

**Why Risk Management?**  
**an outline of the importance of**  
**Operational Risk Management**  
**and Risk culture**

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# Risk management?

- The most important direction is the quantification of the risks.  
The person charged in risk management team, I was a risk management leader of small insurance company, even in such a small insurance company, we are requested to calculate the possibility or likelihood of the risks, mitigation measures and its numerical effects, and the magnitude of the risks if they occurred.
- And we have to see some cash flow of the risk stream and using the risk free rate to calculate the present values of them.

1. Risk identification
2. Quantification of likelihood and magnitude of the risks
3. Risk mitigations
4. Reporting

If we do these tasks with no guidelines, it must be not easy tasks. In some case, the local government proposes the procedures or a set of assumptions. The other case, if the company has his parents company, the parents company suggests the set of assumptions.

# Risk management?

- Our task may be finished the parameters given by the local government or parents companies.
- But it is a very doubtful for risk evaluation.
  1. There are no direction about the un-quantified risks.

Most important un-quantified risk was reputational risk. If it happened, companies go under suddenly. The reputational risk is a sudden death risk. And we have another big un-quantified risk. We can call it personal risk. It is very hard to evaluate. Especially, the evaluation of the quality of the top executives is a hard task.
  2. Origins of the risk free rates were from many sources.

A chef of the risk management leader using the sophisticated mathematics orchestrates them to risk free rates. We do not say “it is manipulated”, but in many case it comes from black box. Sometimes, the proposed risk free rates were too high to use in the Japanese market.
  3. For the risk management, transparency is the most important item.

But, sometimes we have to make the local arrangement to the proposed parameters. But, in many cases, we use the proposed parameters directly. Usually their no explanations about the background of the parameters.

## Today's Agenda

The quantification is the worldwide trend of the risk management.

We cannot refuse this trend. But today I want to try to partially refuse this worldwide trend. I agree to say that the quantification is important, but it is not enough for the risk management to end up with the quantification of these risks. We cannot stop there. We have to study the un-quantificational risks for the true risk management.

We are in the era of the Enterprise Risk Management (ERM).

It seems that the worldwide leaders of ERM want to quantify the ERM to the limit. But what for the ERM? What the aim of ERM activities? Some guy said that ERM will raise the corporate values. But I suppose this is one of the side effects.

Today's agenda is Risk Management. I planed to speak about the worldwide trend of Risk Management and ERM, ORSA and etc.

But I want to do some case studies of the real bankruptcies of insurance companies, which happened almost 15 years ago in Japan.

I would like to explain the reasons of the bankruptcies.

# Rational Thinking

## Rational Thinking

What is the rational thinking? If we do rational thinking in every moment, we will be happy in the business world. However, in the life insurance business, the effects of the certain business judgment will be emerged in the next decade.

In this lecture, I would like to explain the 4 cases of real bankruptcies. It is historical topic of almost 20 years ago in Japan, several Japanese life insurance companies went under.

I believe that it must be good experience for you to know these bankruptcies to study the risk management.

Because the real risk management has to serve the decision making to avoid such a crucial aspects.

You will find any rational thinking or mathematical studies are less meanings to the real bankruptcy situation. But, the characteristics of the executive team must be much more important if you face the difficulty.

Mini Lecture of  
Insurance  
Mathematics and  
Finance



# Premium Calculation

## Basic Cash Flows of Life Insurance Company

Premium → Revenue

Claim Payment → outgo

## Additional Cash Flows

Interest gain → Revenue

Expense → outgo

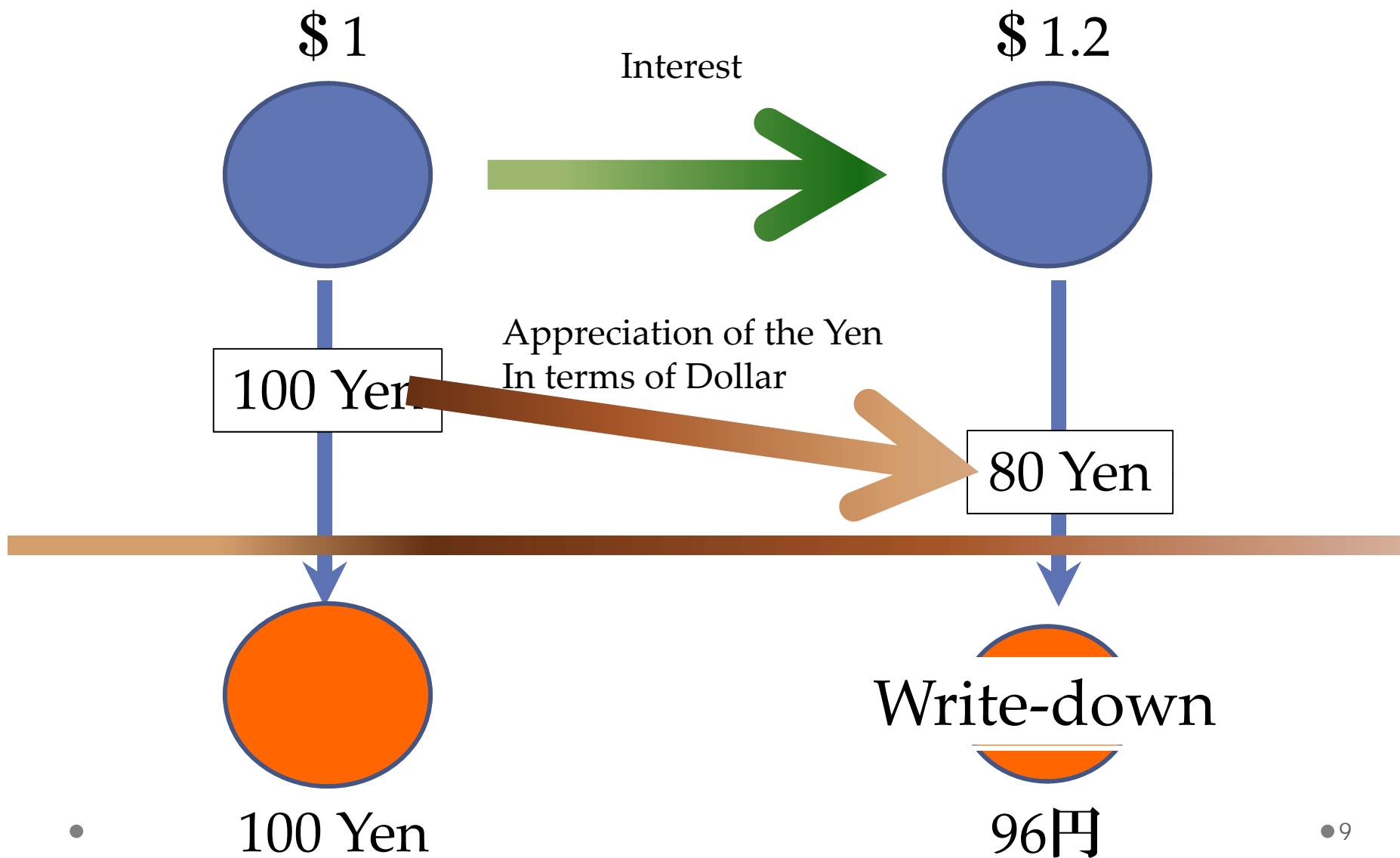
Net  
Premium

Commercial  
premium





# Short course of finance 1 Yen/Dollar



## Short course of finance 2 [interest and bond price]

The interest rate of one year zero coupon bond with face amount 100 is calculated as follows;

If the current price is 90 then the interest rate =  $100 \div 90 - 1 = 11.11\%$ .

If the current price is 80 then the interest rate =  $100 \div 80 - 1 = 25.00\%$ .

Your company sells 2-years endowment policy with the maturity benefit 100. Assume the bond market interest rate = 25%. Your company assumes this situation will continue 2 years, therefore your company sells this endowment policy with price  $64 = 100 \times (1/1.25)^2$ . For the simplicity, death benefits are ignored.

Your country provides 1 year bond only.

One year time, the asset price of this insurance = 80. ( $64 \times 1.25 = 80$ )

If the market price of the bond fall to 11.11%, your company faces to dangerous situation. Why?

Because, you need 90 to get 100 for the maturity benefit, however you have only 80 as its value.

## Short course of finance 3 [summary personal opinion]

**For the life insurance industry,  
The downward phase of interest rate is always bad sign.**

**If you were in a Japanese life insurer, the appreciation of the Yen is always bad sign for your foreign bond.  
The hedge cost can not be ignored.  
This means that a strategy of investing the money to the domestic industry or to the government bond must be good choice.**

**I don't care for the foreign stocks for the life insurance company's investment strategy.**

# The nature of the assumptions

For Premium Calculations, we need

- **A set of Assumptions**

- Expected mortality (or morbidity)
- Expected interest rate
- Expected Loadings (Expenses)

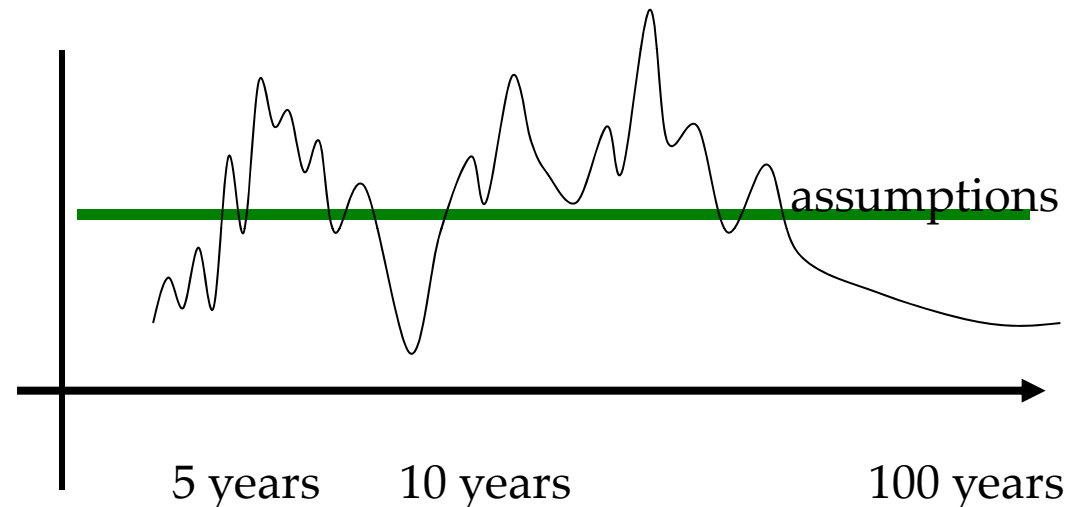
Once these are decided, we cannot change them.



However, we don't need a Fortune-teller as a consultant.

**Actuaries are requested to have long term views.**

**Even in tough economic times, we have to have “soft landing” measures.**



# Transition of Economic indexes in Japan

# What is an Actuary?

**An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs. They evaluate the likelihood of those events, design creative ways to reduce the likelihood and decrease the impact of adverse events that actually do occur.**

**Actuaries are an important part of the management team of the companies that employ them. Their work requires a combination of strong analytical skills, business knowledge and understanding of human behavior to design and manage programs that control risk.**

**SOA members work in life insurance, retirement systems, health benefit systems, financial and investment management and other emerging areas of practice. The majority of actuaries work within the insurance industry, although a growing number of actuaries work in other fields.**

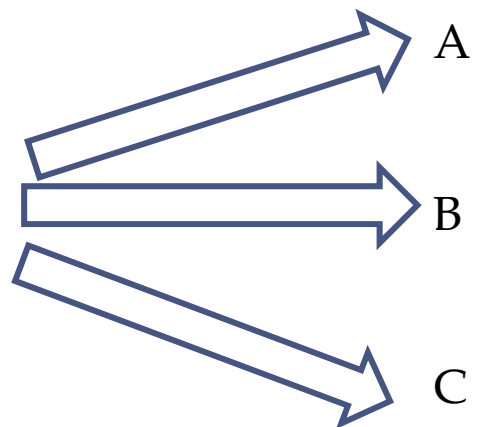
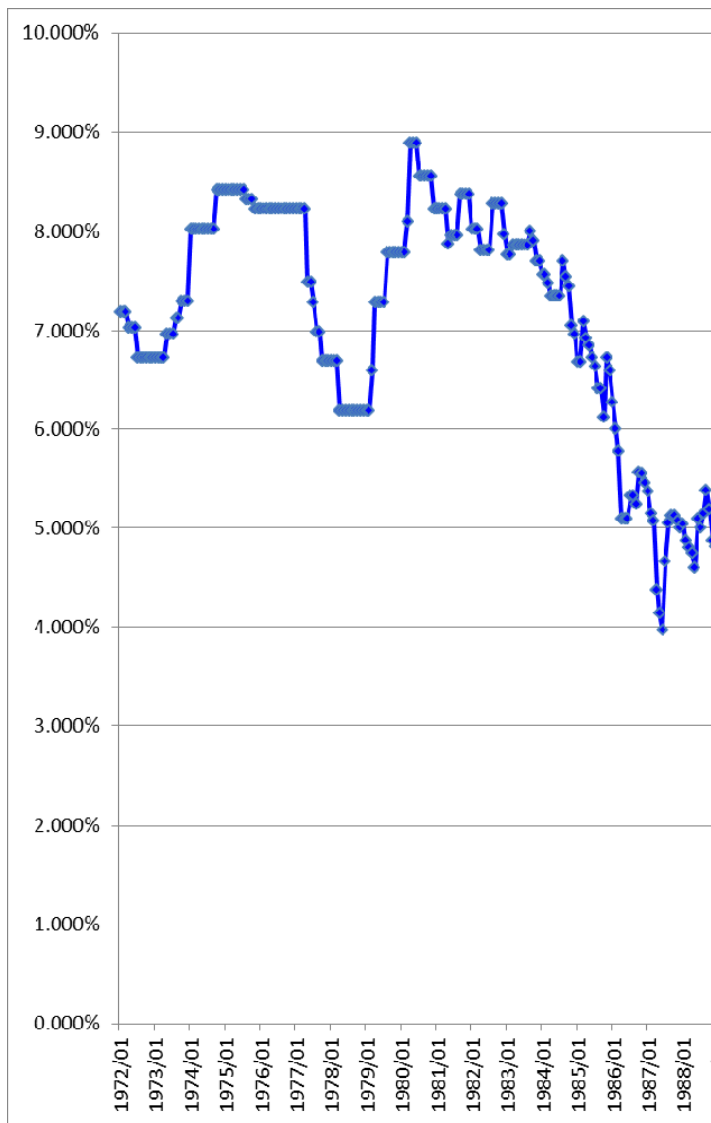
## About SOA

### First Paragraph

An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs.

- 1) They evaluate the likelihood of those events,
- 2) design creative ways to
  1. reduce the likelihood and
  2. decrease the impact of adverse events that actually do occur.

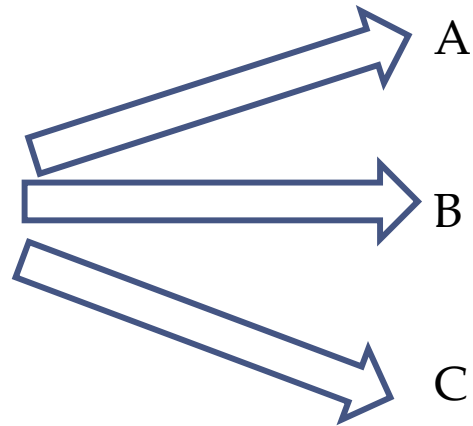
## 10 years JGB Earning rate past 40 years



Which direction is most likely?

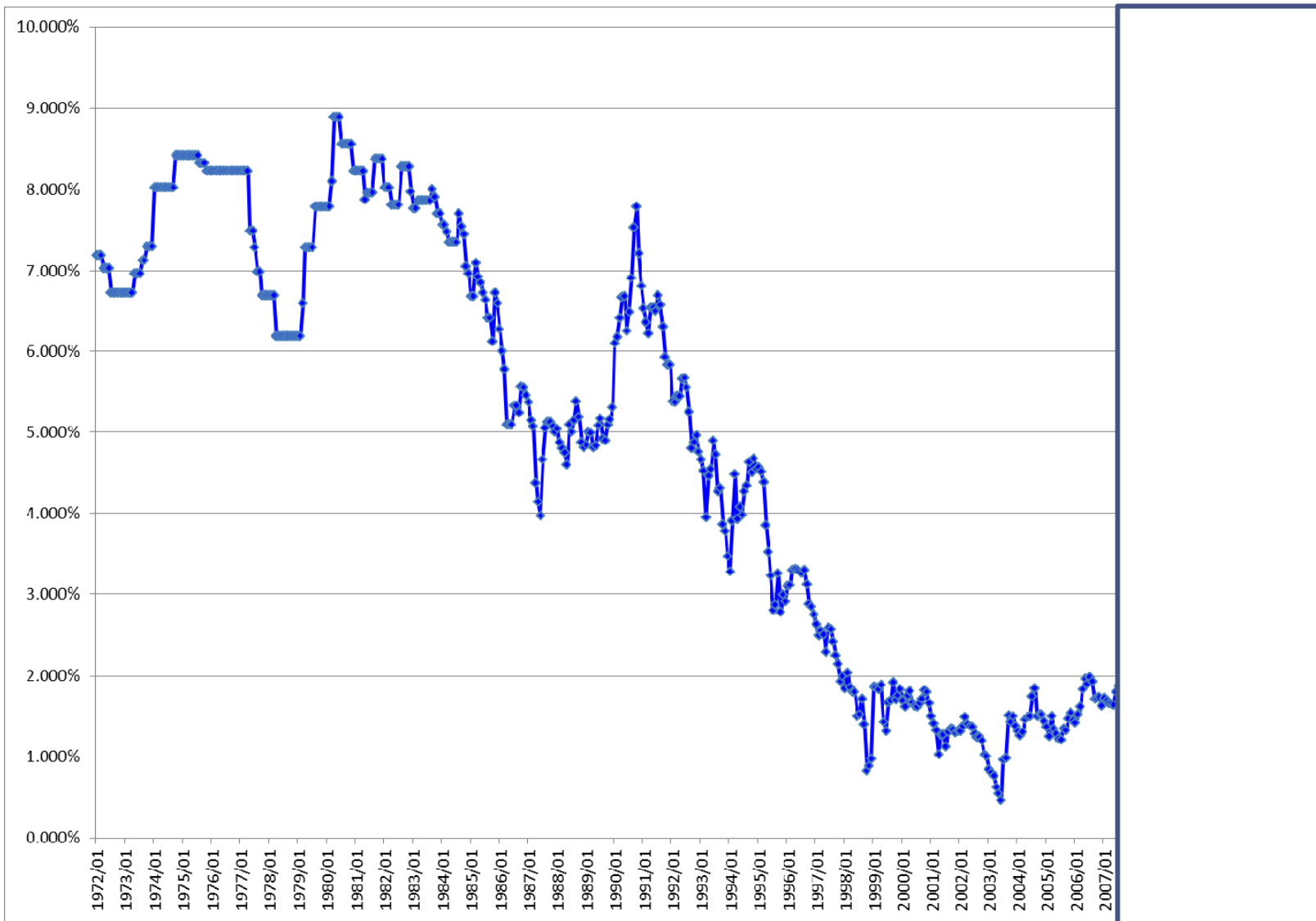


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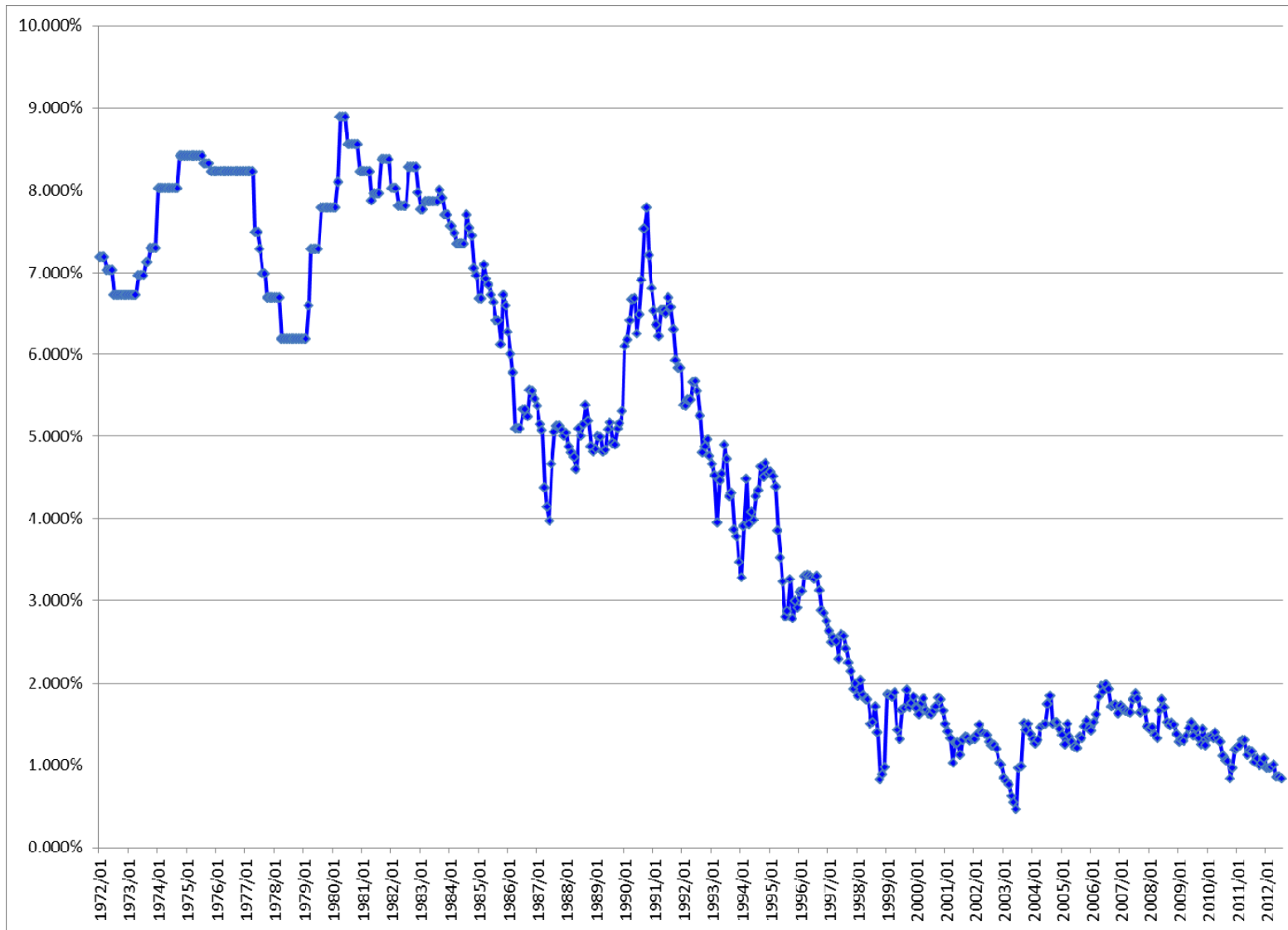


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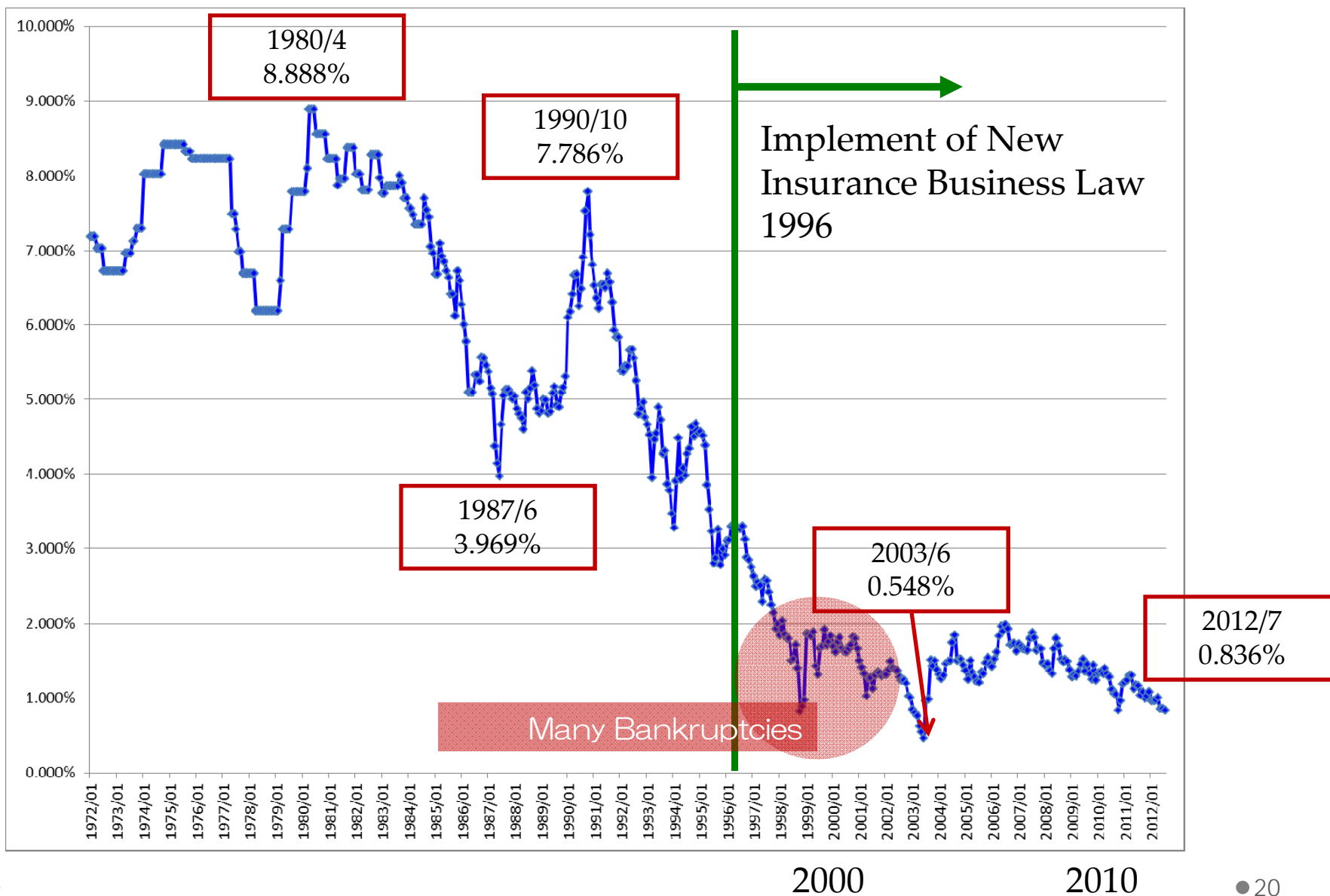
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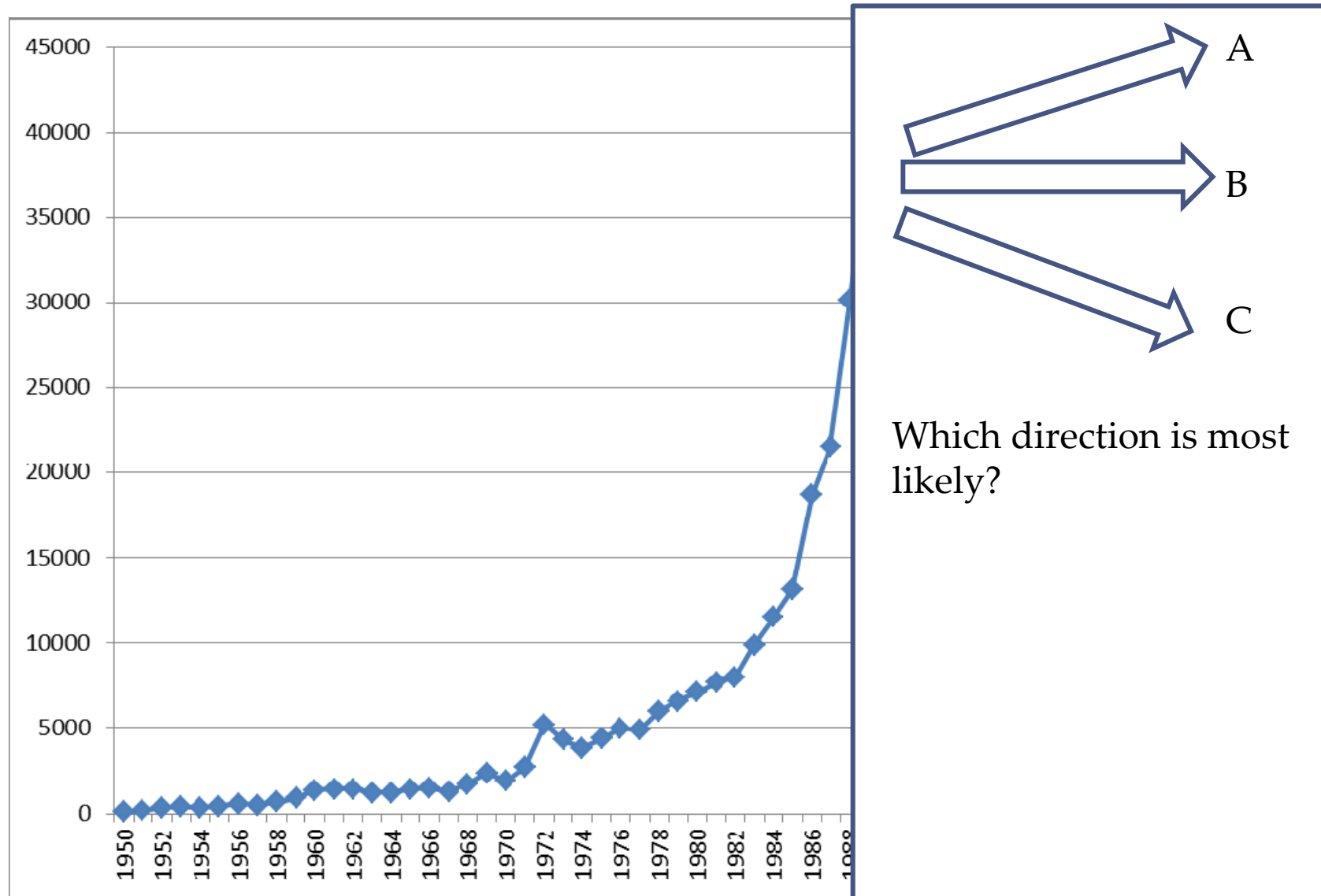
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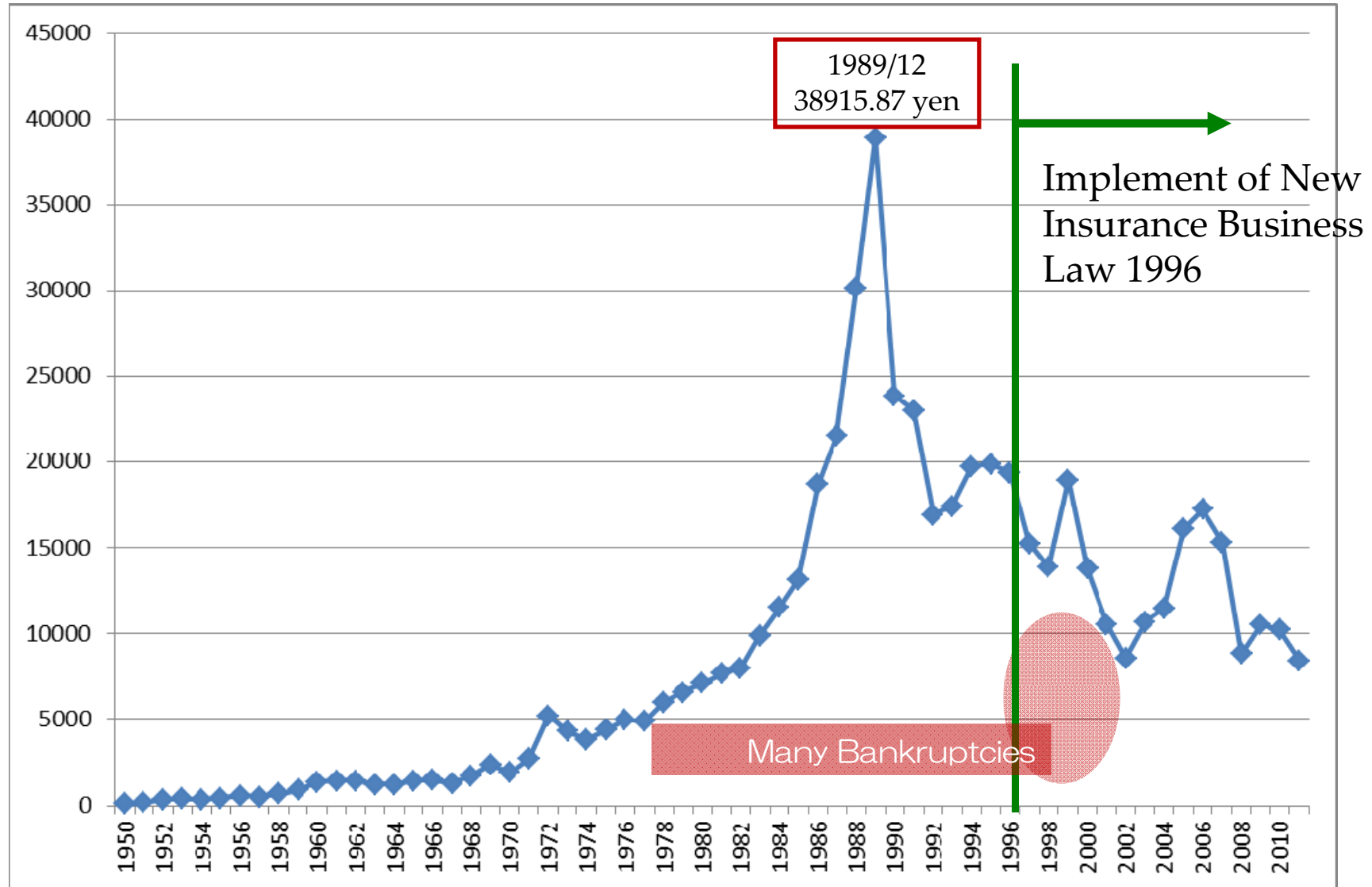
2000

2010

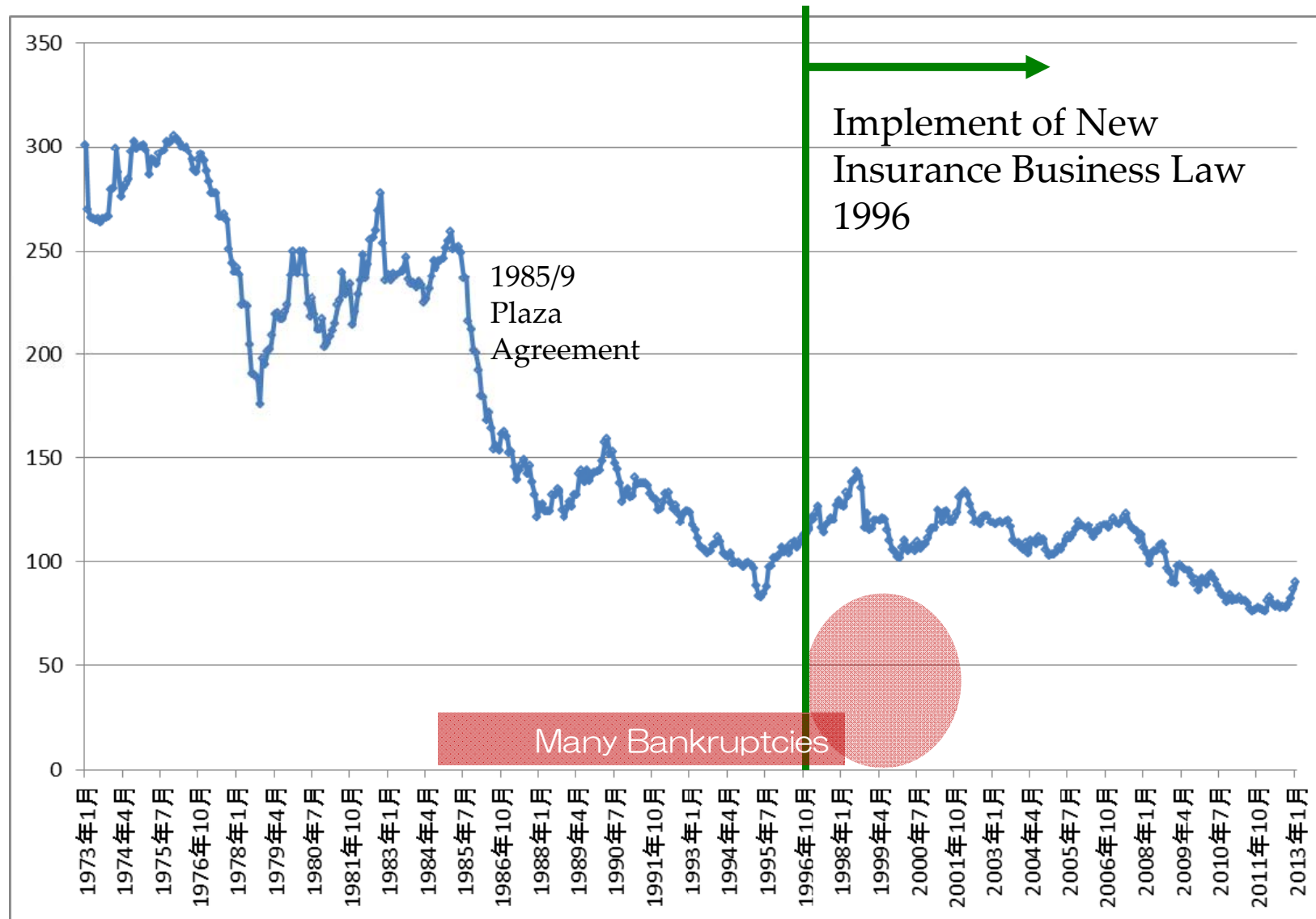
## Year end values of stock (Nikkei Average) 1950~



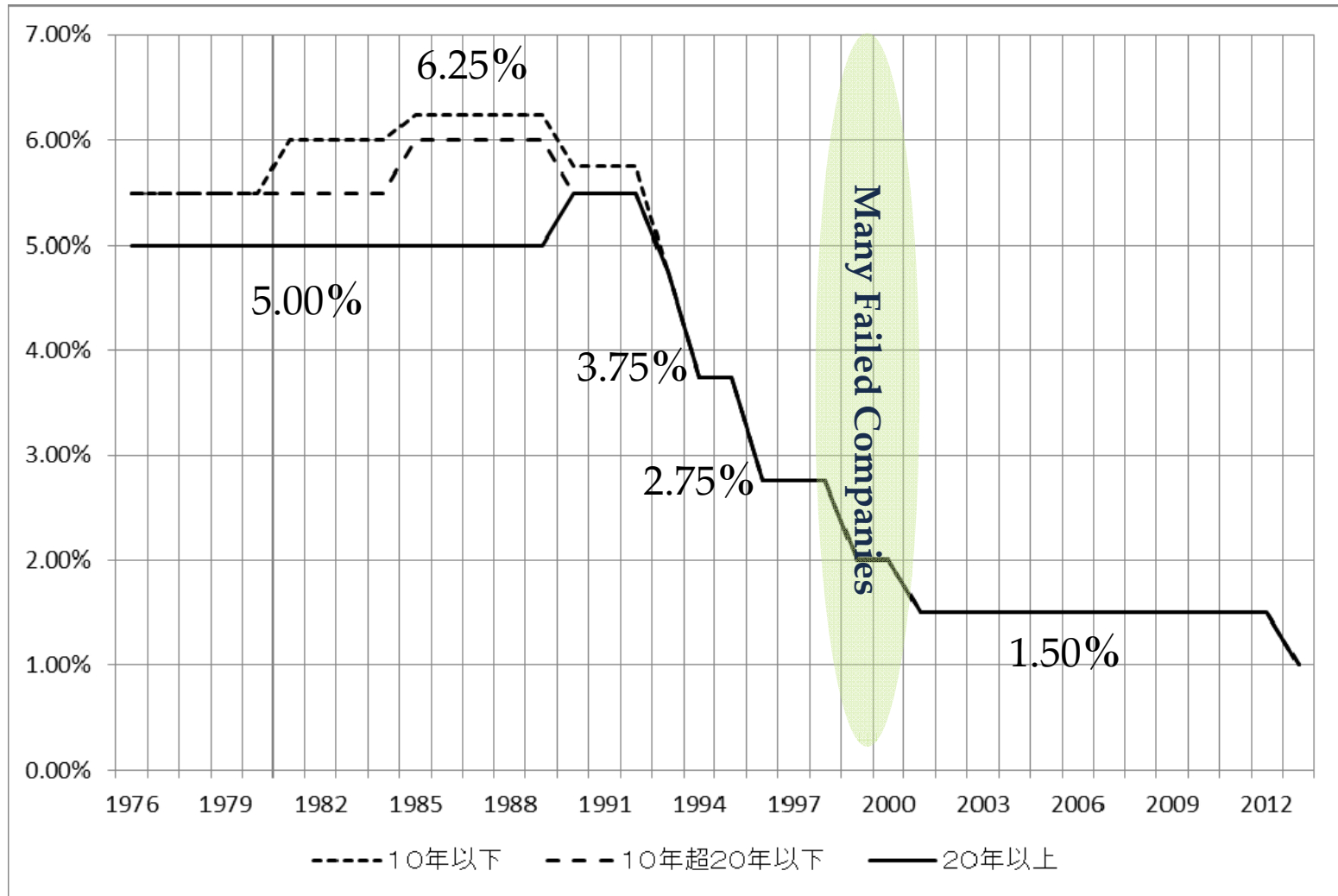
# Year end values of stock (Nikkei Average) 1950~



# Yen Dollar exchange rate



# Assumed Interest Rate for Premium and Valuation





Causality order of  
Bankruptcy of  
Japanese Life  
Insurance companies



## Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter One] Summary: Under the circumstance of the income dividend principal, there was a dividend competition; the premium rates were almost same, therefore there were competition of dividend amount among the Japanese insurers. To attain the high income gains, many companies invest to the foreign securities (mainly bonds). And the market of the foreign currency became the decline in the value of dollar, it made big amount of exchange losses. But the high stock prices covered exchange losses.

[Detail]

1. Before 2000, the premium rates of Japanese insurance firms were almost same. The level of the policyholders' dividend was also almost same. And over 90% of surplus had to be distributed to the policyholders' dividend. The idea of capital adequacy was not furnished in the insurance companies because the big life insurers were mutual companies.
2. Under this circumstance, I mean the 90% dividend regulation, on top that, the regulation restricted the dividend source should be the income gains. We cannot include the capital gains of stocks and foreign exchange transaction to the regular dividend. Therefore, we needed to increase the income gains to provide the competitive policyholders' dividend.

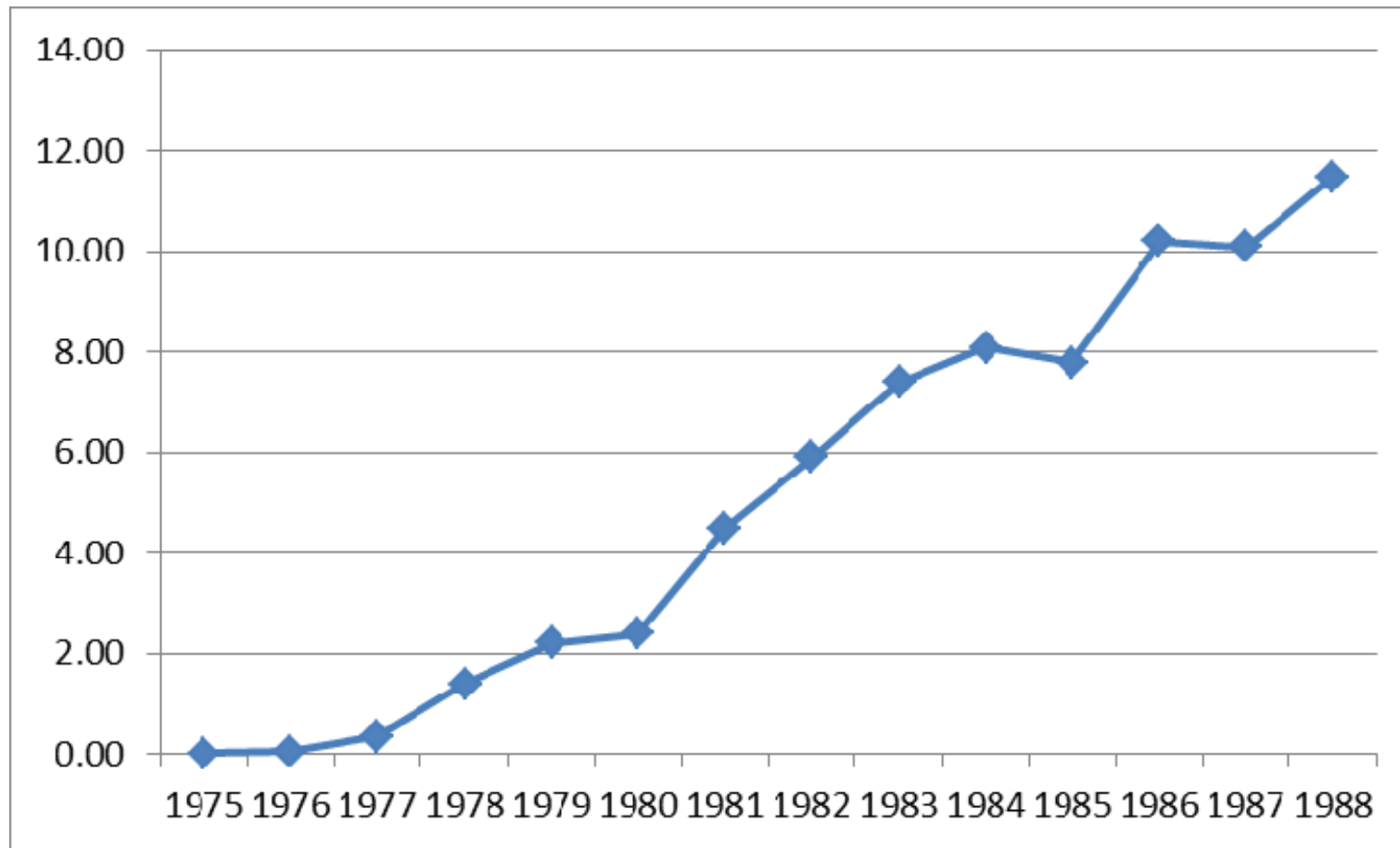
# Causality order of Bankruptcy of Japanese Life Insurance companies

## [Chapter One]

3. In 1977, Japanese distribution yield became lower than the US distribution yield. the US distribution yield raised 13% of annual rate.
4. In 1980, Japanese foreign exchange regulation was changed. By this change, basically, most of the constraints were removed; we can trade the foreign securities freely. Japanese life insurance firms bought a huge amount of the US securities, especially the T-Bonds.
5. In 1975 the amount of balance of foreign securities was 3.4 billion yen in Japanese life insurers' asset, but it became 11 trillion yen at the end of 1988. Only 13 years, the amount was more than 3200 times of 1975 amounts.
6. But then in US, they were suffered from the trade deficit with Japan. US government wanted to resolve the situation. At first, they forced to change the balance of US – Japanese currency exchange rates. This is called “Plaza Agreement”, because this treatment was made in the Plaza Hotel in New York. This agreement decided the trend of strong Yen.

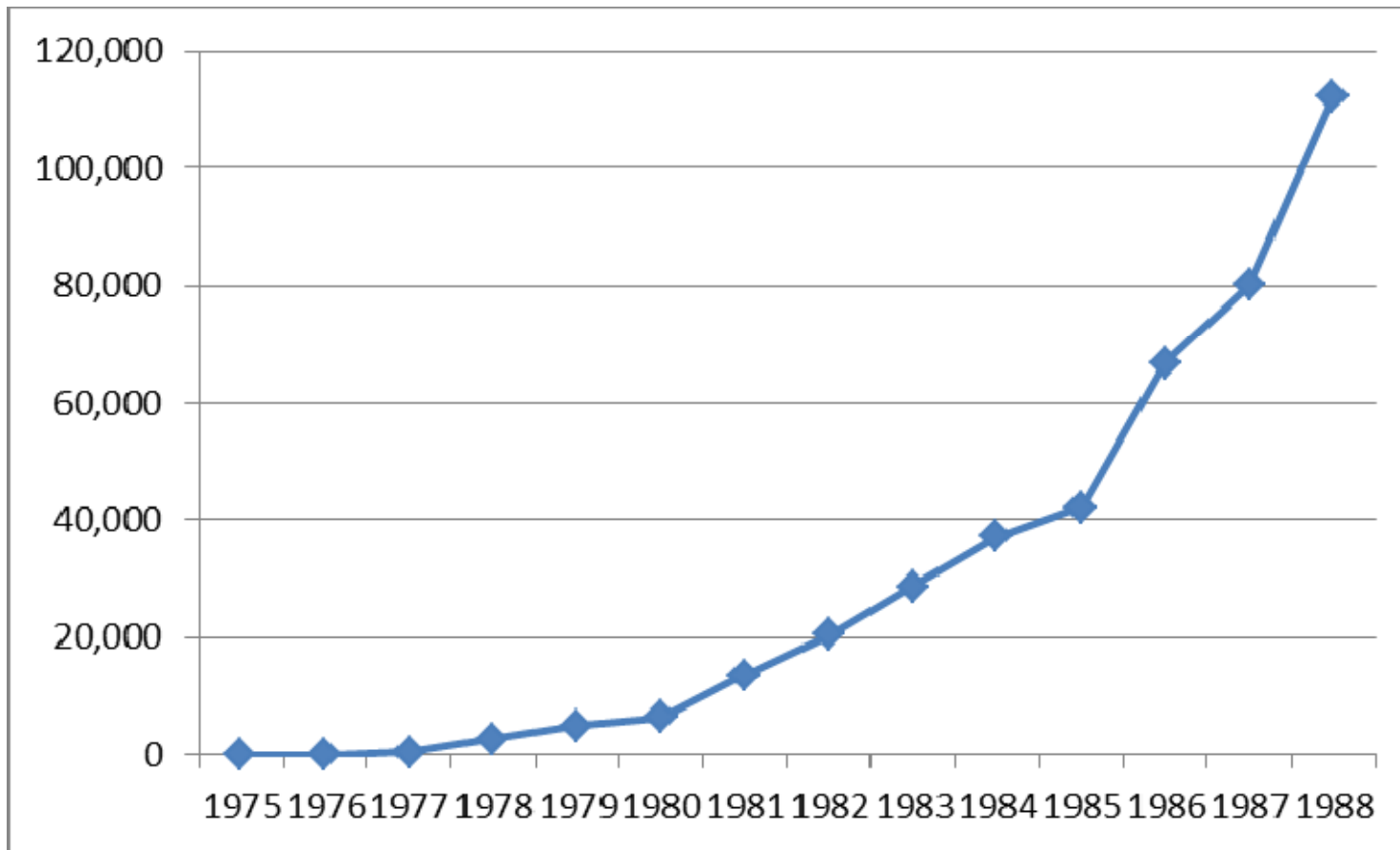
## Overseas investment

The transition of the portion of the overseas assets among the investment assets



## Overseas investment

The transition of the amount of the overseas assets (foreign bonds only)  
(Unit 100 million yen)



# Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter One]

7. Japanese Insurers invested to the high yield foreign securities. They got the preferable income from them. But these earnings were dollar base, this means, for the policyholders' dividend, they should exchange them to Yen. But yen – dollar balance was changed after the Plaza Agreement. Japanese insurers were suffered from the huge exchange losses.

Following Table shows the exchange losses;

1985	940 billion yen
1986	1 trillion yen
1987	1.5 trillion yen
1988	500 billion yen

# Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter One]

8. Even such a big exchange losses was emerged, they did not stop holding foreign bonds. They competed about the policyholders' dividend, dividend needed the income gain, income gain were derived from the high yield foreign bonds, foreign bond had risks of exchange losses, but this kind of losses were categorized to the special gains and losses, therefore these losses did not affect to the income gain, this meant that they could pay the competitive dividend to policyholders by the income gains from foreign bonds.  
Therefore they did not stop holding the foreign bonds.  
Many people doubt why Japanese insurers did not use the hedge strategy. Actually, they did the hedging to the exchange risks, but some cases they had losses by the hedging cost. And they knew that they had more effective financial support; it was their holding stocks.

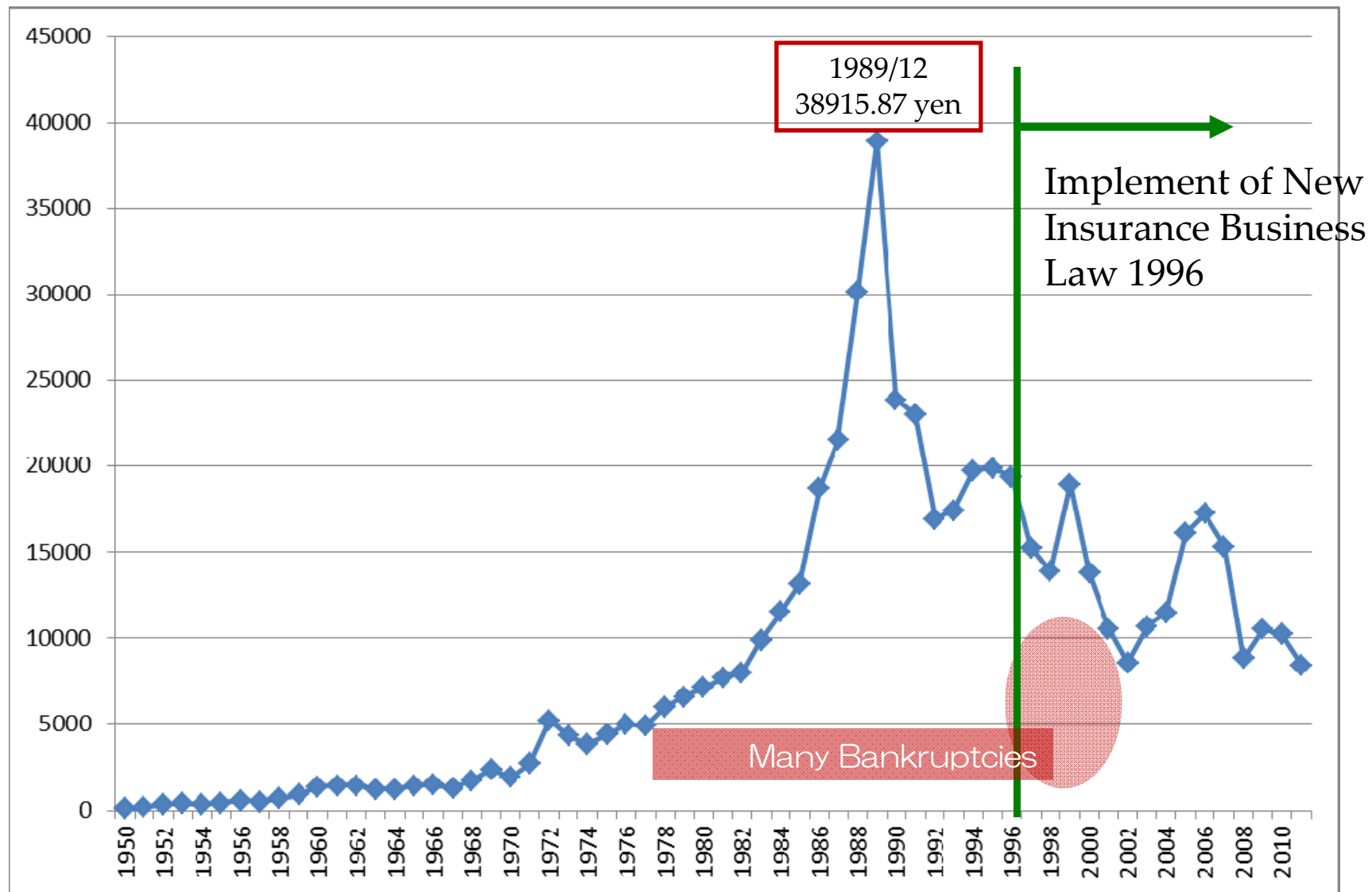
# Causality order of Bankruptcy of Japanese Life Insurance companies

## [Chapter One]

9. The Reason that the insurers were survived affected the damage of the exchange losses was the high stock value.  
The graph shows the sharp rise of the stock market from 1984, finally December 1984, it marked 38915.87 yen (this is the Nikkey Average), this was the top value of the Japanese stock market after the World War II.
10. The gain of sale is capital gain, the exchange losses are special losses, this meant that these two items were canceled each other. These cancelations did not affect the income gain, therefore, insurers pay the dividend from the interest payment of foreign assets.
11. Above all, under the circumstance of the principle of income dividend, life insurers chase the income gains, they invested to the foreign assets to get the high interest gains, but same time the investment environment was changed caused by the Plaza Agreement, Japanese insurers were suffered from the high Yens' rate, but the stock market marked the high indicators, therefore the cancelation of these two items saved the Japanese insurers even they paid the policyholders dividend using the interest gain from the foreign assets.



## Year end values of stock (Nikkei Average) 1950~



## Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter Two] Summary: The stock market crashed, Insurers could not cancel the exchange loss with the stock price. However, many insurers and economists had an optimistic foresight that ten years time, the economical situation should become normal again.

1. In December 1989, the Nikkey Average marked 38915.87 Yen, it was the historical high value of the Tokyo stock market. It was the final day of the 1989. We had yearend vacations after that with the feeling of well-being. However, we have not seen the same escalation of the stock market since 1989. The Nikkey average steeped down, in the middle of 1991 it had the average around 17000yen, this value was the below half of the top value. While the fluctuation varied, whole average went down to 10000yen.
2. Almost same occasion, the value of the Japanese Government Bonds raised, the interest rates went down. Around 8 percent in 19 , but only 8 years time, it went down below 1 percent.
3. There were many forecasts about the Japanese Economy. Many people thought that the stock market and the other financial indicators might be back to the past level.
4. After these wrong messages and activities, many insurers asset quality has deteriorated.

## Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter Three] Summary: Single Premium Endowment and Premium Loan Annuity, these were sold in the mid 1980s, they had hard time to achieve the credit rate of the product.

1. The sales department, as its nature, chases the sales result. They want to make sales bigger than past years. In the end of 1980s and beginning of 1990s, they started to sell the saving products. It made big phenomena to money shift to the life insurers.  
They started to sell the single premium endowment, or single payment annuities with bank loans.
2. One of the bankrupt companies, Nissan life, in the middle of 1990, the total asset became twice of its last year.
3. Case of the Nissan Life, in 1988 they sold 8% credited rate products, it made big sales, in 1990, JGB marked 8% of its distributed yield, therefore the company decided to continue to sell the product, this would be risky but rational decision because the JGB marked 8%, this meant the other bonds marked much higher interest rates.  
However, the interest rates fell down in 1990s, finally they could not afford the suitable assets to sustain the contracts. They sold the junk bonds. Finally, it became nonperforming assets.
4. In 1994, Nissan Life became the over deficits, in 1997, government ordered to stop the business.

## Causality order of Bankruptcy of Japanese Life Insurance companies

[Chapter Four] Summary: Bad quality of the top management of the runoff companies

There is a good study of the qualification of the managing directors written by Dr. Uemura, the title is “The failure without management Truths behind the Seiho crisis in the Heisei era “.

Using this splendid study, we will examine the following 4 companies as the case studies.

Nissan Life  
Chiyoda Life  
Daihyaku Life  
Kyohei Life

## Causality order of Bankruptcy of Japanese Life Insurance companies

### [Chapter Five] Summary: Own Asset Regulation

There was a less attention to the owned capital when the bankruptcies happened. The dominated thought was the surplus should be distributed to the policyholders. Currently, we have the regulations of the RBC or Solvency Margin, we are requested of having the certain amount of the own asset.

1. New Insurance business Law was implemented on 1996, this led the fundamental thought of the solvency margin
2. Some person said that this implementation boosted the several companies' bankruptcies.
3. However, by this regulation led the thought of importance of own asset and the control of the policyholders dividend.
4. In the past, 90% of the surplus should be paid as policyholders' dividend, now a day it is 20% in the regulation. It is a great difference between the age of bankruptcy and 2013.

## Causality order of Bankruptcy of Japanese Life Insurance companies

[Summary]

Proper 6 causes of life firms' bankruptcy in Japan

1. 90% rules (over 90% of surplus should be distributed to policyholders, it was stated in the regulation)
2. Principle of income dividend (source of the dividend should be limited to the income gains)
3. sharp depreciation of interest rate
4. produced big amount of sales of saving product
5. Lack of the regulation for the own assets
6. under quipped of top executives

The failures of Life  
Insurance Companies of  
Japan  
Case Studies



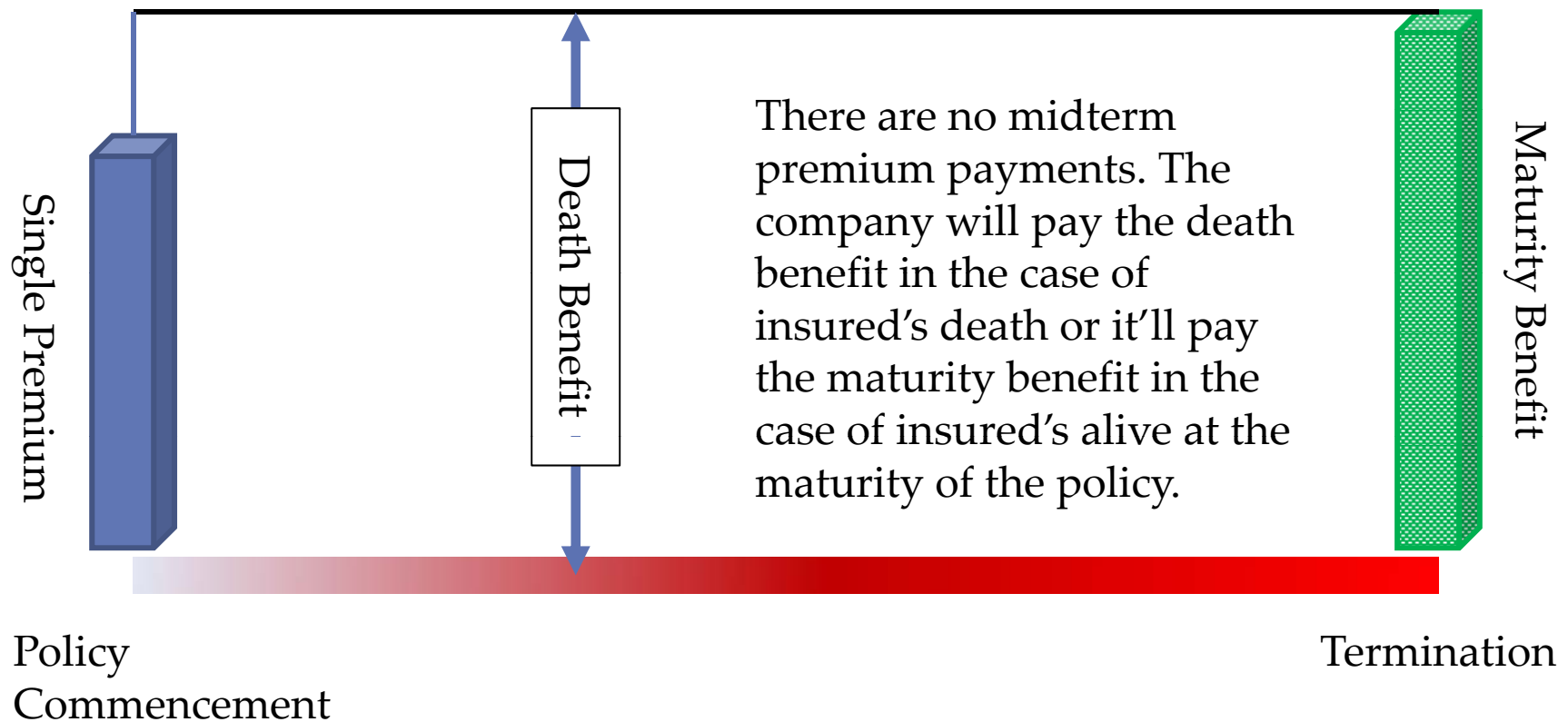
## Japanese bankruptcy cases

	Going Bankrupt	Completing Liquidation	Amount of negative net worth (billion yen)	Assumed rate	
				before average	after upper
Nissan	97/04	97/10	302.9	Unknown	2.75%
Toho	99/06	00/03	650.0	4.79%	1.50%
Daihyaku	00/05	01/04	317.7	4.46%	1.00%
Taisho	00/08	01/03	36.5	4.05%	1.00%
Chioyda	00/10	01/04	595.0	3.70%	1.50%
Kyoei	00/10	01/04	689.5	4.00%	1.75%
Tokyo	01/03	01/10	73.1	4.20%	2.60%

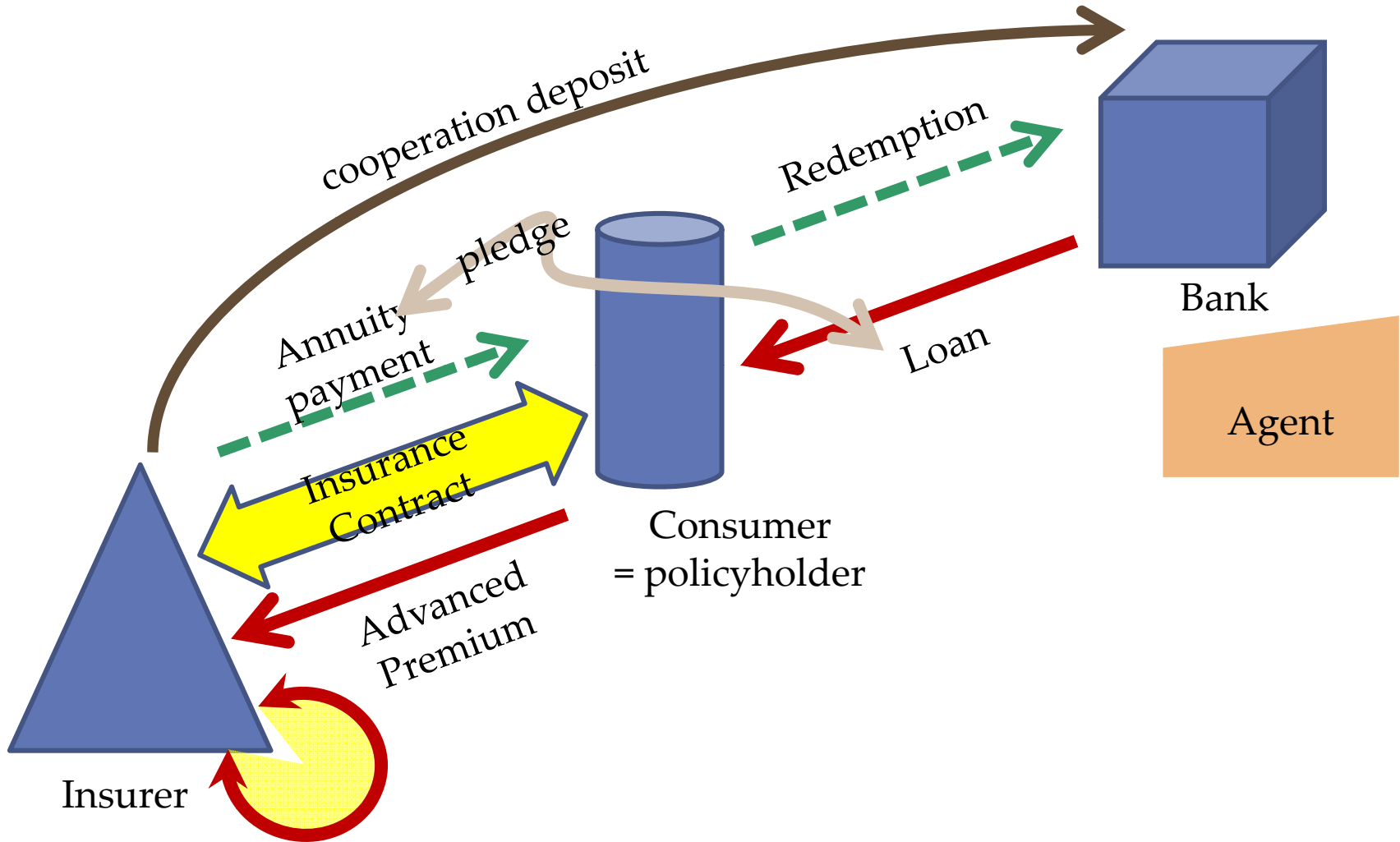
In the following presentation, “The failure without management Truths behind the Seiho crisis in the Heisei era” by Dr. Nobuyasu Uemura will be quoted in parts of this presentation. Hereinafter, I’ll call this book as [Uemura]



# Single Premium Endowment Insurance



# Annuity Insurance Loan



Burden of over 8% of the returns for the advances premiums and policyholders' dividend

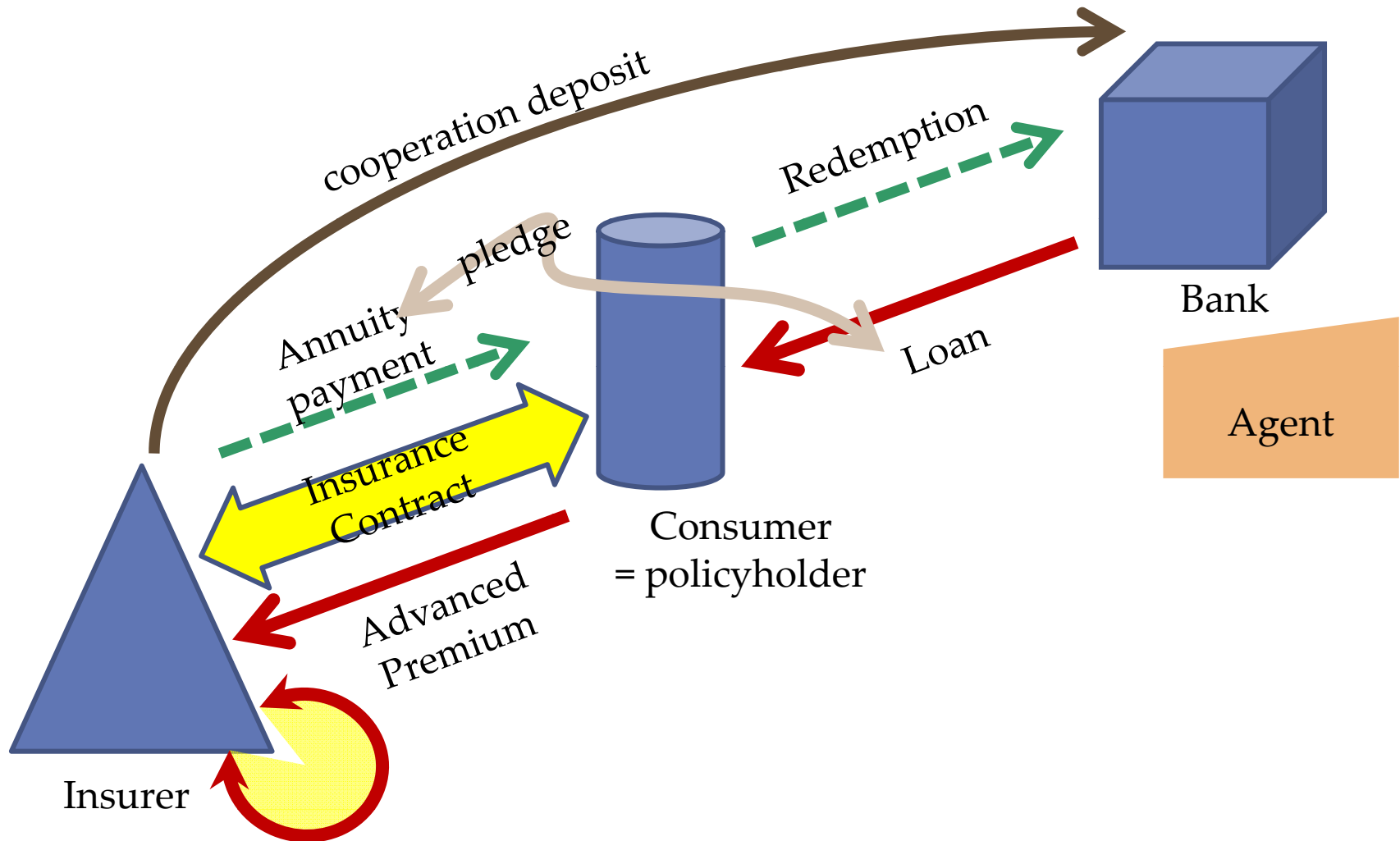
# Case 1

## Nissan Life

Rapid expansion of business scale was  
fatal



# The case of Nissan Life Annuity Insurance Loan : 1987 - 1988



Burden of over 8% of the returns for the advances premiums and policyholders' dividend

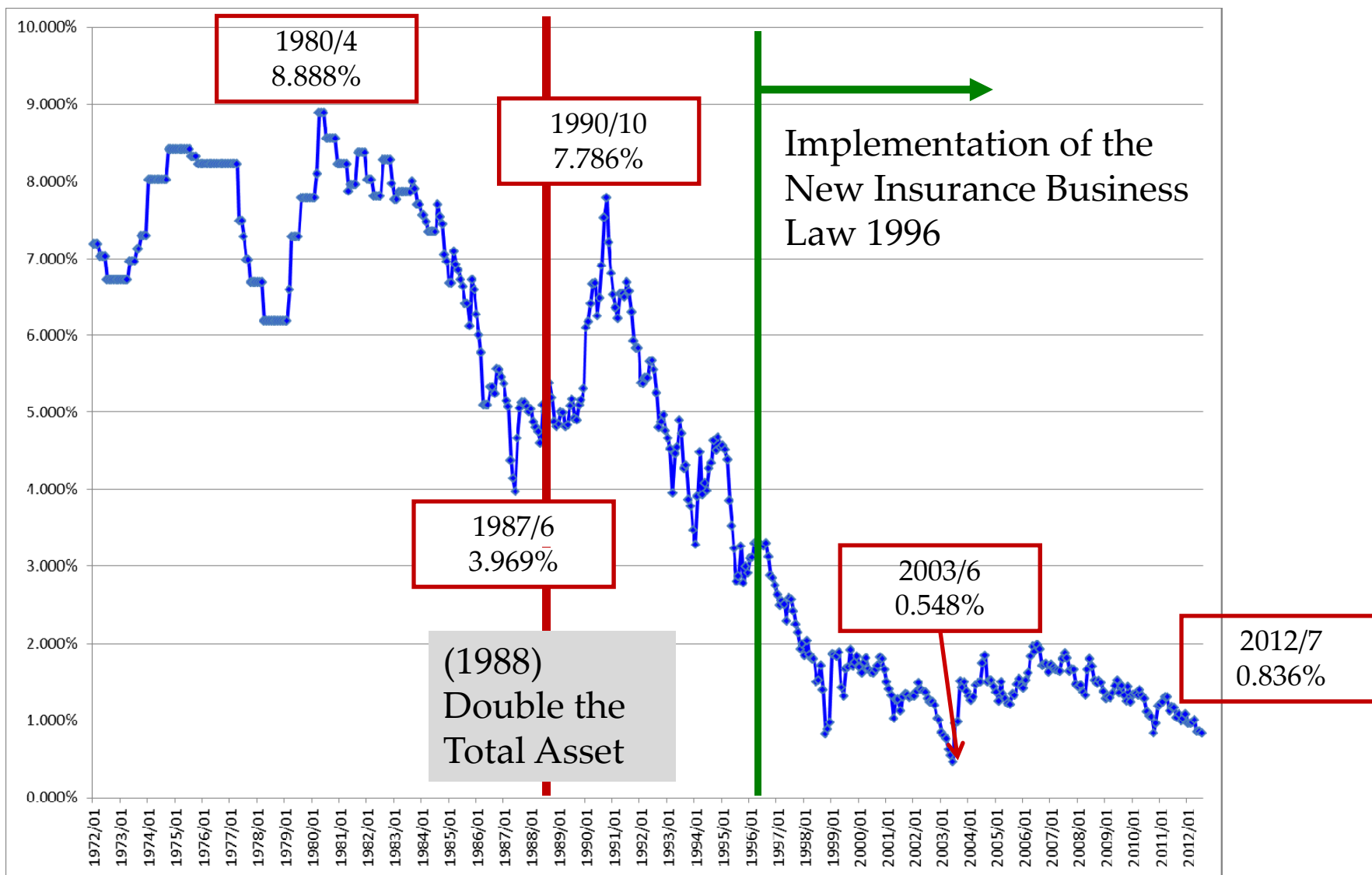
# Nissan Life

## The transition of the amount of assets

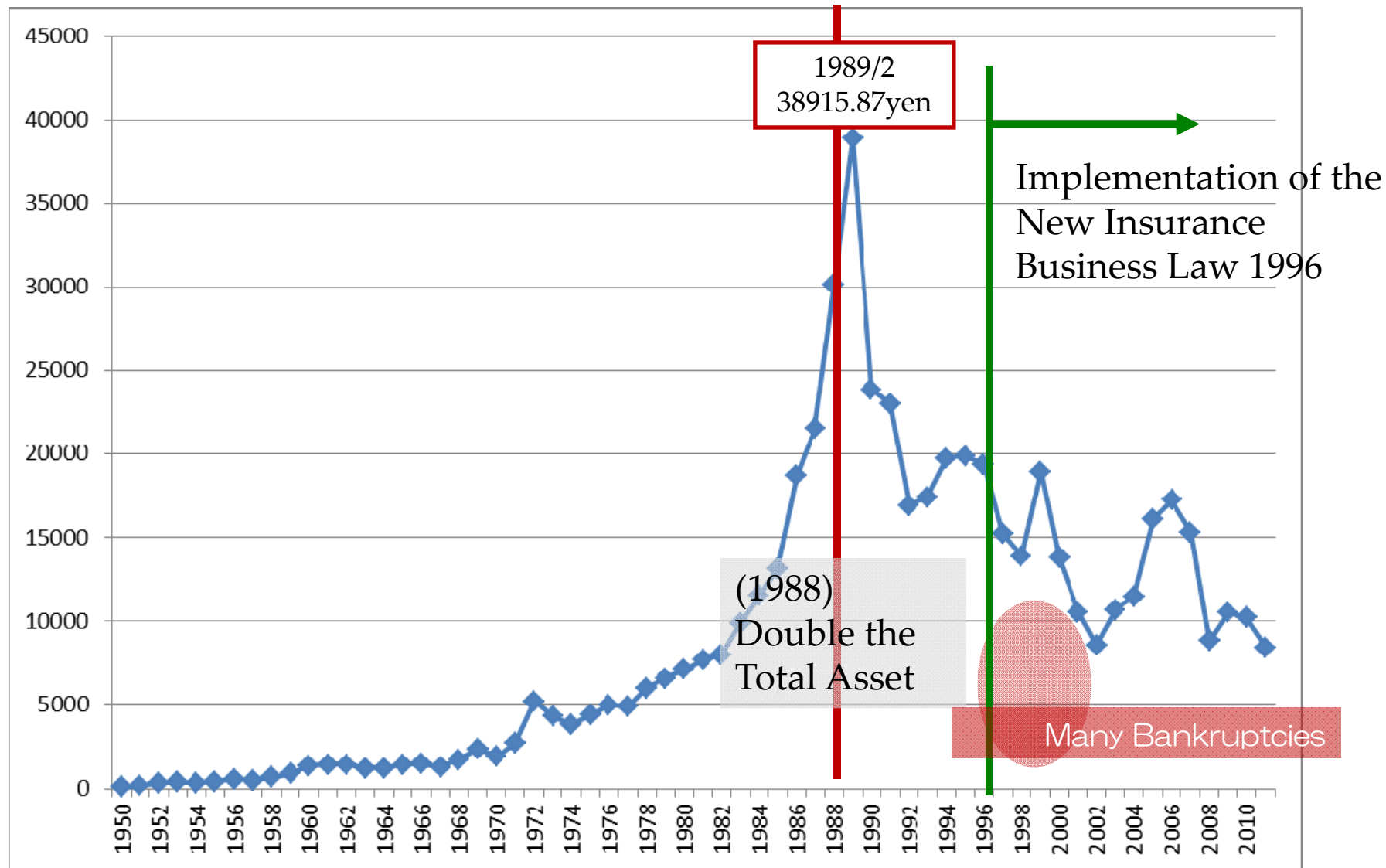
Nissan Life			All Insurers		
FY	Total asset (billion)	Year to year	FY	Total asset (billion)	Year to year
1985	368.0	19.1%	1985	53,870.6	17.8%
86	444.1	20.7%	86	65,317.2	21.2%
87	696.4	56.8%	87	79,268.4	21.4%
88	1,323.0	90.0%	88	97,082.8	22.5%
89	1,627.0	23.0%	89	117,343.9	20.9%
90	1,855.5	14.0%	90	131,618.8	12.2%
91	1,944.3	4.8%	91	143,234.1	8.8%
92	2,028.5	4.3%	92	156,011.1	8.9%
93	2,102.9	3.7%	93	169,122.1	8.4%
94	2,146.1	2.1%	94	177,965.5	5.2%

[Uemura]p91

# 10 years JGB Earning rate past 40 years



# Year end values of stock (Nikkei Average) 1950~



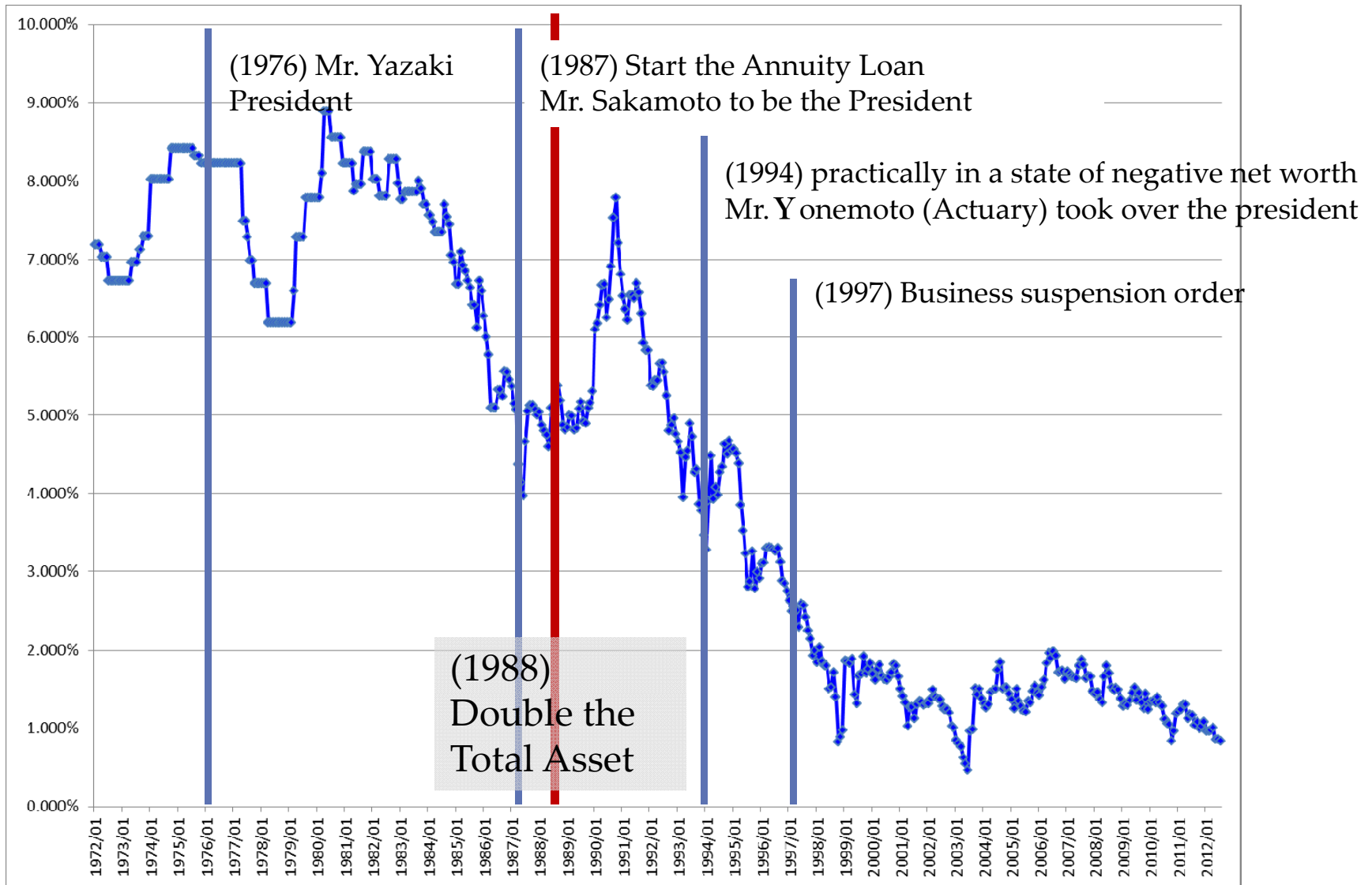
# Nissan Life

Asset Allocation of Nissan Life				
	End of FY1986		End of FY1989	
	Amount (billion yen)	Constituent ratio (%)	Amount (billion yen)	Constituent ratio (%)
Total assets	444.1	100.0	1627.0	100.0
Cash and deposits	34.8	7.8	122.7	7.5
Money trust	13.8	3.1	111.1	6.8
Bonds	57.8	13.0	176.1	10.8
Stocks	77.5	17.5	350.1	21.5
Foreign securities	58.1	13.1	340.8	20.9
Other securities	3.7	0.8	7.1	0.4
Loans	164.6	37.1	422.6	26.0
Real estate and movables	22.3	5.0	58.7	3.6

[Uemura]p94



# JGB and Nissan Life



## Nissan Life

A head office staffer of that time says,

- A head office staffer of that time says, “In 1987 (when Sakamoto became president), our finance division and actuary division considered the payment of an annual 8% yield as a problem, but they could not restrain the sales division...”
- We had many discussions on the advisability of expanding assets so fast. At around the time when the total assets topped ¥1 trillion (in 1988), an actuary informally gave a warning to the management. The warning fell on deaf ears...
- All the information that reached President Sakamoto was ‘things are all right because \_\_\_\_\_’ or something like that.”
- In an interview with Nikkei Business as mentioned earlier, Yazaki said, “I felt things were rather imbalanced, but we had come too far to go back...”

## Nissan Life

### Steps taken after the external environment worsened

- When the investment environment deteriorated in the 1990s, the heavy burden of paying guaranteed yields came to the fore.
- Earlier, when the company leaned toward stock investment while its assets were expanding, it purchased stocks at high prices. These stocks now incurred capital losses and valuation losses, making it difficult for the company to make a good showing when settling accounts.
- In fiscal 1991, the company earned about ¥30 billion in the three types of profit while its valuation loss on securities reached ¥90.3 billion and the current profit shrank to a thirtieth of the previous year's level.
- The value of individual annuity contracts as a percentage of the policy reserve was above 50%.
- Most of such contracts had a high assumed interest rate and a high interest rate for those who made advance payment.
- Even after individual annuity products became less salable in the 1990s, the policy reserve continued to build up.

## Nissan Life

### Steps taken after the external environment worsened

- Meanwhile, latent stock profits were depleted. When settling accounts in fiscal 1991, the company cut dividends, booked a profit on sale of real estate and lowered the policy reserve level.
- The company reported an interest profit on the surface, but its interest and dividend income was inflated by derivative-containing products designed to make a good showing when closing the books.
- The actual earning power was less than what it appeared to be. The company record shows that “foreign securities” increased sharply in fiscal 1991 and “other securities” grew noticeably in fiscal 1993.
- Part of these securities were products designed to make a decent showing at the term end. “(Nissan Mutual Life) initially earned high yields from Nikkei Average-linked bonds purchased in the early 1990s, but their forecast of the stock market turned out wrong and the principal was eroded in the end...”
- Investment in derivatives using foreign bonds caused more losses. These were products whose yields were initially high but were reduced over time,” according to an analysis given in the weekly Economist dated June 17, 1997.

## Nissan Life

### **In the 1990s, the company found itself falling into difficulties**

- In the 1990s, the company found itself falling into difficulties.
- However, “the president didn’t take the leadership in starting efforts to reconstruct business.
- He just told others to ‘do something about it’ and did not act on his own initiative...
- When we received a notice from the Ministry of Finance pointing out our problem and an order to take remedial action, and informed the president about the matter, he just said ‘we cannot possibly do such a thing.’
- He saw the problem not as something the company should address but as a disaster that fell upon him...
- He was not like a manager but was rather like someone merely holding an honorary post. The principle of competition did not work in a mutual company of that time. One who stayed in this environment for decades would end up as a manager like that,” says a former head office staffer.

## Nissan Life

### Final

President Sakamoto resigned in July 1994, and actuary Hiroshi Yonemoto took over as president. At this point of time, Nissan Mutual Life was practically in a state of negative net worth. It was not as if the new president could do something about it.

# Case 2

# Daihyaku Life

Fettered by low earnings structure



## Daihyaku Life

### Back ground

- ◆ Daihyaku Mutual Life was a Kawasaki family-affiliated company. Everyone who served as its president was a member of the Kawasaki family until Fukuchi became president in 1987.
- ◆ Daijiro Kawasaki (who was president from 1965 to 1973) was known as a person who restored prosperity to the family business. Daihyaku Mutual Life came to be called “a pioneer in new-type insurance” when he was president.
- ◆ After retiring as president, he remained a director until 1987 and retained influence over management. “His son Shinjiro was working at the company. He was seen as a future president from the time he joined the company.
- ◆ The management team had to keep Daijiro always in mind when making decisions. They could not make bold decisions such as ‘giving up saving insurance’ or ‘selling off bank shares,’” says a head office staffer at that time.



### Back Ground (continue)

- ◆ The company began to expand its scale of operation around 1987, according to a head office staffer at that time.
- ◆ Some people in the company said, “We are shifting from savings to life insurance, so we need not get upset when our place on the ranking list of insurers in terms of total assets drops.” Some people close to Daijiro, known as the person who restored prosperity to his family business, strongly insisted that “it is necessary, after all, to expand the size of assets by selling savings-type products.”
- ◆ Accordingly, the company promoted sales of individual annuity insurance combined with a bank loan and single-premium endowment insurance.
- ◆ **“It is not that we promoted sales of single-premium products. To be more accurate, the products sold much more than we had expected,”** says another head office staffer at that time.

## Daihyaku Life

### Back Ground (continue)

- ◆ Among Daihyaku Mutual Life managers including Fukuchi (president (from 1987 to 1996) ), there were few who exercised strong leadership in the company.
- ◆ “A warning was issued in the company from time to time. But a life insurer’s business management was not very visible and it was difficult for some officers to share their concerns with others. They would end up going along with a majority view. The management did not have a strong will to exercise authority,” says a head office staffer at that time.

### Back Ground (continue)

- ◆ The management made one plan after another to change the low-profit structure, but had no system for analyzing the results of change and modifying the plan accordingly.
- ◆ “An easy-going atmosphere pervaded the place.... Whenever we sat down to discussion, the same old themes such as “expand sales of protection-type products,” “reduce costs” and “sell shares” came up. But we did not discuss whether the idea was feasible or not. As soon as we got down to work, the idea would turn out unrealistic,” according to several head office staffers.
- ◆ As the company enjoyed a large interest profit and a large unrealized profit from shareholdings up until the 1980s, failure to achieve managerial objectives did not matter and no one was held responsible.

### Steps taken after business turned worse

- ◆ The problem of the profit-earning structure came to the surface in the 1990s when the investment environment worsened so much that the company was no longer able to earn an interest profit.
- ◆ The company began to suffer a negative spread in fiscal 1992. The sum of the expense profits and the mortality profits was not large enough to cover the interest losses in and after fiscal 1993. In this year, capital gains from the sale of securities came close to ¥100 billion.
- ◆ In fiscal 1994, the company suffered a large valuation loss from a drop in stock prices as well as three types of loss, and posted the first current loss in postwar years. It broke into the reserve under Article 86 and lowered the required policy reserve level from the one based on the net premium method to the one based on a five-year Zillmer method.

### Steps taken after business turned worse

- ◆ The members of the management team were not particularly alarmed. “The budget division once presented the results of its future cash flow analysis to the management, pointing out that ‘the company will not stay afloat according to several scenarios’ and that ‘there is a 20% to 30% chance that the company will go bust.’ Half of the members did not take the matter seriously, saying ‘when such a scenario becomes reality, Japan itself would be in a mess,’” says a staff member of the actuarial division.
- ◆ After reporting red-ink results, the company announced a three-year plan in April 1995 in which it set out to improve services for individual policyholders and rebuild the system for sales to corporate clients in order to increase the total amount of policies in force. “We tried but were unable to cut costs as much as we wanted to. The sales division complained, ‘We can’t do business if costs are cut down to this level,’” says a head office staffer at that time.

## Daihyaku Life

### Final

- ◆ The profit-earning structure was weak, business results depended heavily on stock prices and the latent stock profits were almost depleted. “Even when Nissan Mutual Life failed in April 1997, our people talked as if ‘it was something that occurred to Nissan (and had nothing to do with us),’” says the head office staffer.
- ◆ Daihyaku Mutual Life fell into a crisis not because it had a major specific problem, but rather because various smoldering factors erupted all at once. The bad loan problem “was not fatal” (according to a head office staffer at that time) and there was no manager whose arbitrary behavior caused a problem.
- ◆ The management team was not quick to recognize this problem while Daihyaku Mutual Life’s business was deteriorating, and therefore failed to take remedial action. The company had the task of reducing strategically held shares, but made little progress in this regard. “(The company was) slow to take notice and take action after the bubble period. It was not that a big problem brought down the company, but various factors came together at once to finish it off,” says a head office staffer at that time.

# Case 3

## Chiyoda Life

Investments and loans during only two and a half years proved fatal



# Chiyoda Life

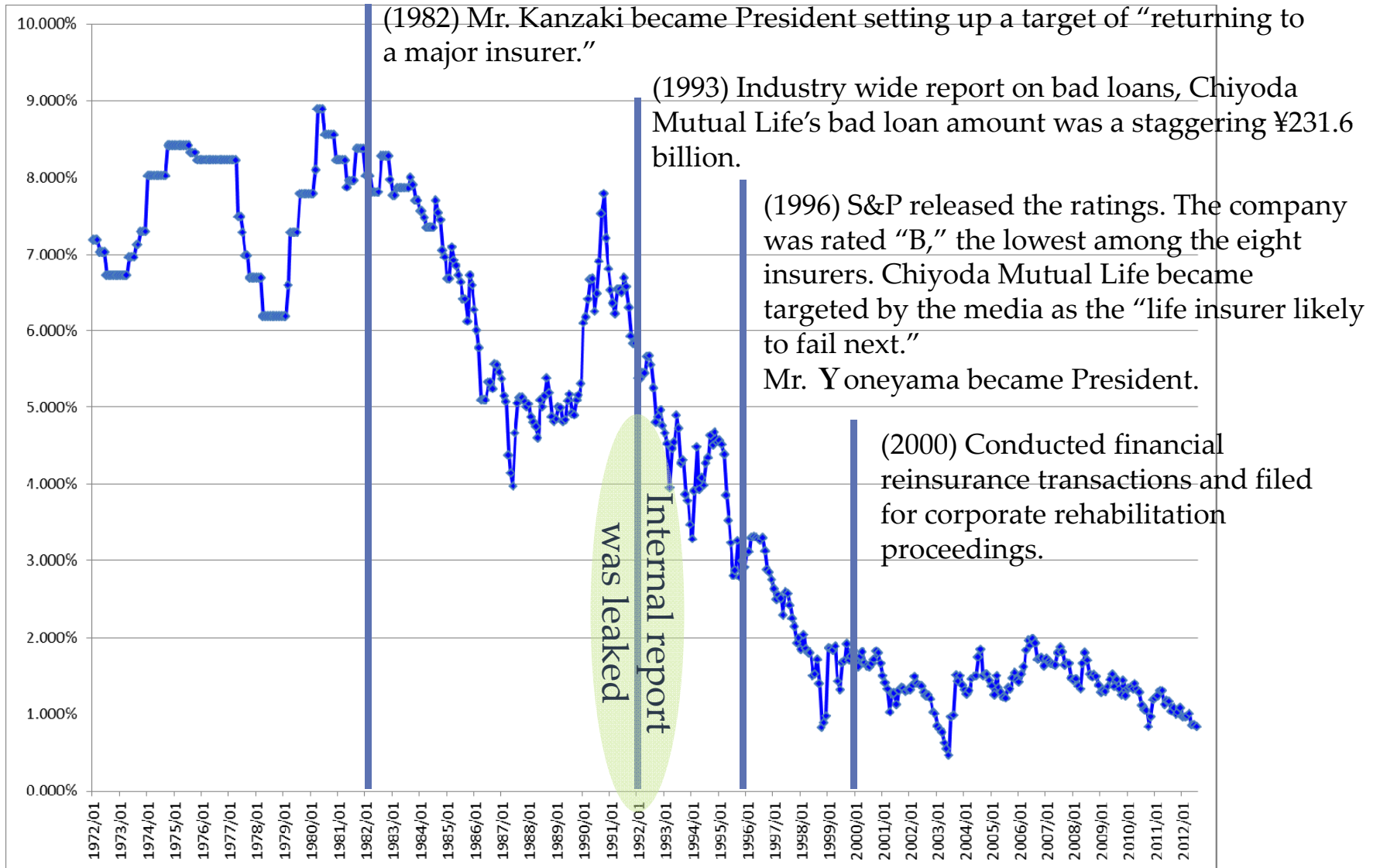
## The transition of the amount of assets

Chiyoda Life			All Insurers		
FY	Total asset (billion)	Year to year	FY	Total asset (billion)	Year to year
1990	5,154.4	14.1	1990	131,618.8	12.2%
91	5,621.4	9.1	91	143,234.1	8.8%
92	5,982.9	6.4	92	156,011.1	8.9%
93	6,316.6	5.6	93	169,122.1	8.4%
94	6,396.3	1.3	94	177,965.5	5.2%
95	6,442.5	0.7	95	187,492.5	5.4%
96	5,816.3	-9.7	96	188,659.0	0.6%
97	5,028.2	-13.5	97	190,111.0	0.8%
98	4,359.9	-13.3	98	191,768.4	0.9%
99	3,501.9	-19.7	99	190,032.9	-0.9%

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# JGB and Chiyoda Life



# Chiyoda Life

## Back Ground

- ◆ Before World War II, Chiyoda Life was one of the five big companies of Japan Life insurance industry.
- ◆ But this position was taken over Sumitomo Life and the other companies.
- ◆ “Regain lost ground” this was the motto of president Kanzaki (1982)
- ◆ Chiyoda Life sold high return saving products, and chose the high risk - high return investment strategy.
- ◆ Same department controlled the front and back operations of investment.
- ◆ Chiyoda Life was required to have “finances that could contribute to sales results” in the late 1980 and therefore often made investments and loans in return for contracts entered into by corporate customers. This was called “unified activities of sales and finance departments.”
- ◆ As a result of stock purchases made in response to requests from the corporate sales department, the balance of stocks as of the end of fiscal 1989 tripled from the level as of the end of fiscal 1986.
- ◆ Chiyoda Life couldn't accelerate its sell-off of these stocks even after its business deteriorated and became saddled with latent stock losses worth more than ¥100 billion, starting at the end of fiscal 1997.

### Sold the saving products,

- Among those insurance policies, single premium endowment policy happened to have various maturities (an insurer usually sold 5-year and 10-year maturity products), and 6-year maturity endowment insurance started attracting a lot of attention as a tax-saving product at a certain point in time with customers lining up in front of branch counters to buy the insurance, according to parties concerned.
- Head office staffers at that time say, “Media advertised the insurance on their own” “This was the first and last time that we saw customers standing in line in front of sales windows to buy our insurance products.”
- Department heads or those in higher positions at that time were desperate to “regain lost ground.” “Since Kanzaki became president, our major performance indicators such as insurance-in-force, total asset and premium revenue had recovered, and external parties started calling us one of the ‘eight life insurers,’” says a staff member in the planning department.
- Kanzaki was very popular among sales personnel. However, “the insurer’s comeback as a major player happened to coincide with the beginning of the bubble economy, which probably resulted in significant impact on the company,” according to another staff member in the planning department.

# Chiyoda Life

## Increasing the liability of Group Annuity

	<FY 1986>		<FY 1989>		<FY 1995>	
	Chiyoda	All companies combined	Chiyoda	All companies combined	Chiyoda	All companies combined
<b>Individual insurance</b>	63.1%	74.8%	56.0%	67.0%	41.9%	55.8%
<b>Individual annuity</b>	3.5%	2.9%	7.8%	6.8%	8.2%	9.5%
<b>Group insurance</b>	0.5%	1.2%	0.3%	1.1%	0.3%	0.4%
<b>Group annuity</b>	32.7%	20.2%	35.6%	24.2%	49.3%	33.2%

This table shows the component of the premium reserves by the kind of products. The portion of "Group Annuity" increased every year.

(Source) "Life Insurance Statistics"

## Chiyoda Life

This product component requested the high return investment strategy

- While selling a large volume of high-yield, high-dividend savings-type products in the late 1980s, “the company increasingly leaned toward loans to real estate-related companies and nonbanks, stock investment, and other risky investment instruments such as *tokkin* specified money trust and structured bonds to secure high-yields” (quoted from the insurer’s rehabilitation plan).
- **During a two-and-a-half-year period from 1988 through 1990**, the company executed a substantial number of large-lot problematic deals including those with the Yokoi group, Aichi, Matsumotoyu Shoji, Aijishi and GGS Co.
- **Looking back, many say, “These things all happened just in a short period of time” “We suddenly realized that it was too late.”**
- Those close to President Kanzaki largely got involved in investments and loans that turned nonperforming later. Several head office staffers at that time say, “Kanzaki was not a type of person who directed someone to do something or made proposals on his own” ....
- “He was not a sort of person who could act arbitrarily on his own authority. In the first place, he was not able to do anything on his own” .... “These investments and loans were largely executed by people called ‘President Kanzaki’s right-hand men’ including Mr. A in charge of financial affairs, Mr. B in charge of sales and Mr. C in charge of real estate deals.”

### Mr. A, improper personnel change

- Of those people, Mr. A, who was put in charge of financial affairs in 1987, appears to have played a significant role.
- Many head office staffers at that time say, “Kanzaki made a big mistake in personnel changes (staff deployment). That is, his mistake was to put Mr. A in charge of financial affairs” .... “While assets were surging, Mr. A was assigned the task of managing financial affairs and injected massive funds into problematic deals. Several years later, most of such deals turned nonperforming.”
- Mr. A, who took charge of financial affairs, made his mark after Kanzaki became president, but had no experience in finance at all, according to staff in the planning and financial affairs departments at that time.
- He advocated “aggressive finance (positively speaking)” after pushing away an executive in charge of financial affairs, his predecessor, and taking power. He was a self-confident person and apparently didn’t think that others would deceive him. As a result, he executed fishy deals introduced by young employees in the corporate insurance department one after another.
- Mr. A is said to have started directly meeting men cashing in on the bubble economy later, but in reality, “he was more like being deceived by these men” (according to a staff member in the financial affairs department).

### Nobody could stop Mr. A

- All of the personnel in the financial affairs department initially participated in meetings on Chiyoda's asset management policy, but "the number of participants gradually dropped to reduce criticism, leading to the system in which a person brought his plan directly to Mr. A", says a staff member in the planning department.
- The press also reports, "The head of the financial affairs department, a close ally to the president, went to the president's office beforehand and decided on everything. Managing directors all just agreed with what Mr. A said at a meeting because they knew that everything would be over if they raised any objection" (the evening edition of The Yomiuri Shimbun, dated January 10, 2001), thus supporting what the previously-mentioned staff member testifies.
- "I didn't know what Mr. A and several others were actually doing even though I was also in the financial affairs department," says a staff member in the financial affairs department. "In many cases, President Kanzaki learned about deals only after they were already executed. He stepped in sales activities, but when it came to financial matters, he apparently thought that it would be OK to just rely on Mr. A," says a head office staffer at that time.
- A staff member in the financial affairs department admits, "After all, nobody could stop what Mr. A did. Employees within the department who expressed their opinions to Mr. A were transferred to other departments or removed from their positions.
- We had traditionally had few employees going against their bosses. None of us interfered with Mr. A because we knew that he was supported by President Kanzaki and saw several people ousted after actually raising objections."

## Chiyoda Life

### Management Change: Credit uncertainty and outflow of policies in force

- While the insurer's latent stock profit recovered to ¥200 billion with the rebound of the stock market in fiscal 1995, its deteriorating financial standing became well known to the public, triggering withdrawals of group annuity contracts. When U.S. affiliated rating agency S&P released the ratings of major eight life insurers in January 1996, the company was rated "B," the lowest among the eight insurers.
- After Nissan Mutual Life went under in April 1997, Chiyoda Mutual Life became targeted by the media as the "life insurer likely to fail next." Moreover, policy cancellations further rose amid growing concerns over the financial system. "Each time the burned-out site of Hotel New Japan was covered by TV as an icon of a risky life insurer, a large number of contracts were withdrawn. Major insurers also spread harmful rumors against the company when marketing their products. The mass media obtained stories about the insurer from the information leak incident, and their coverage had significant impact on the company's business," according to head office staffers at that time.
- However, the management is said to have shown no clear policy. In 1996, Yoneyama assumed the company's presidency, while Kanzaki stepped down and became Chairman. A head office staffer at that time says, "Grasping the whole picture of the financial condition of the company after he became president, Yoneyama said, 'I have never thought that our financial standing is as bad as what I've just found.'" However, he didn't show any plan to consolidate the company's operations yet.



## Finnal

- While the prices of shares held by the insurer again plunged, full-fledged tie-up negotiations with a foreign company resumed in the second half of fiscal 1999. Amid extremely severe external environments, “we found its business results worsened every time data was updated,” according to a staff member in the planning department.
- After all, the company failed to form a partnership with the foreign company partly because it was unable to obtain additional financial assistance from close financial institutions.
- It filed for corporate rehabilitation proceedings with Tokyo District Court on October 9, 2000. A head office staffer at that time explains the background leading to the failure in negotiations, saying,
- “In the tie-up negotiations, the foreign company sought to eventually form alliances with financial institutions close to us, along with a partnership with us. The realignment of the financial sector upset the plan.”

# Chiyoda Life

## Actuary

- During the time when Kanzaki served as president, a business monitoring function within the insurer didn't work well. Actuaries, experts in actuarial science, were no exception.
- Actuaries were not considered as important within the Chiyoda at that time. The Chiyoda Life did not have an independent actuarial department as other companies did and its actuarial division was put within the planning department. This is a piece of evidence suggesting that the actuarial operations were not valued within the insurer.
- "We were called 'mere calculators' by the management. They apparently thought that actuaries were 'only needed to satisfy the requirement set forth under the Insurance Business Law' and that 'the monitoring by the regulatory authorities would be enough,'" says a staff member in the planning department.
- The management is said to "have talked about their actuaries as convenient, but unreliable people," according to a head office staffer at that time.
- The company's actuaries are said to have lost the management's trust as a result of failing to well respond to inquiries made by the Ministry of Finance in the 1970s, when the insurer was struggling with a business slump. "In the 1980s, the number of actuaries was small for the company's size and its actuaries especially had little power against the sales department," many staff members in the planning department admit.

# Case 4

## Kyoei Life

“Managerial vacuum” caused failure



# Kyoei Life

## The transition of the amount of assets

Kyoei Life			All Insurers		
FY	Total asset (billion)	Year to year	FY	Total asset (billion)	Year to year
1985	1,212.4	20.5	1985	53,870.6	17.8%
86	1,603.7	24.0	86	65,317.2	21.2%
87	1,899.6	26.3	87	79,268.4	21.4%
88	2,460.1	29.5	88	97,082.8	22.5%
89	3,000.9	22.0	89	117,343.9	20.9%
90	3,534.3	16.7	90	131,618.8	12.2%
91	3,934.3	12.3	91	143,234.1	8.8%
92	4,480.4	13.9	92	156,011.1	8.9%
93	5,064.1	13.0	93	169,122.1	8.4%
94	5,435.7	7.3	94	177,965.5	5.2%

## Kyoei Life

- Kyoei Life did not get involved in high-risk real estate investment and loans during the bubble period.
- Its managers and people close to them did not go to extremes.
- What proved fatal was a large negative spread incurred each year as the company sold single-premium endowment insurance from the latter half of the 1980s to the 1990s.
- Kyoei Life initially took an independent path, but it later followed the footsteps of other insurers and began aggressively selling single-premium endowment insurance.
- The company continued to sell it until the mid-1990s, even after its rivals stopped doing so.
- Failure in asset management made things worse. In the latter half of the 1990s the company rushed to high-risk securities investment in a bid to shore up the three types of profit, but ended up with a large loss each year.

## Kyoei Life

- Kyoei Life sold protection-type products through groups with which it had formed partnerships. With this unique business model, the company achieved growth.
- Assumed interest rate was 3.75%, lower than other insurers. “Our company was constantly looking for a niche market... Other companies said that ‘Kyoei Life’s insurance is hard to understand,’” said the head office staffer at that time.
- In the mid-1980s, “The sales staff began demanding, ‘let us sell single-premium endowment insurance (like other companies).’
- ‘Kawai, who had been reluctant to sell this insurance, changed his policy in 1987. The company belatedly started aggressively selling this product and raised the assumed interest rate to 5.5%, about the same as offered by other companies,” say the actuarial staff at that time. In this connection, there were conflicting witness accounts. One said, “We started with a low assumed interest rate but various things pressured us into raising it to the level of other companies.”
- Another said, “The actuary at that time recommended raising the assumed interest rate and even brought in an actuary from another company to persuade Kawai.”

## Kyoei Life

- “Mr. Kawai had become old and lost his youthful energy by the second half of the 1980s.
- He retired from the director’s post in 1992. Even after his retirement, the management was unable to make decisions without consulting Mr. Kawai. Mr. Kawai should not have been fit to make proper judgment at that time, but the managers were unable to get together and address important issues of the company as they were supposed to do.
- Even when Mr. Kawai was close to death, the managers went to the hospital where he stayed to seek his approval,” says a head office staffer at that time.
- Another head office staffer says, “In the mid-1990s, the managers belatedly agreed that a change of generations was necessary and tried to rejuvenate the board of directors in 1996.
- As previous members of the board remained with the company as advisors, the overall situation changed little.... From the latter half of the 1990s the board of directors frequently held a meeting but mostly ended up with a weasel-word resolution.”

## Kyoei Life

- “Mr. Kawai thought he had retired from active duty in 1992. When his successors asked him for advice, Mr. Kawai merely expressed his feelings. Kyoei Life’s managers interpreted Mr. Kawai’s words in any way convenient to themselves....
- They made decisions based on their guess about Mr. Kawai’s intentions. So they made an incredible blunder such as getting a large volume of contracts that would instantly create a negative spread.
- Mr. Kawai himself should not have known that things were as bad as this,” says an actuarial staffer at that time.



## Kyoei Life

- “The actuarial division started a future cash flow analysis around 1990 at Kawai’s instructions.
- It became obvious that ‘disastrous results’ lay ahead. However, in the expectation that ‘the external environment will change in 10 years’ time,’ the company did not take drastic action such as discontinuing sales.
- Kawai merely showed displeasure when this matter was brought to his attention. He must have thought that, as the product had a 10-year maturity, things should improve during the life of the product,” according to the actuarial staff at that time.
- “In 1992 or so, even salespeople began to ask ‘is it all right to continue to sell in this way?’ The executive in charge of sales (who was one of those close to Kawai) opposed to the discontinuation of sales, and there was no way to put a brake on the sales drive,” says an actuarial staffer at that time.
- The chances are that the executive in charge of sales had a poor grasp of the precise details of the company.

## Kyoei Life

- Kyoei Life was quite secretive about its own affairs and made sure that its real situation was visible only to a few executives. A certain actuarial staffer of the time says that Kyoei Life was far from restraining the sales of savings-type products and sold a large volume of group survivor's insurance with high assumed interest rate in 1993 or so.
- The company finally stopped selling single-premium endowment insurance in 1994, the year when it posted a current loss. "It was too late," said a head office staffer at that time.

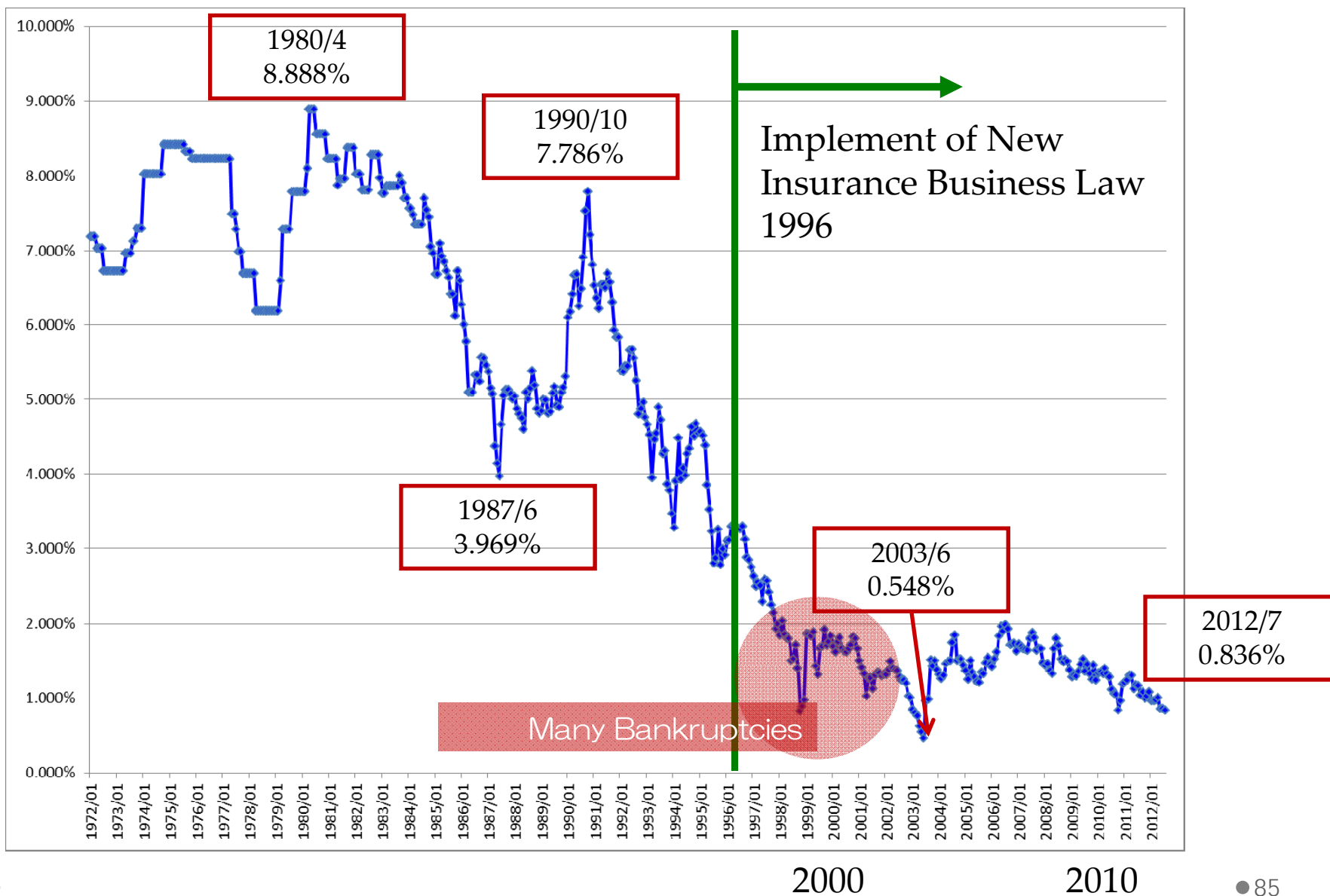
## Kyoei Life

- Founder Kawai was an actuary and made judgment about anything by looking at figures and going into details.
- The numerical data was prepared by another actuary—Mr. B, Kawai’s protege. According to the parties concerned, Mr. B was described as “Kawai’s arms” and “Kawai’s electronic calculator” from the early 1980s onward.
- From the mid-1990s onward, anyone who made a future cash flow analysis should have realized that the company was in a real mess. But it seems from the comments of the parties concerned that the actuary did not inform the management of his findings.
- “Mr. B was secretive. He exercised control in such a way that the real situation was visible only to a few executives. He was worried about the impact of disclosure of the truth....”
- Mr. B concealed the truth by saying that ‘this would be misleading for nonprofessionals,’” according to the actuarial staff at that time. “The available data did not reveal what was really going on. No explanation was given. I was shocked when I learned the truth around 1998,” a head office staffer at that time says. “Mr. B was aware of the reality of the business from early on and must have had real concerns. But he was no help (when it came to a tie-up with an outside partner),” says another member of the actuarial staff.

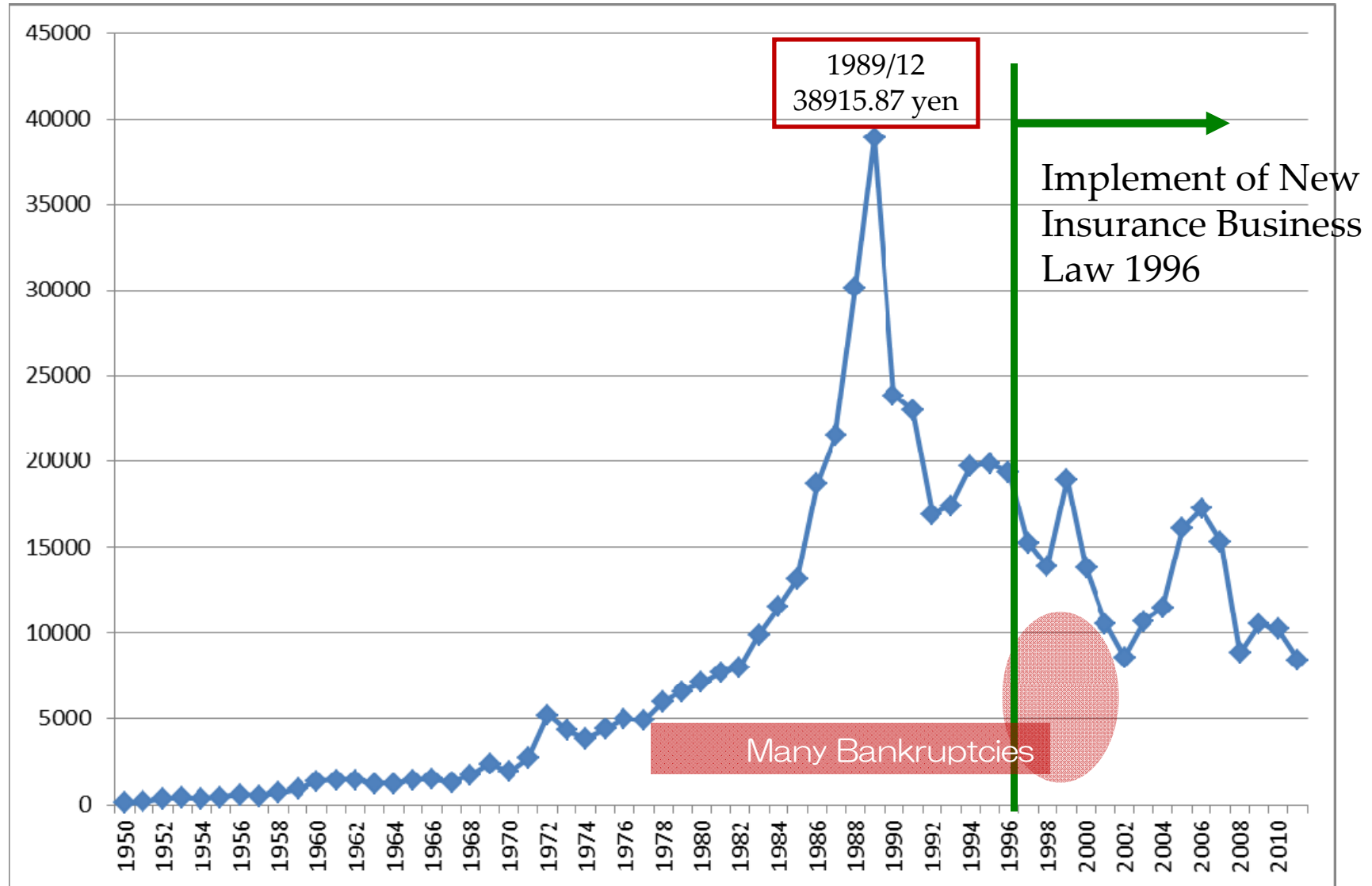
# Exercise 1



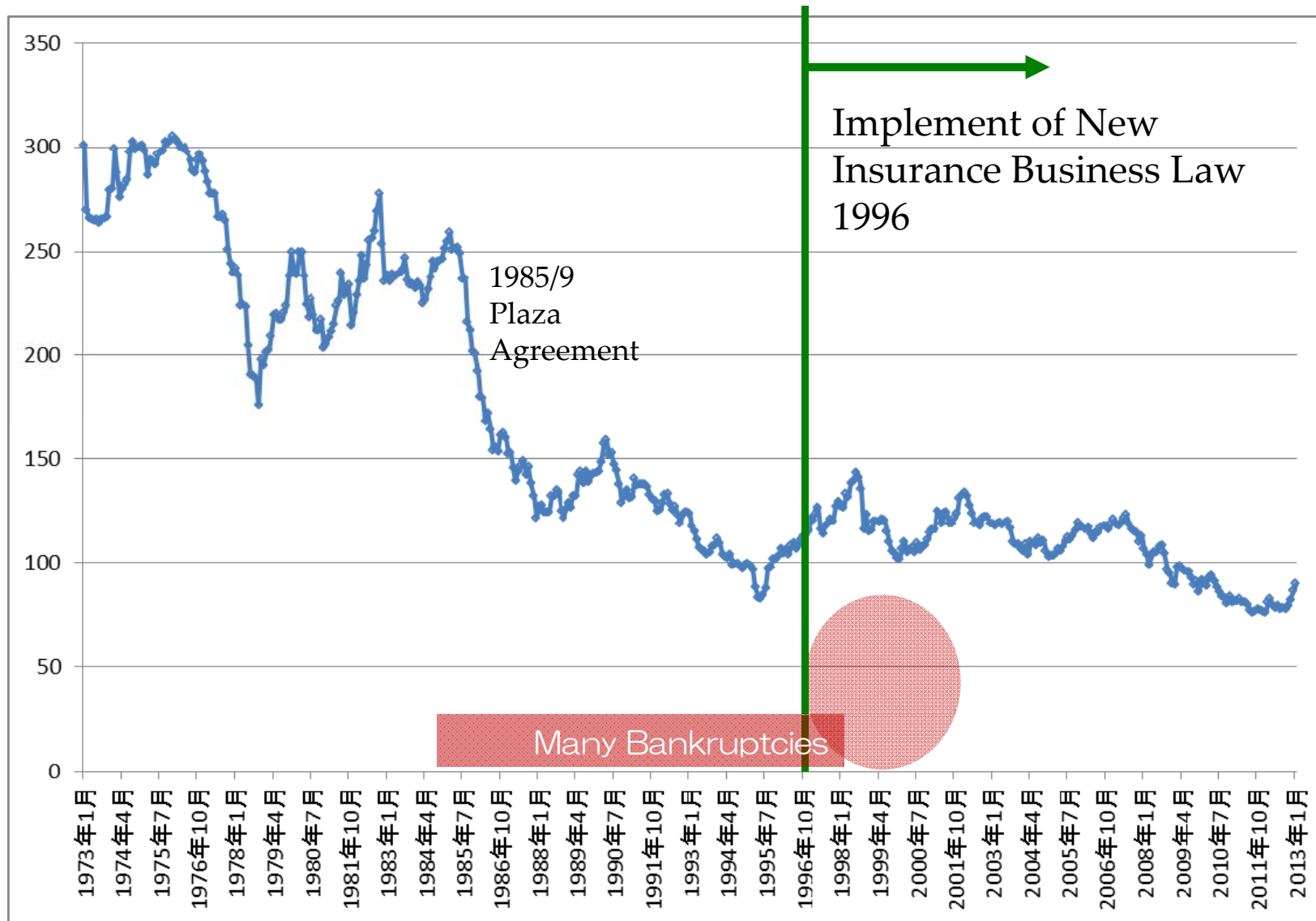
# 10 years JGB Earning rate past 40 years



## Year end values of stock (Nikkei Average) 1950~



# Yen Dollar exchange rate



## History of overseas investment

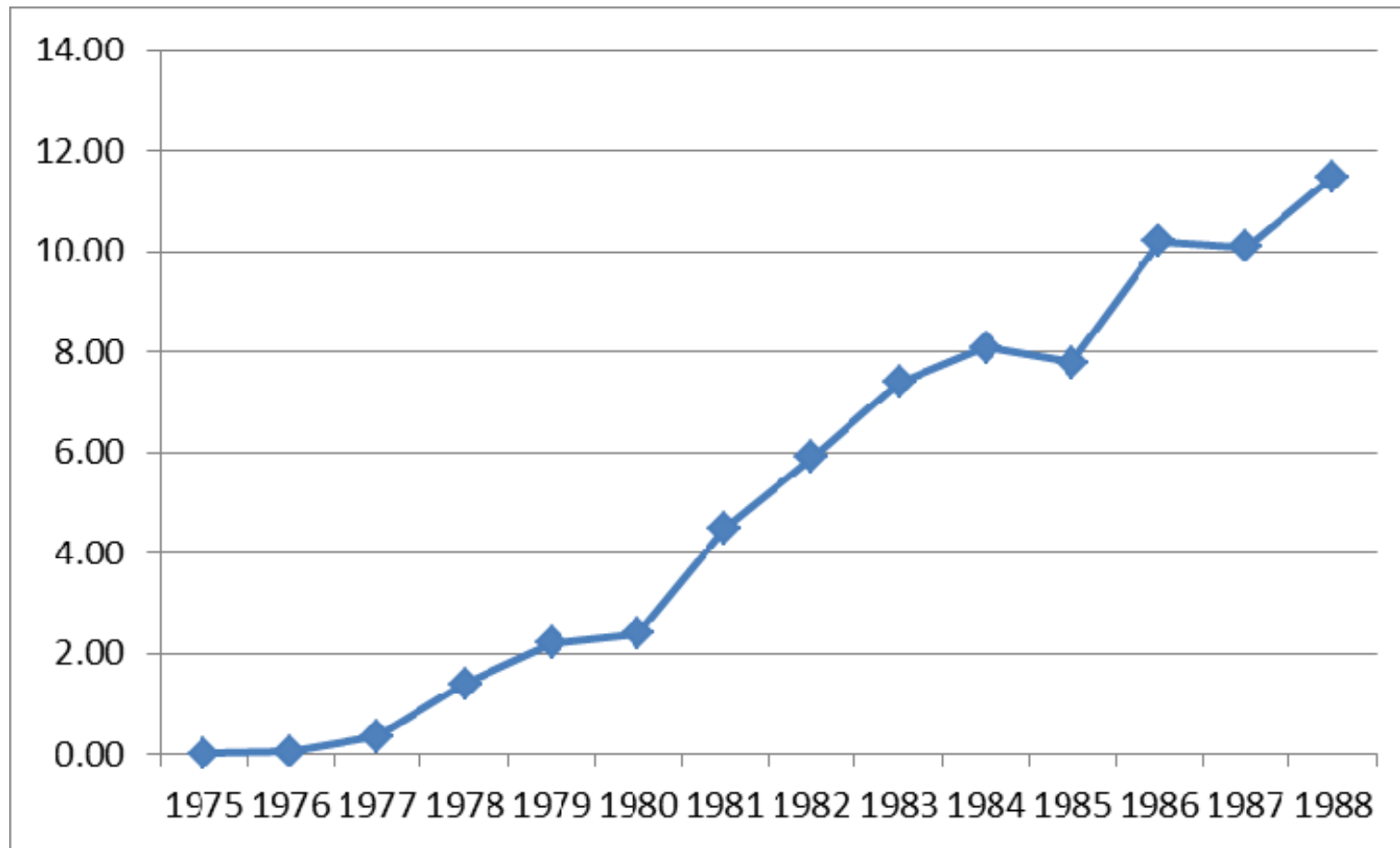
Before 1997, the source of the policyholders' dividend was income gains only, we could not pay the dividend from the gain on disposal.

- 1977 Japanese distribution yield became lower than US.
- 1980 Amendment of the Foreign Exchange and Foreign Trade Control Law (foreign exchange law), the trading became free.
- 1981 US distribution yield rate went up to 13%.
- 1985 Plaza Agreement, it led the steep appreciation of the Yen
  
- Whole Japanese life insurance industry, in 1975 the amount of foreign bond was 3.4billion yen as its total, but it went to 11 trillion yen in 1988.
  
- 1985 It was exposed that big exchange losses 940 billion yen
- 1986 exchange loss 1 trillion yen
- 1987 exchange loss 1.5 trillion yen
- 1988 exchange loss 500 billion yen
- The hedge loss was also appeared.



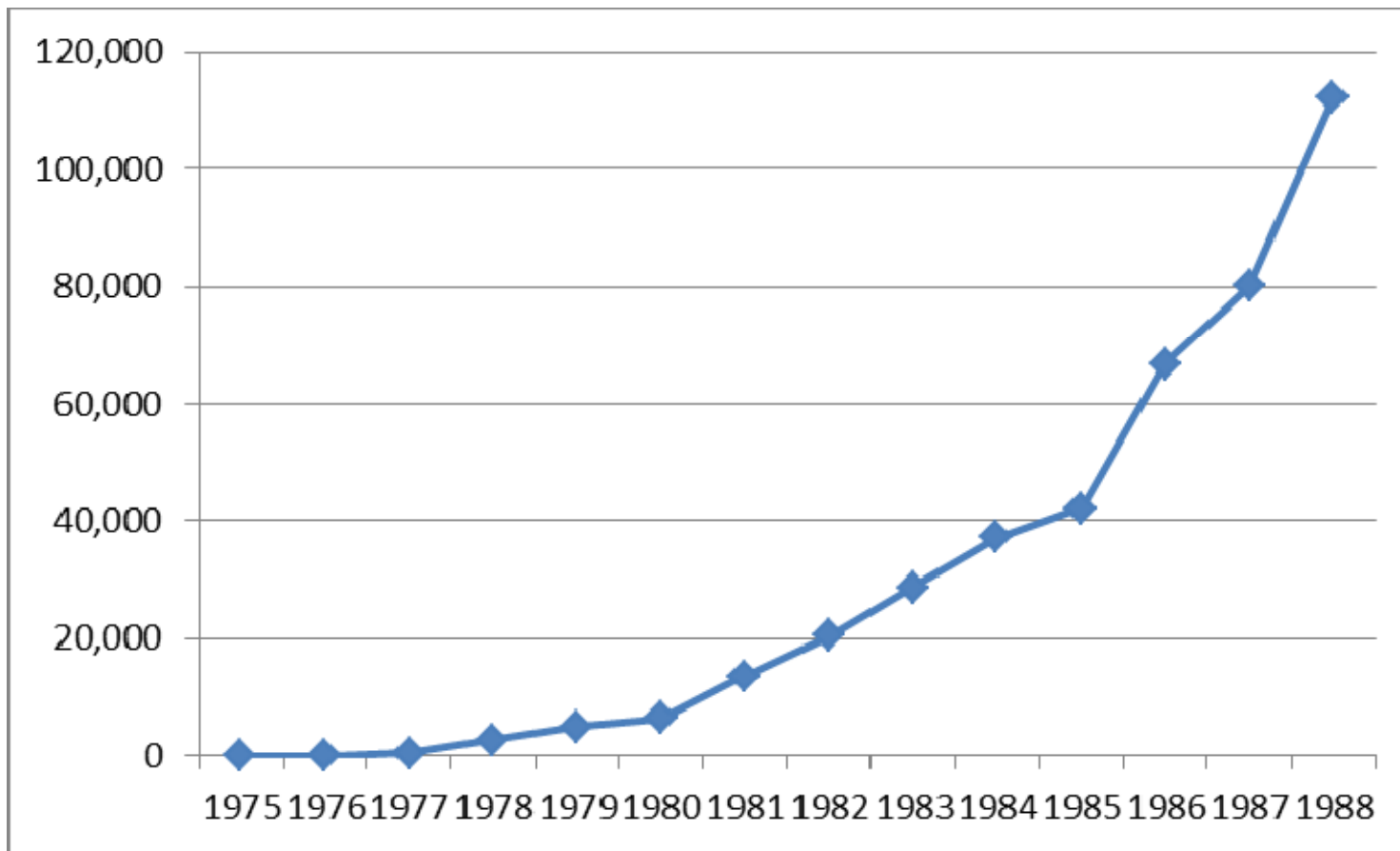
## Overseas investment

The transition of the portion of the overseas assets among the investment assets



## Overseas investment

The transition of the amount of the overseas assets (foreign bonds only)  
(Unit 100 million yen)



## Now, it's your turn

### Exchange Loss

- 1985 It was exposed that big exchange losses 940 billion yen
- 1986 exchange loss 1 trillion yen
- 1987 exchange loss 1.5 trillion yen
- 1988 exchange loss 500 billion yen
- The hedge loss was also appeared.

Many people in those days had the following opinion in the middle 1990.

- We need the interest gain. (income dividend principle)
- The appraisal value of the stocks would cover the exchange loss
- The Nikkei average reached its high mark in 1989
- Interest gain from the foreign bonds makes the huge exchange losses, but these losses would be offset by gain of disposal of holding stocks.
- Japanese government also boosted the overseas investment.
- It was a rational decision to invest to the foreign bonds or securities, because the JGB's earning rate became low.
- The same kind of strategy was adopted by the other insurers.
- There were pessimistic opinion that the current financial situation leads the serious problem. But many professional economists said, "in ten years time, it will be regained".

## How will you say to president?

We assume we were in the mid 1980s. You were a young employee of a Japanese life insurance company. You were an audience of president speech. The title of the speech is "future of our company." President said "We will expand our sales of the single premium endowment policies", and he secured the financial soundness which was supported by having a strong showing of the stock market. And finally it had a discussion. Could you say to president "No, you are wrong, your strategy will be failed"?

# Exercise 2



## About SOA

### First Paragraph

An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs.

- 1) They evaluate the likelihood of those events,
- 2) design creative ways to
  1. reduce the likelihood and
  2. decrease the impact of adverse events that actually do occur.

Using the above concept of Actuary, what would we do for those failed insurers from the actuarial viewpoints?

## Developing the regulatory framework for Solvency II

### Solvency I

- Framework dates from 1980s
- 14 Directives
- 'Prudent' valuation of liabilities reflect local accounting practices, non-harmonized valuation of TP
- Simple 'volume-based' capital requirement
- Asset risk managed by quantitative restrictions
- Diverging supervisory practices

### Solvency II

- Three pillar structure
- A risk-based approach
- Unified legislative basis for prudential regulation of insurers & reinsurers
- Employs Lamfalussy arrangements (agreements)
- Non-zero failure regime (explicit ruin provability)
- Two capital requirements
- Market consistent valuation
- Importance of risk management
- Streamlined group supervision

## WHAT IS ORSA

ORSA (Own RISK and solvency Assessment)

- is a process for a overall and holistic risk understanding, viewed from the management and/or supervisory body
- provide a comprehensive picture of the company's risks
- gives the supervisor insight into the level of quality of the management and/or supervisory body's risk understanding
- connects full risk picture with risk management system and internal control system
- is a process which captures risks long time before they can be quantified
- is a process which uses unquantifiable knowledge about risks
- Is not a new ruled-based solvency calculation
- Is not a pre-defined process. The undertaking needs to develop its own efficient assessment process within the framework of "self-assessment"
- Is not a process – key-function – which as a starting point can be outsourced.
- Is not a process with one concrete number as output



## ORSA - it all starts from the top

ORSA – it all start from the top

- Are the persons effectively running the undertaking's possibilities to use common sense and prudent thinking,
- Are the persons effectively running the undertaking's means to regain a comprehensive overview over the undertaking's risks and "Overall solvency need"
- is a key-function of the persons effectively running the undertaking
- is a ongoing, task where one of the outcome is to keep the persons effectively running the undertaking's aware of the impact of own risks on the overall solvency need at all time
- is a ongoing task, where one of the outcomes is to identify strengths and weaknesses in governance and in the organization
- is a decision-process of how to mitigate risks by capital, reinsurance, organizational actions and other risk mitigating activities
- is a process which involves all persons effectively running the undertaking

## Outstanding Issues

### **The importance of the reputational risks**

- Financial risks and other risks must be converged to the reputational risk.
- But no one knows if the quantification of this risks is the best way to express the reputational risks.
- Someone aspects say that the reputational risk is too late to handle in the risk management.
- But for the next decade, we have to study the reputational risks first.

### **The improper person to the improper positions**

- Especially the executive position, the assignment of improper person must be a risk.
- But it is very hard to declare that some person is in the improper position after his occupation.
- We do not have the exact answers.

## Outstanding Issues

### The next big issue is the role of the punishment

- serious punishments sometimes make person to hide the true things.
- but no punishment concludes the idle atmosphere in the work place.
- This is also the big issue of the risk management.
- For the rigorous risk management, we need to make certain atmosphere in the company; someone recognize some misconduct, then he has to report the facts to the suitable person.
- We have to make sure the role of the punishment.

#### Example

- If he make a mistake by accidents, then he will not be punished.
- But he hides this mistake or he does not do appropriate actions after the accidents, then he will be punished
- **Most important thing is the mistake shall be known by everybody, and the mistake and its recovery shall be in the list of lessons to learn.**
- We have to share the information among everybodday.

Thank you for your attention

