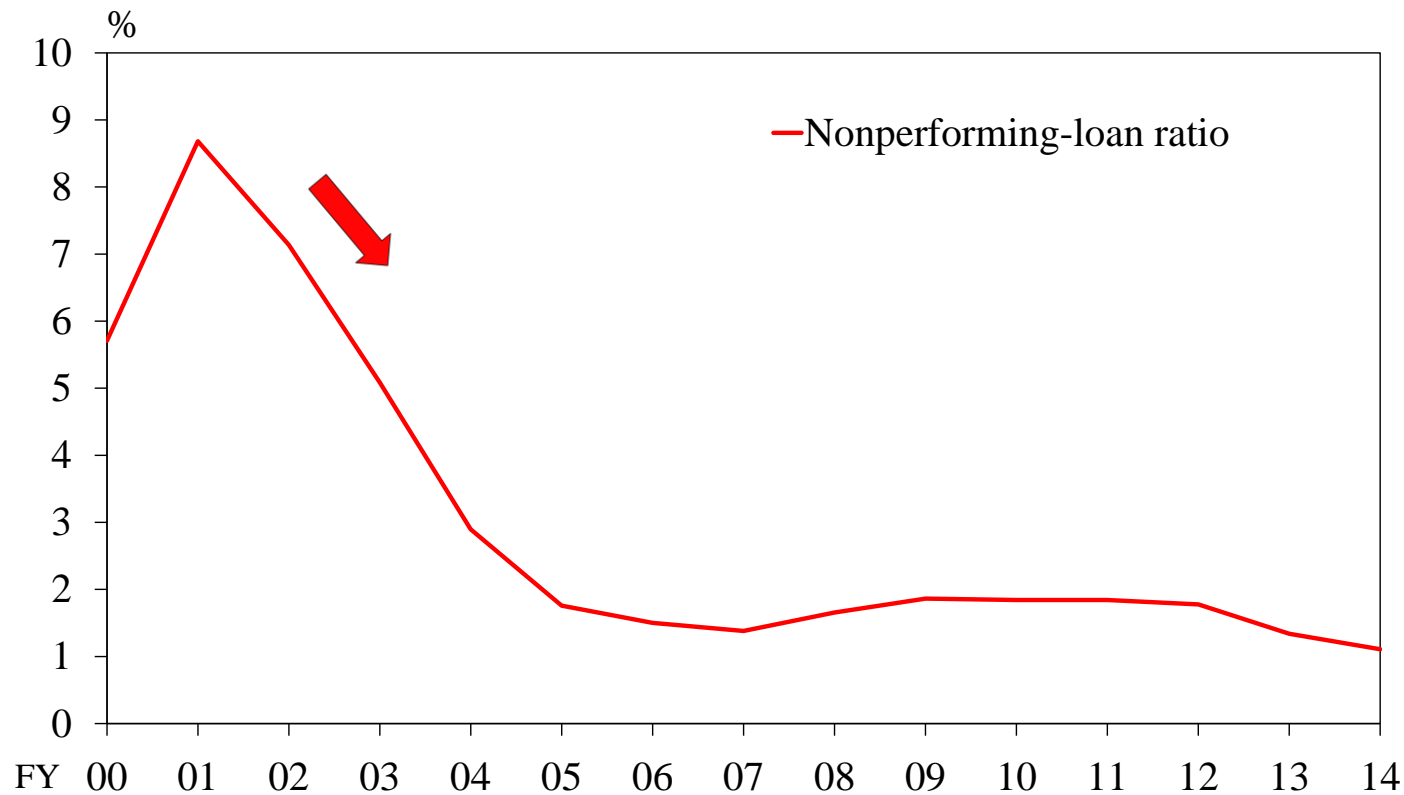
RESTORE SOUNDNESS OF BANKING SYSTEM

In addition to monetary policy measures, the government and the BoJ introduced several prudential policy measures.

- Capital injection to banks
 - By the Bank of Japan: 0.2 trillion yen (1995-2004)
 - By the Government: 10.4 trillion yen (1998-2003)
- The Bank of Japan bought “stocks” from financial institutions (2002).

RESTORE SOUNDNESS OF BANKING SYSTEM

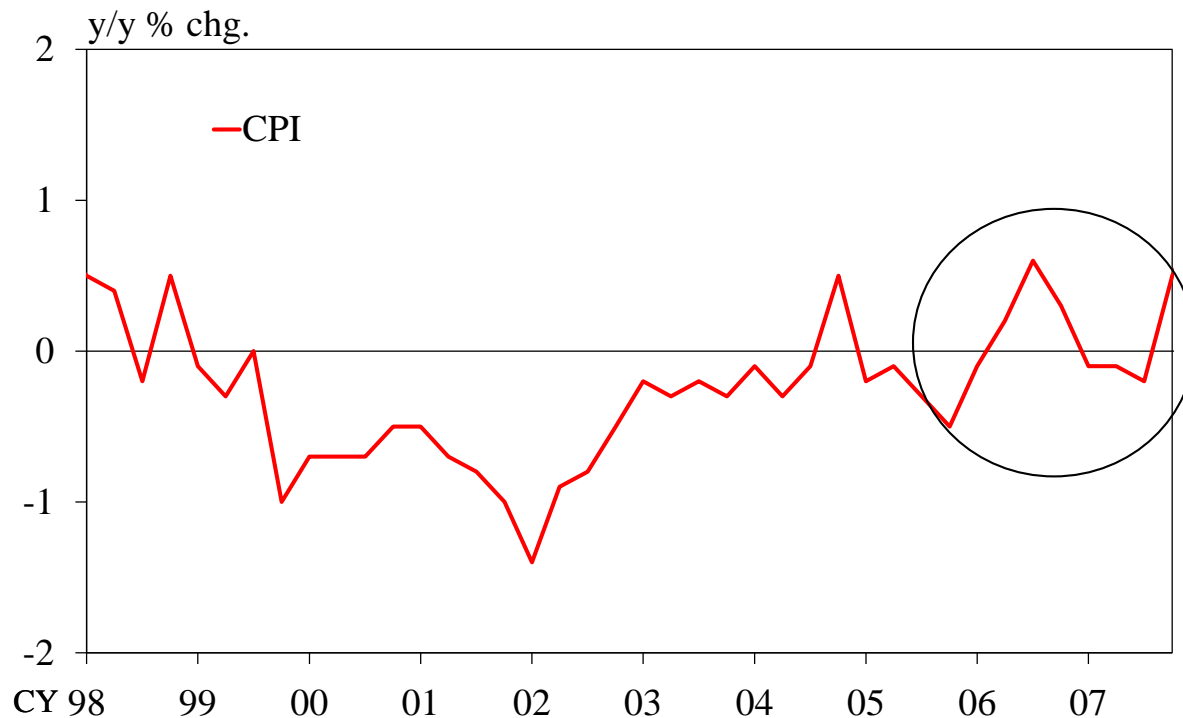
- By mid-2000s, non-performing loan problem was over and Japanese banks became healthy.



Source: Bank of Japan.

IN 2006-07,

- Consumer price index (CPI) became positive.
- We thought “deflation will end soon”.
- But



Source: Ministry of Internal Affairs and Communications.

GLOBAL FINANCIAL CRISIS IN 2008

- “Subprime loan problems” in US
- Lehman Brothers failed in September 2008

While Japanese banking system kept soundness, Japan's economy was hit by the contract of world economy and sharp appreciation of the yen.

Deflation continued....

Chapter 3

Battle with Deflation

#2

<after the global financial crisis>
(2008-)

CENTRAL BANKS INTRODUCED UNCONVENTIONAL POLICIES

- Central banks acted quickly to address global financial crisis (learning from Japan's bitter experience).
- Federal Reserve introduced "QE" in 2008.
 - Larger scale than the BoJ's "QE" (2001-06).
 - Buy long-term government bond to push down long-term interest rates directly.

INTRODUCTION OF “QQE” (2013)

- In April 2013, the Bank of Japan introduced Quantitative and Qualitative Monetary Easing “QQE.”
 - Commit to achieve 2% price stability target strongly
 - Provide money very aggressively
 - Purchase government bonds in large scale
- This is the largest monetary easing ever in the history of central banks.
 - Bank of Japan’s balance sheet more than doubled.
 - The Bank holds more than 30% of total government bonds.

HOW QQE WORKS

Massive Bond Purchases



Clear Commitment to achieve 2% CPI



nominal interest rates - inflation expectations = real interest rates



boost economy and inflation

To stimulate the economy, “real” interest rate is important.

FOOTNOTE: TO STIMULATE THE ECONOMY, “REAL” INTEREST RATE IS IMPORTANT.

Suppose you are a producer of toys.

- You have to decide whether you buy a machine to produce 1000 toys in one year. It costs \$100 thousands.
- A bank offers you a loan (interest rate 2%).
- You can sell the toy at \$100 now.

Case 1 (3% inflation): When you think you can sell the toys at \$103 next year, you should buy the machine. You will earn \$103k and pay \$102 k to the bank. So net profit is \$1k.

Case 2 (3% deflation): If you think you can sell it at \$97 next year, you should not. You will lose \$5k.

- In Case 1, 2% “nominal” interest rate is low enough for you (real interest rate is -1%), but in Case 2, too high.

HOW QQE WORKS

Massive Bond Purchases



Clear Commitment to achieve 2% CPI



nominal interest rates - inflation expectations = real interest rates



boost economy and inflation



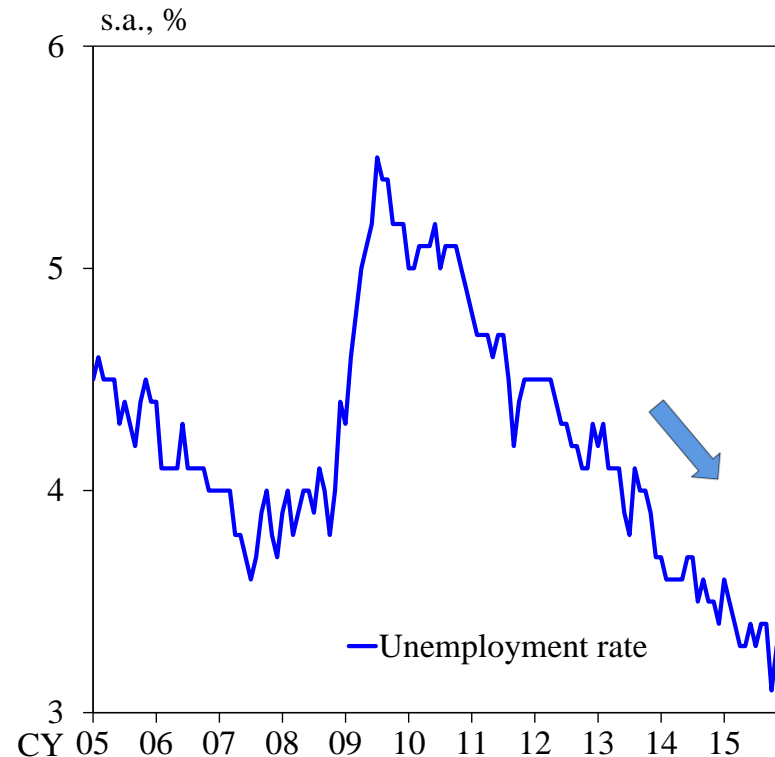
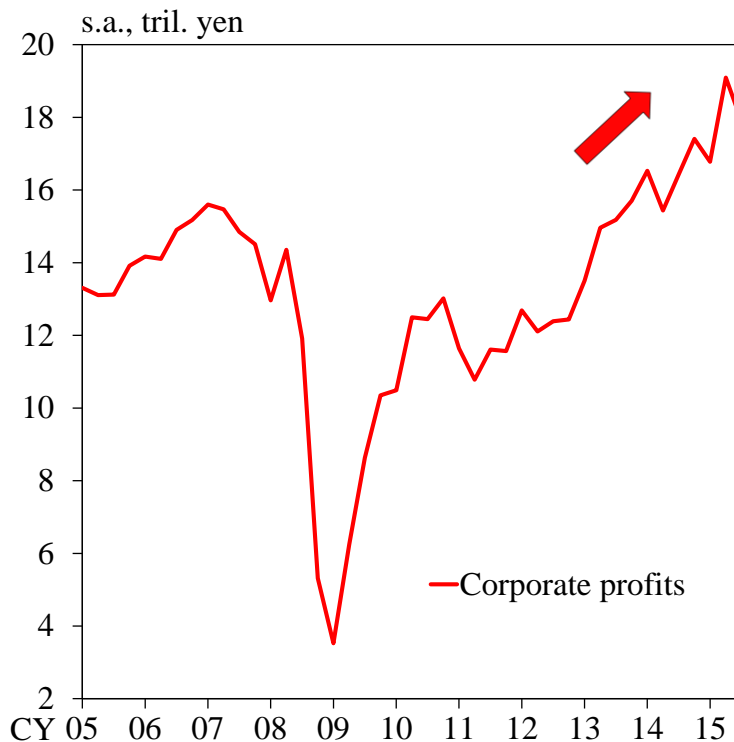
	Before QQE		Now
Long-term interest rates (10-year yields of JGB)	0.7% (2013/1Q)	↓	0.2% (2016/Jan)
Inflation expectations (ESP Forecasts: 7-11y ahead)	1.0% (2012/Dec)	↑	1.4% (2015/Dec)
Real Interest Rate	-0.3%	↓	-1.2%



about 1% decline

UNDER QQE: ECONOMIC ACTIVITIES

- Corporate sector is enjoying record profits.
- Unemployment rate is 3.3% = full employment.

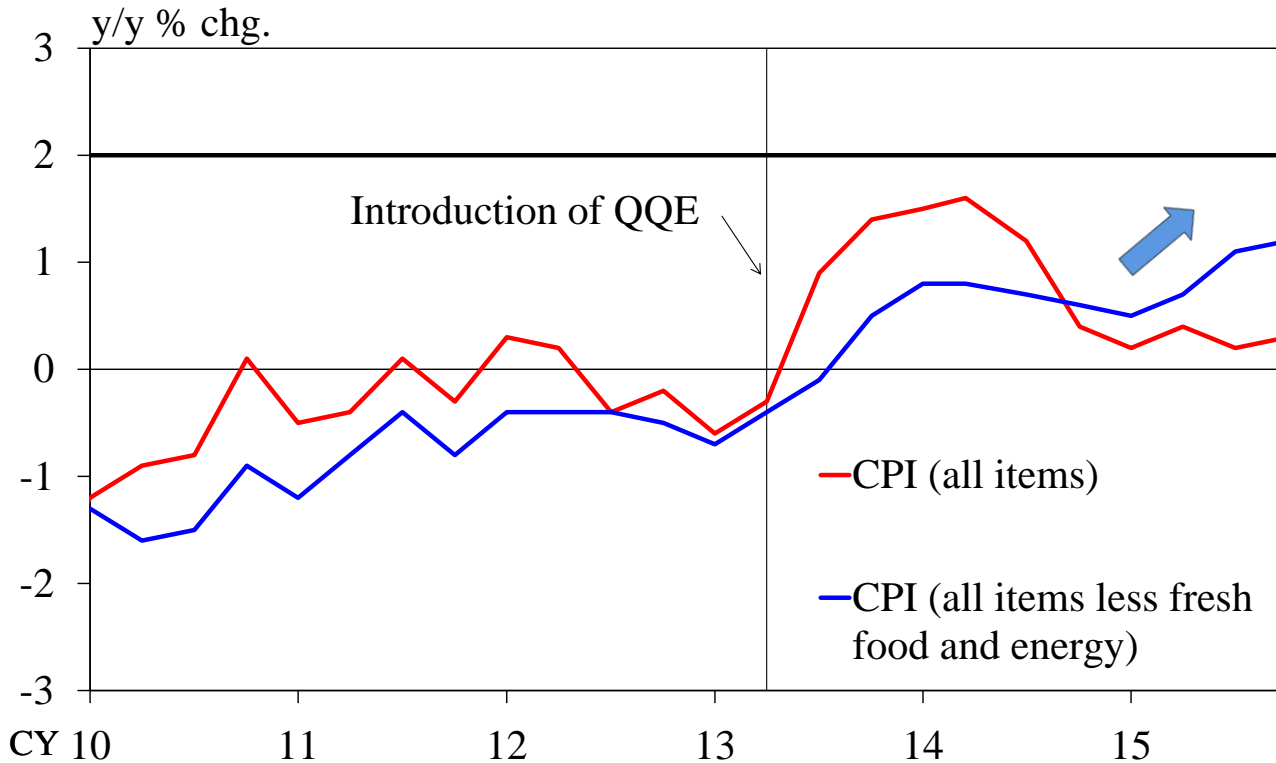


Note: Figures for corporate profits exclude those for the finance and insurance industries.

Sources: Ministry of Finance; Ministry of Internal Affairs and Communications.

UNDER QQE: PRICES

- CPI became positive but less than 2%.
- Effects of a decline in oil prices



Source: Ministry of Internal Affairs and Communications.

QQE WITH A NEGATIVE INTEREST RATE

- To achieve 2% inflation, the Bank introduced “QQE with a Negative Interest Rate” last month.
- Apply a negative interest rate of minus 0.1 % to current accounts that financial institutions hold at the Bank of Japan. (charge 0.1% fees)
- Push down the interest rate more.

FOOTNOTE: WHAT IS A NEGATIVE INTEREST RATE?

- Usually, you have to pay money to the bank if you borrow student loans. And you will get some money if you deposit to the bank.
- In Japan, financial institutions have to pay money when they deposit to the BoJ.
- This will not happen between a bank and its customers. They will withdraw and hold cash.
- But possible between a central bank and banks. Holding huge amount of cash costs a lot.
- Only small negative: largest negative rate is minus 1.25 % in Sweden.

INTEREST RATES AFTER THE INTRODUCTION OF A NEGATIVE INTEREST RATE

			Before the introduction of NIR		Now
Current account at the BoJ			+0.1%	↘	-0.1%
Markets	O/N interbank		0.074%	↘	-0.008%
	5Y JGB		0.02%	↘	-0.16%
	10Y JGB		0.23%	↘	0.01%
Banks	Bank lending rate		0.9%	↘	will be lower
	Bank deposit rate	For retail	0.02%	→	NIR unlikely
		For corporate	nealy 0%	↘	become negative?

FOOTNOTE: WHY 2%?

Why does the Bank of Japan try to achieve 2%, rather than 0%?

- Global standard:
 - US: 2%
 - Europe: “below but close to 2%”
- Price index has some positive statistical bias.
- To avoid deflation, small positive inflation is better than zero inflation.

•WHAT A CENTRAL BANK CAN DO, AFTER IT LOWERED ITS POLICY RATE TO 0%?

- Push down long-term interest rate: Japan, US
 - ✓ by commitment to continue 0%
 - ✓ by purchase of long-term bonds
- Negative interest rate: Denmark, Sweden, Switzerland, Euro, Japan
 - ✓ by imposing fees on the accounts of financial institutions
- Push up inflation expectations: Japan
 - ✓ by strong commitment to achieve 2% target

COSTS & RISKS OF QQE

- Potential moral hazard of fiscal policy
- Market function weakened
- Squeeze banks' profits
- Hard to exit
 - ✓ Benefits > Costs & Risks

Epilogue

Is it only Japan?

JAPAN'S EXPERIENCE

Burst of bubble
(early 1990s)



1. Deleveraging : financial system problems & balance sheet adjustment of corporate sector
(finished by mid-2000s)

2. Confidence Crisis: widespread “deflationary mindset”
(eased but still remains)



Weak economic growth and prolonged deflation

US CASE

Burst of bubble
(2008)



1. Deleveraging : financial system problems & debt
overhang of household
(almost finished)

2. Confidence Crisis: weak capital investments
and wages
(still remains)



Weak economic growth trend

EURO CASE

Burst of bubble
(2008)



1. Deleveraging : credit crunch & sovereign debt
problem
(still hot issue)

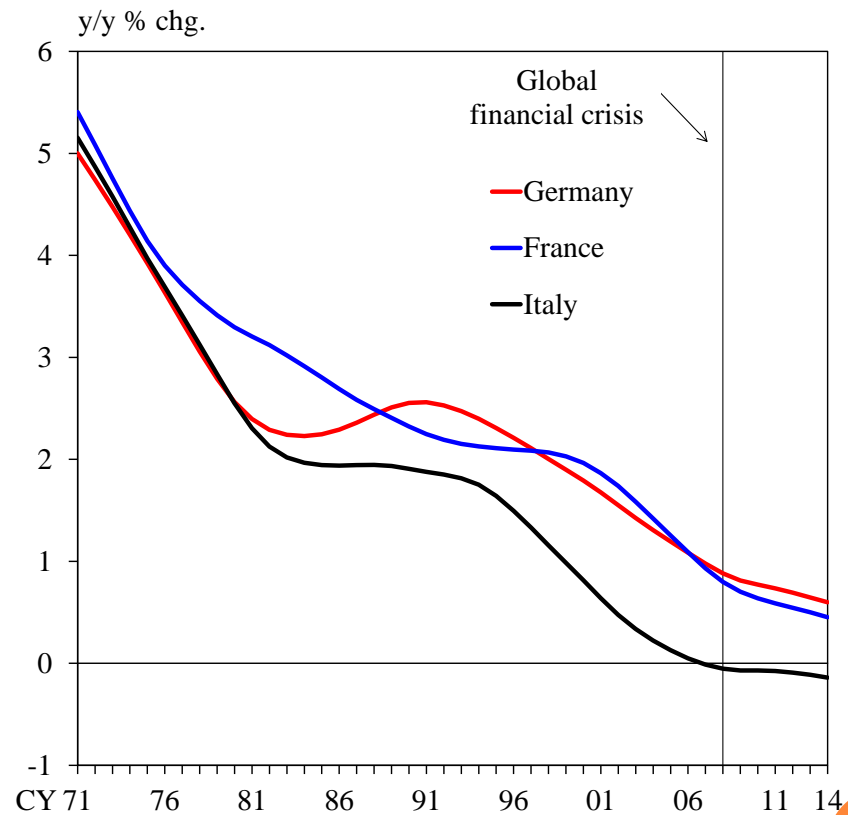
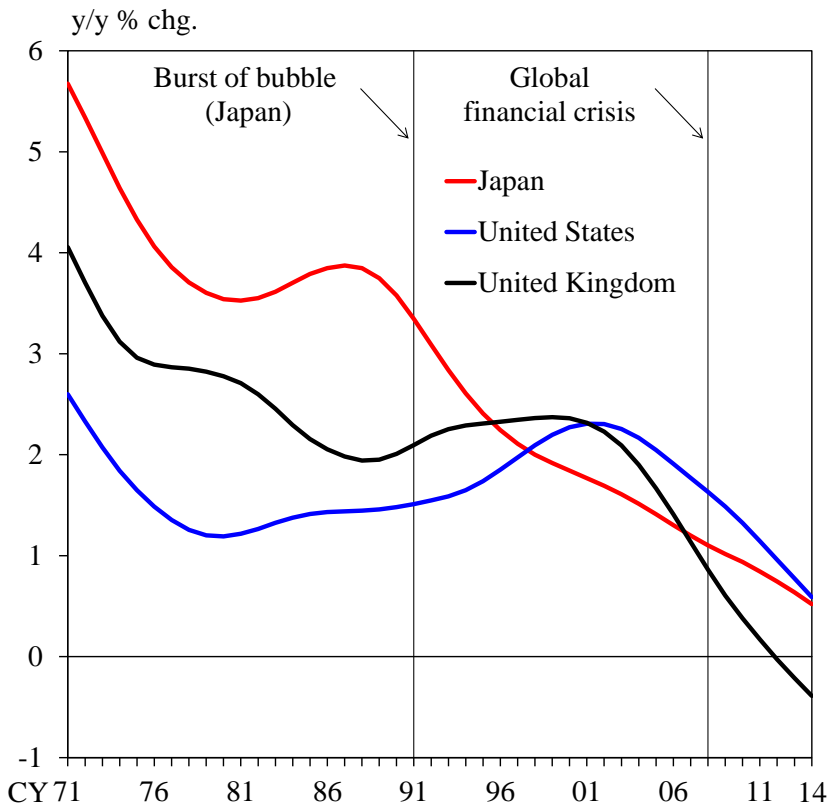
2. Confidence Crisis: from now?



Fear of deflation

IS IT ONLY JAPAN?

Labor Productivity



Source: OECD.

CONCLUDING REMARKS

- Japan is getting out of its 15 years of deflation by the Bank of Japan's extraordinary policy measure, "QQE."
- We have tried and will try "everything."

CONCLUDING REMARKS

Lesson1:

Avoid deflation. Once trapped, it costs a lot.

Lesson2:

Promise to do whatever the central bank can do, to make people believe that the deflation will be over.

Lesson3:

Burst of financial bubble may cause deleveraging, lack of confidence, slow growth and deflation.
Good luck to Europe & US.