

Product Development and Control of Pricing Risk

February, 2012

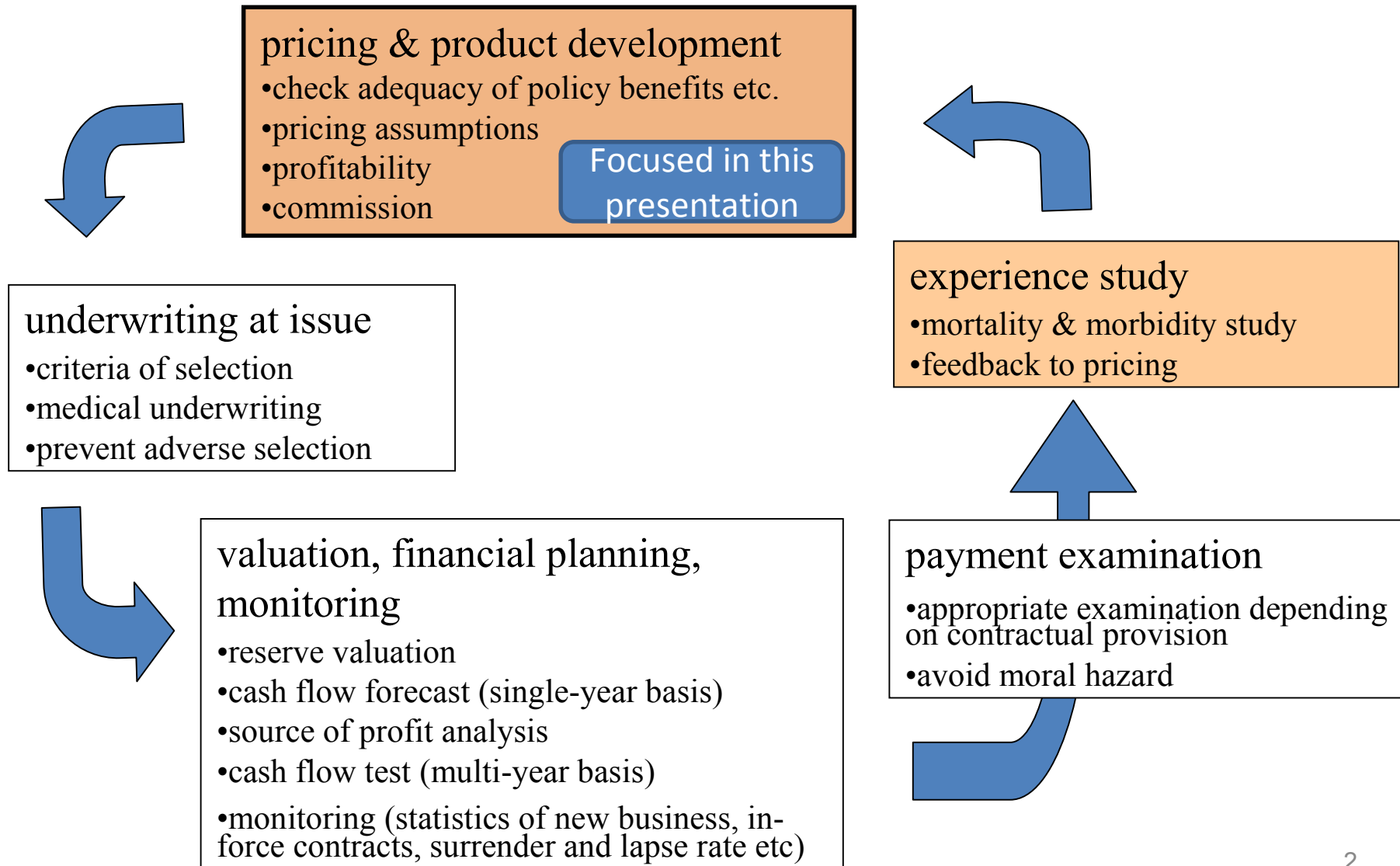
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The Dai-ichi Life Insurance Company, Limited

Risk Management Cycle of Insurance Underwriting Business



Today's Agenda

□ Product Lineup

Individual Life/Annuity - Dai-ichi Life

Individual Life/Annuity - Dai-ichi Frontier Life

Group Life - Dai-ichi Life

□ Pricing & Product Development

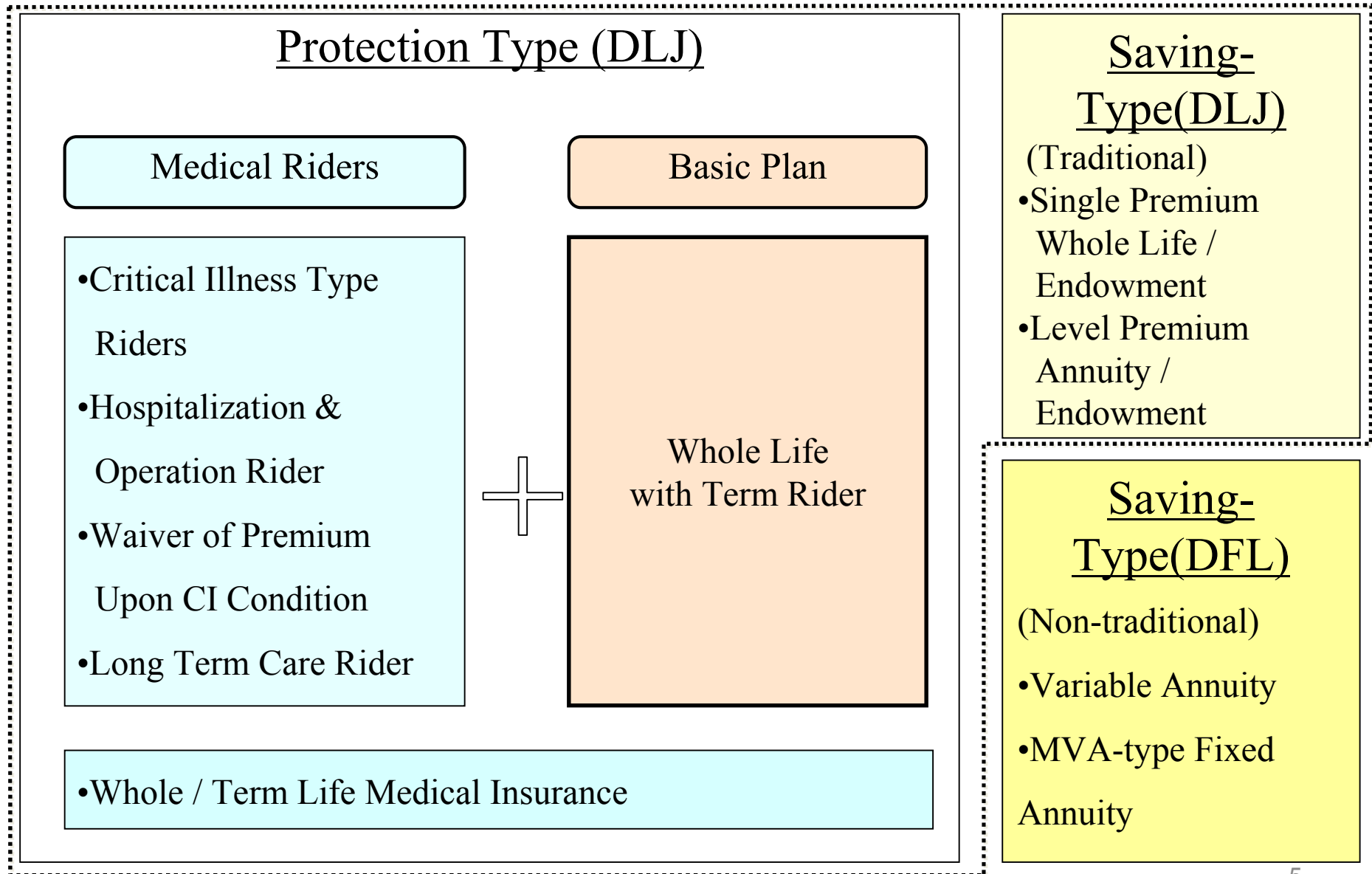
□ Mortality / Morbidity Study

Appendix: Effect of The East Japan Earthquake

Product Lineup

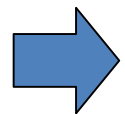
Products in
Dai-ichi Life (DLJ) and
Dai-ichi Frontier Life (DFL)

Product Lineup in Summary – Individual Life



Insurance Products - Traditional -

- Individual Life Insurance (Basic Plan)
 - Endowment Insurance
(Level Premium, Single Premium)
 - Whole Life Insurance
(Level Premium, Single Premium)
 - Whole Life Insurance With Term Insurance Rider
 - Whole/Term Life Medical Insurance
 - Child Education Endowment Insurance
 - Individual Annuity (Level Premium)



Sold by Dai-ichi Life through Captive Agent Channel

Insurance Products

- Non-traditional Saving Type -

- MVA-type Fixed Annuity
 - The funding rate for new business is reviewed twice a month depending on market interest rate.
 - “Market Value Adjustment (MVA)” is introduced to offset fluctuation of bond market price on surrender.
 - Foreign currency denominated type is popular under ultra-low interest rate environment in Japan
- Variable Annuity
 - Wrap of investment trust fund with tax merit
 - + guarantee ROP on death / maturity
 - Relatively high commission rate



Sold by Dai-ichi Frontier Life through Bancassurance Channel

Individual Life / Annuity
Dai-ichi Life (DLJ)

(Popular) Critical Illness Riders

- Three Major Disease Term Protection Ins. started to sell in 1993. Add rider type in 1996.
- Living Needs rider in 1994.
- Disability Protection rider in 1997.
- LTC rider in 1999.
 - Scope of cover expanded in 2001.
 - Whole life type LTC in 2002.
- Specific Condition Disability Rider in 2004.
 - Scope of cover includes all three major disease, disability, and LTC benefits.
 - Sold as “Disability Income” product.

Benefits Covered in CI Riders

Rider	Benefit
<p>Three Major Disease Term Protection Ins. (or Rider)</p>	<ul style="list-style-type: none"> ■ Cancer, Stroke, Heart Attack are covered as well as death benefit. (Acceleration type benefit) ■ Breast cancer is not covered for first 90 days. ■ Cancer is paid upon diagnosis, but stroke and heart attack are paid on condition that insured survives but can not work for 60 days.
<p>Disability Protection</p>	<ul style="list-style-type: none"> ■ Paid upon specific physical condition such as Blindness, loss of hearing, loss of speech, loss of one limb, major organ impairment etc.
<p>Long Term Care Rider</p>	<ul style="list-style-type: none"> ■ Paid according to ADL (activities of daily living) condition ■ Compatible to Public LTC insurance's 2nd grade benefit. Not directly linked to public LTC insurance definition, though.
<p>Specific Condition Disability Rider</p>	<ul style="list-style-type: none"> ■ Annuity (Whole life or Limited period survivorship) is paid when insured applicable to one of three benefits above.

(Popular) Medical Benefit Riders

- Comprehensive Medical Care Rider
 - Daily Fixed Amount per Hospitalization
 - Operations
- Lifestyle-related Disease Hospitalization Rider
- Female Disease Hospitalization Rider
- Female Specific Treatment Rider
 - Women Specific Operations, Breast Reconstruction
- Accidental Death Rider
- Injury Rider
- Specific Damage Rider
 - Bone Fracture, Bone Dislocation, Tendon Rupture

History of Hospitalization Rider

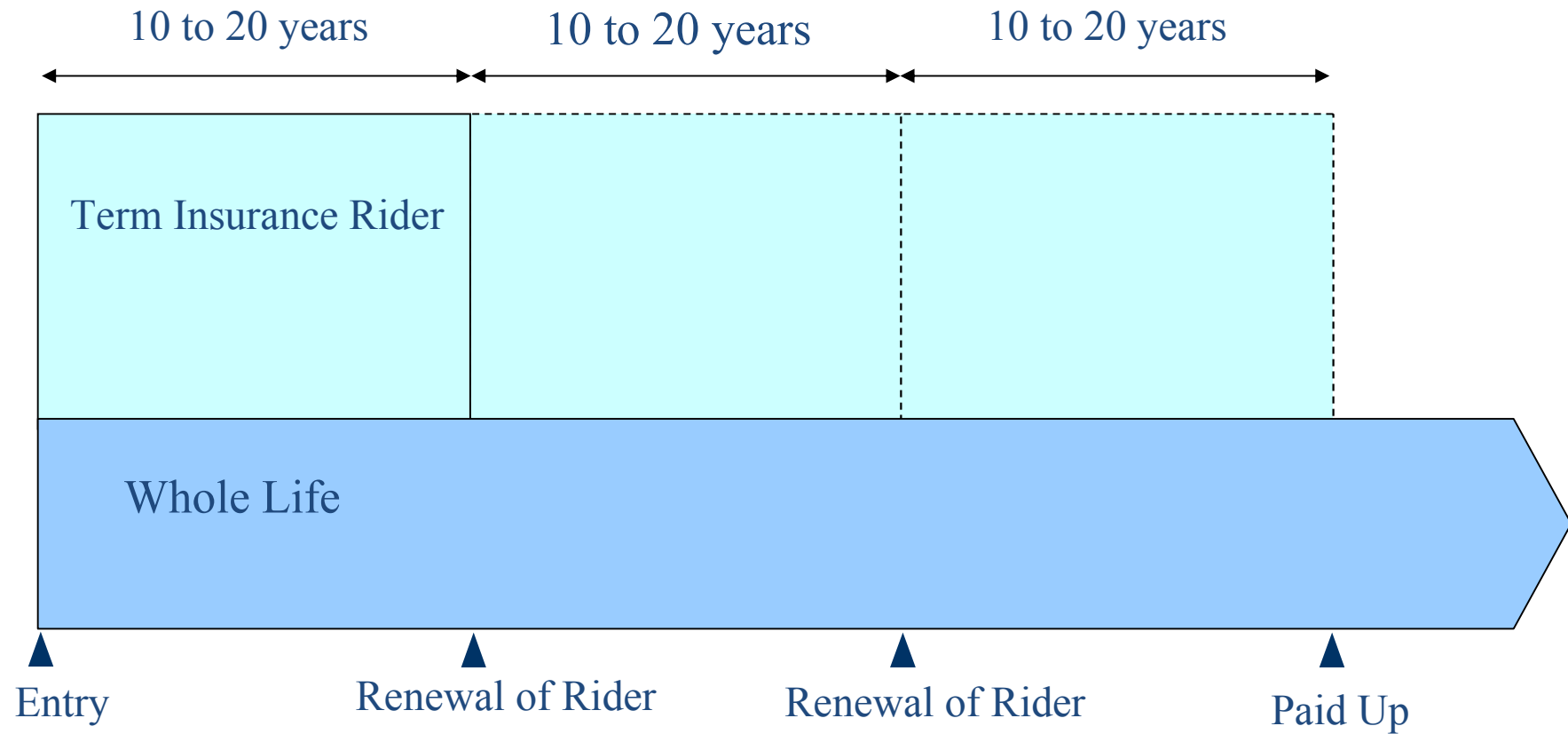
- Accidental death rider, Accidental hospitalization rider started to sell in 1960s
- Disease hospitalization rider started in 1974.
- Since then, Lifestyle-related disease hospitalization rider, Female disease hospitalization rider, Outpatient hospital rider, etc. have been developed.
- The newest riders are Specific damage rider and Female specific treatment rider.
- For hospitalization riders, they used to cover hospitalization over 20 days. Now, they cover hospitalization over 1 day.
- They used to cover until age 80, but now they can cover for life.

Whole Life

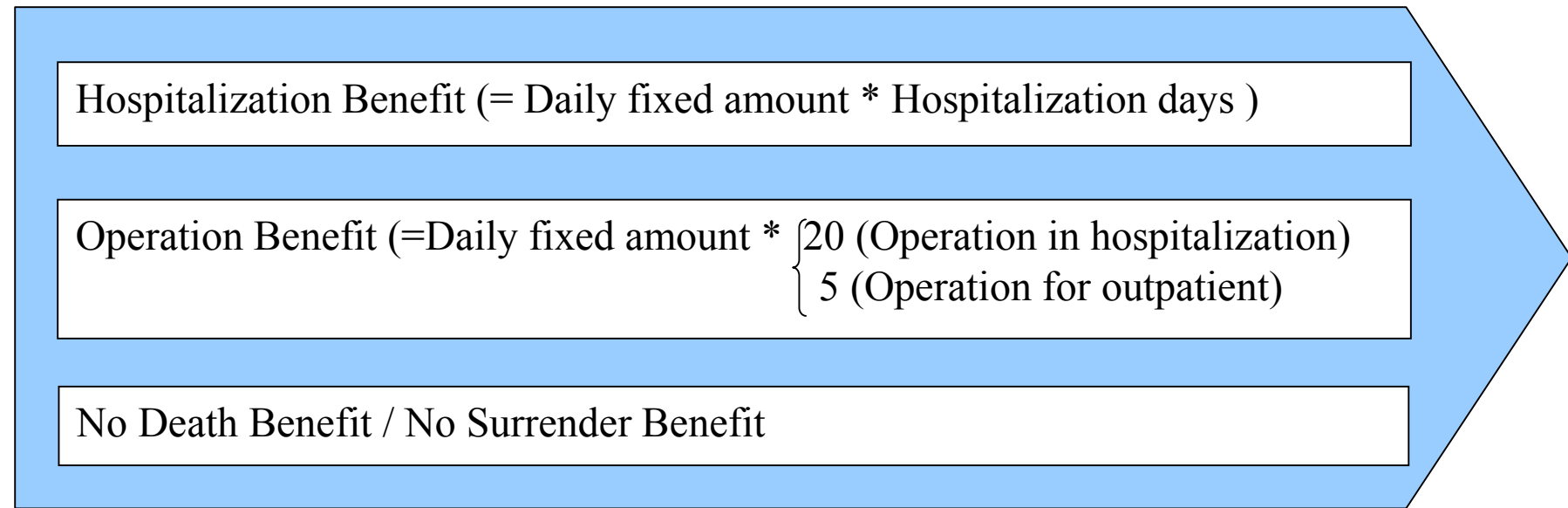


- Premium Mode: Regular (Annual, Semiannual, Monthly)
- Dividend Payment Mode:
 - Annual
 - Every five years
- Assumed Interest Rate = 1.5% - 1.65%
 - Standard rate for statutory reserve is 1.5%
 - Depends on dividend payment method (Annual or Every five years)

Whole Life with Term Rider



Whole Life Medical Insurance



Entry

#1 Option to Hospitalization Benefit

If Type B-> The hospitalization benefit is double in case of lifestyle-related diseases

If Type C-> The hospitalization benefit is double in case of women specific diseases

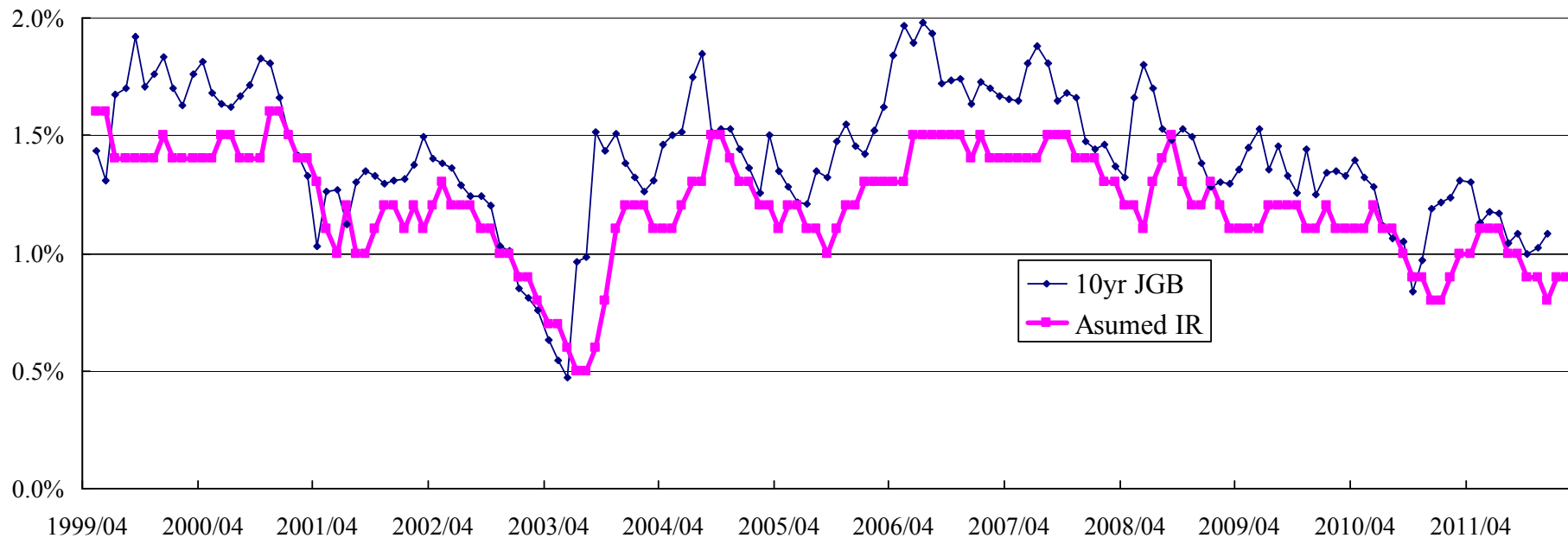
#2 Addition to Operation Benefit:

Radiation treatment benefit= Daily fixed amount * 10

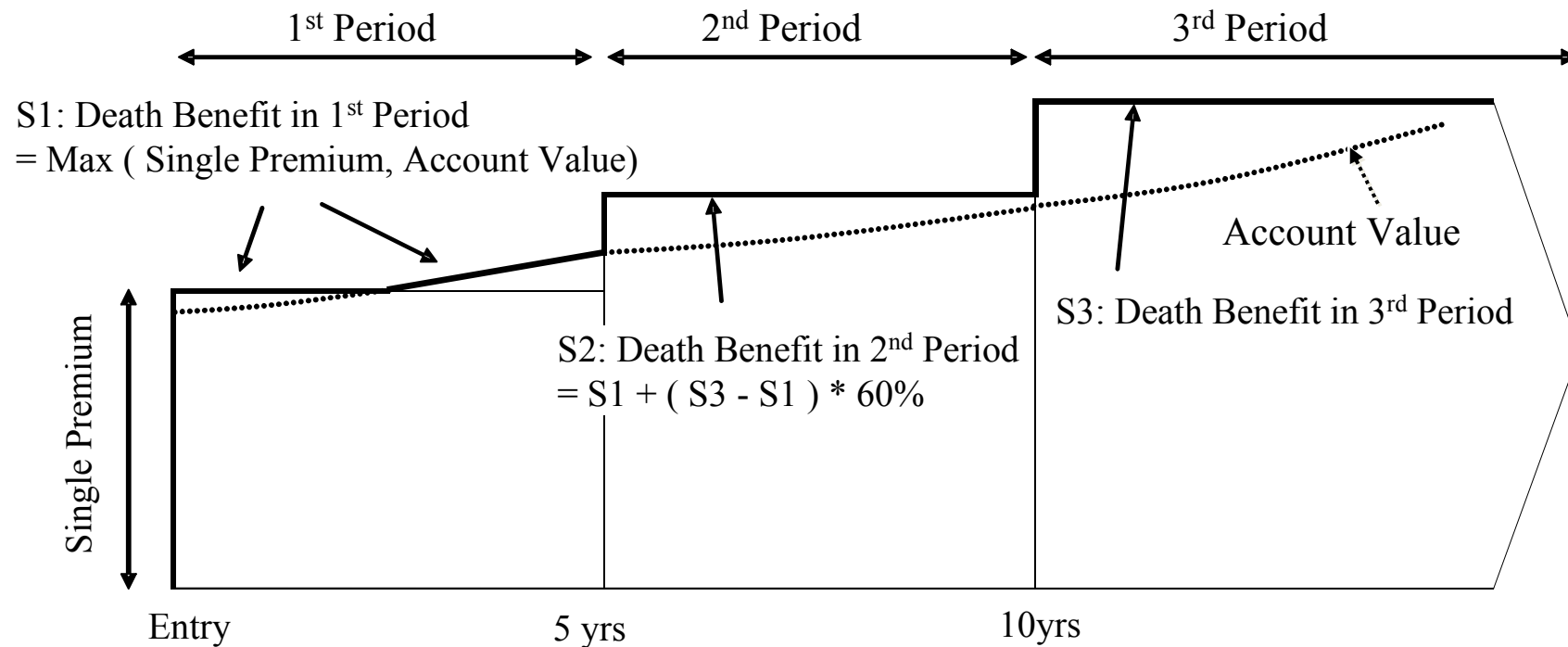
Single Premium Endowment



- Premium Mode: Single
- Assumed IR is Set at the Beginning of Each Month Based on the Yield



Single Premium Whole Life



- Premium Mode: Single
- Assumed IR is Set at the Beginning of Each Month Based on the Yield

Summary – Individual Life of DLJ

- Protection Against the Risk of Longevity

- CI & medical riders attached to whole life insurance.
 - > Sold in one package
- Strengths of DL in terms of products are
 - Specific condition disability rider -> Income protection for life
 - Waiver of premium rider upon CI condition -> DLJ is a pioneer
 - Variety of attachable medical riders -> Added value by consultation
 - Operation benefit with innovative but the simplest definition in industry
 - Many life insurers were blamed not to pay all payable benefits which were not claim by customer due to poor customers' understanding on product benefit definition.

(Cf) Annualized Premium Income

- New Business

(bn Yen)

	FY 2009	FY 2010
Annualized Premium Income	206	151
3rd sector	36 (17.5%)	42 (27.8%)

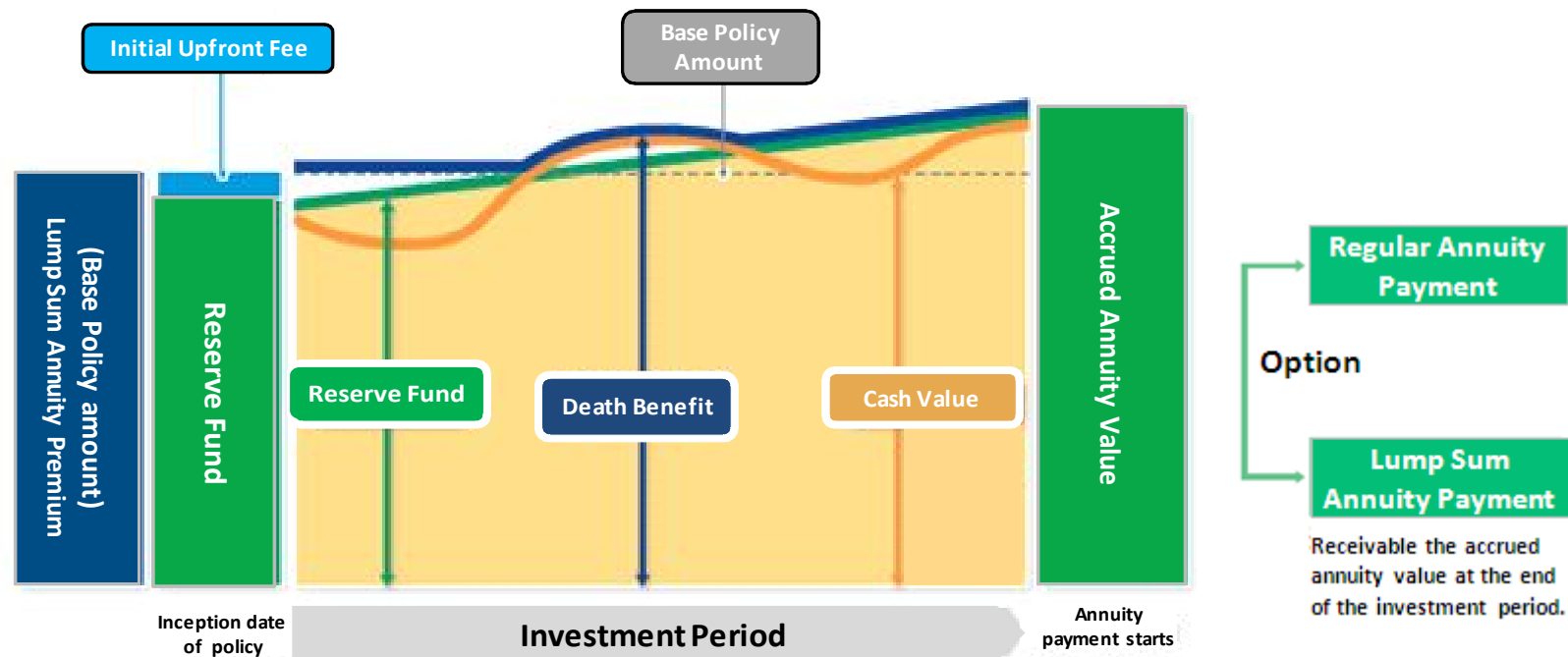
- In-force Business

	FY 2009	FY 2010
Annualized Premium Income	2,149	2,162
3rd sector	495 (23.0%)	507 (23.5%)

(note) total of Dai-ichi and Dai-ichi Frontier.

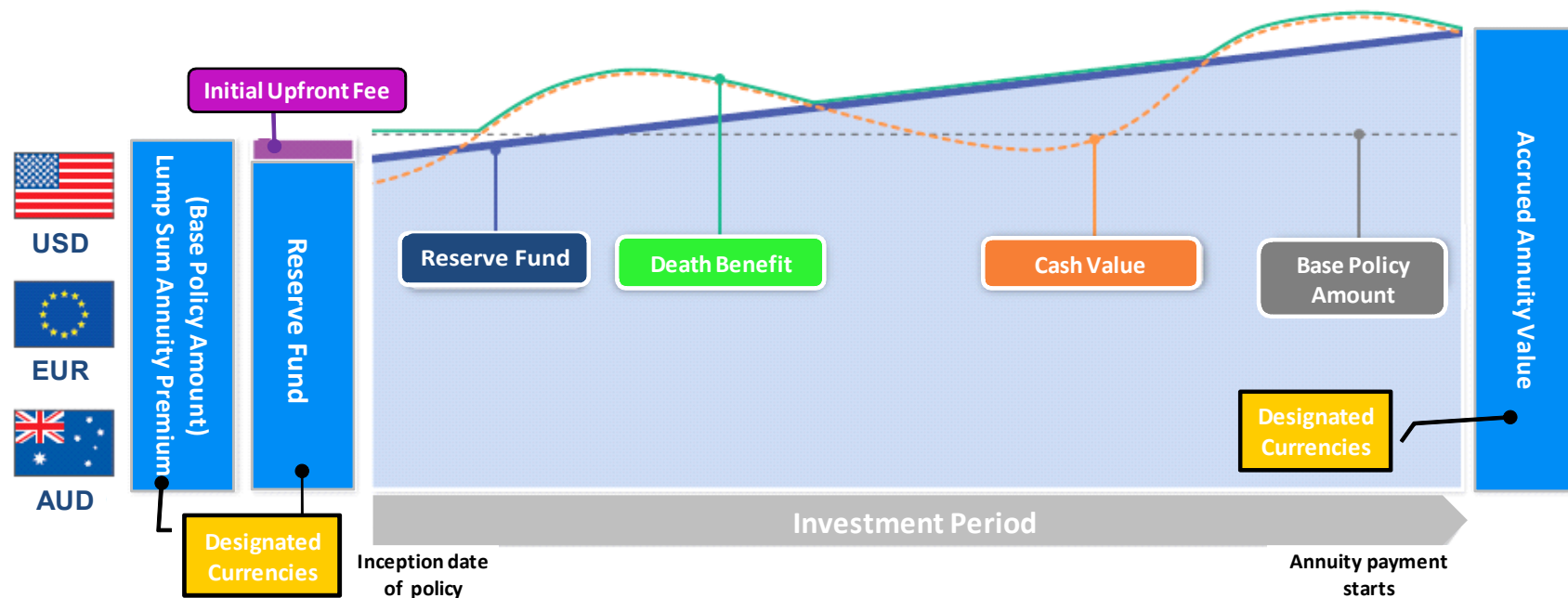
Individual Life / Annuity
Dai-ichi Frontier Life (DFL)

MVA-type Fixed Annuity



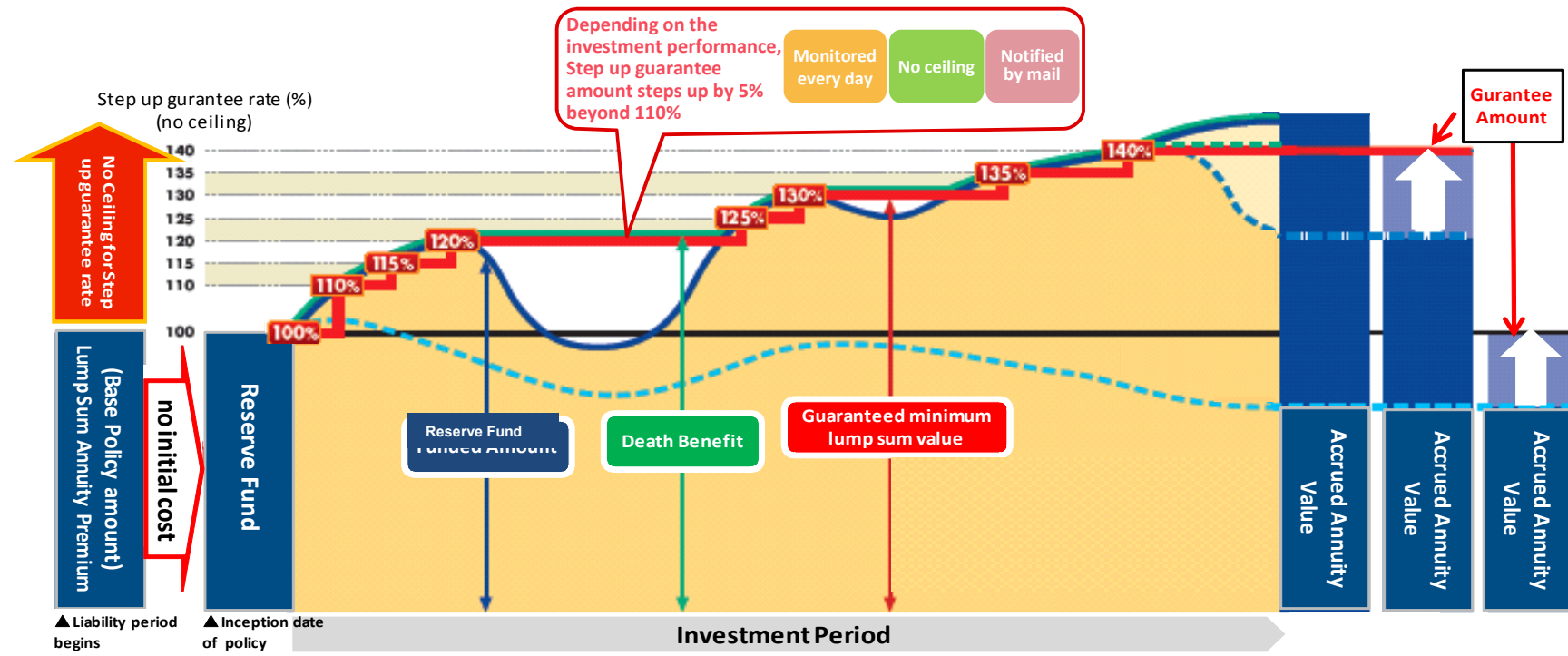
- Accrued annuity value after the investment period is fixed at timing of contract which is larger than the lump sum annuity premium.
- A fixed rate set at the timing of contract applies throughout the entire investment period, hence reserve fund increases steadily based on the fixed rate.
- Investment Period = 5, 6 and 10 years.
- Initial Up Front Fee = 2 to 4% of premiums are required.

MVA-type Fixed Annuity - Foreign Currency Type



- Investment Currency - USD, EUR and AUD.
- Investment Period - 3, 5, 6 and 10 years. Initial Upfront fee needs to be paid.
- Reserve fund increases steadily based on the fixed rate set at the timing of contract.
- Accrued annuity value after investment period is fixed by the designated currency, which is larger than the lump sum annuity premium.
- Base Plan – Annuitant can receive the annuity in the designated currency or Japanese Yen.
- Daily Target Plan – When the cash value (Japanese Yen basis) reaches a pre-defined threshold, annuity value is fixed thereafter on Yen basis.

VA with Guarantees



- Guaranteed Minimum Death Benefits (GMDB)
 - Death benefit is guaranteed 100% of Lump Sum Annuity Premium.
- Guaranteed Minimum Accumulation Benefits (GMAB)
 - Accrued annuity value is guaranteed 100% of Lump Sum Annuity Premium.
- “Ratchet” feature
 - Guaranteed value steps up when account value exceeds certain thresholds
- No Guaranteed Minimum Withdrawal Benefits (GMWB)
 - Minimum withdrawal amount is NOT guaranteed
- Investment Period = 10 years and No Initial Fee.

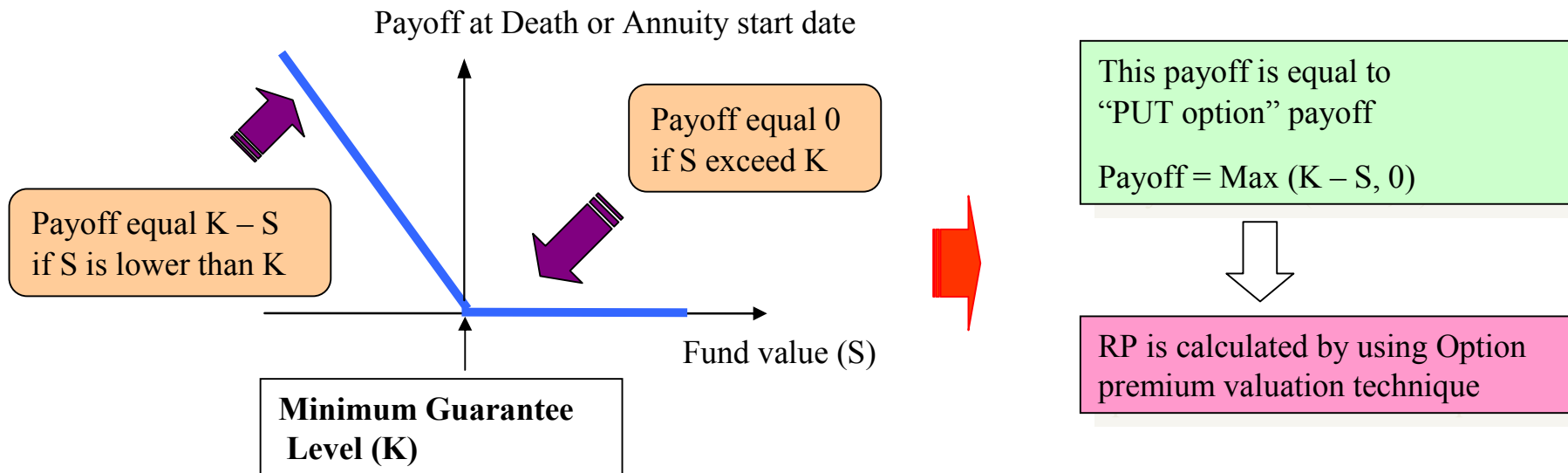
Minimum Guarantee

- Risk Premium Valuation
 - Present value with regard to guarantee is evaluated for pricing by using Black - Sholes formula or Monte-Carlo simulation
 - Reserve to cover minimum guarantee risk is mandatory by regulation. (Introduced in 2005)
- Part of the Minimum Guarantee Risk is Mitigated by Dynamic Hedge in Financial Market
- Also Need to Compute Cost of Guarantee in MCEV Calculation
 - Computational load is heavy

The Risk of VA Minimum Guarantee

The calculation of RP

The payoff of Insurance company

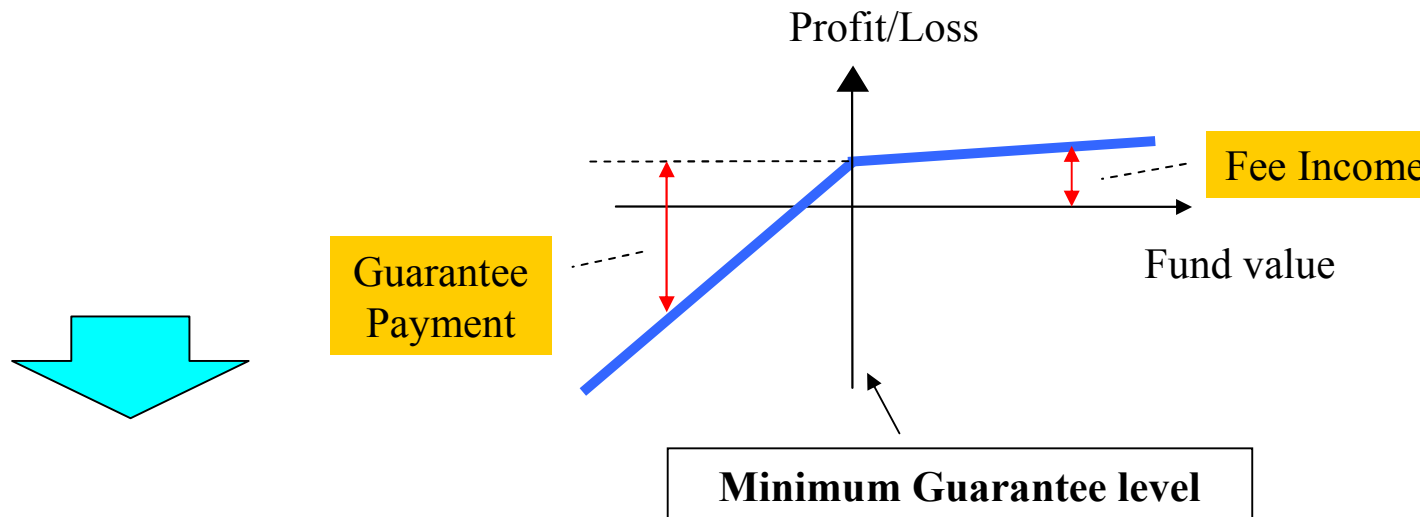


- RP is the PUT OPTION premium whose underlying is VA Fund
- The cost of ROP can be calculated by Black-Scholes Formula
- The more complicated the minimum guarantee feature is, the more difficult the calculation of RP becomes. (like exotic option pricing)

The Risk Management of VA

Profit/Loss of VA business (General account)

- M&E charge is almost stable (Maintenance cost and RP is proportional to V)
- Guarantee payment depend on economic circumstance



Profit/Loss is volatile depending on market condition
This market risk is unhedgeable by “Law of large numbers”

Group Life

Dai-ichi Life (DLJ)

Group Life Insurance - Product Overview

- Death coverage
 - Group term insurance
 - Comprehensive welfare group term insurance
 - Group credit life insurance
- Medical products (disease/injuries)
 - Group medical care insurance

Group term insurance

- YRT
- Premium payment = employee contributions
- Voluntary participation
- Most of the major life insurers sell exactly same spec. Policyholder (= Company) makes contract with several insurers to split shares.
- Given this practice, competition is limited on dividend in terms of price. It makes a “margin” relatively high.
- However, some companies want to buy low premium ▪ low dividend product. This type of product is becoming popular gradually.

Comprehensive welfare group term insurance

- Difference from group term
 - Used as retirement payment for family upon death of employee
 - Premium payment = employer contributions
 - Participation rate = 100%
- Situation for competition is the same as group term.

Group credit life insurance

- Repayment of mortgage loan upon death
- The sum assured gradually decrease according to the outstanding loan amount
- Premium is paid by bank

- Situation for competition is the same
- CI rider for credit life is recently developed

Group medical care insurance

- YRT
- Either employer contributions or employee contributions
- Participation is either mandatory or voluntary
- Product revisions in recent years as follows
 - Shorten elimination period
 - Operation benefit
- Competition among life & non-life insurers are very tight recently. Insurers try to develop their original product with original benefit scheme and competition on price is harsh.

Current Trend in Group Life Market

- As for group term, market is shrinking due to decreasing population and their needs.
- As for group credit life insurance, SA almost remains the same.
 - Refinancing the mortgage loan borrowed from “public” institution to commercial bank is popular.
- As for group medical care insurance, market in total is expanding because of increasing need of medical coverage.

Pricing & Product Development

Key Factors

- **Competitiveness & Marketability**
 - Premium Rates, Rate of Return (Policy Holders' interest)
 - Commission Rates (Agents' interest)
- **Profitability & Capital Efficiency (Company's interest)**
 - Profit Margin, IRR, (Operational) EV Margin
- **Capital Adequacy & Solvency**
 - Need to establish policy reserve properly
 - Need to follow risk management policy
 - Solvency on statutory basis is needed to be monitored periodically
 - Solvency on economic value basis is also needed to be monitored periodically.

PD Process

- Product Specs
 - Cooperation between Product Development, Actuary, Sales
- Expected Sales Volume
- Technical Design
 - Benefit Features, Premium Rates, Commissions, Profitability Test
- Checking Product Design & Pricing in terms of Risk Management at the time of Product Development
 - Risk management check sheet is filled to double-check adequacy of product design and pricing
- Schedule IT & Operations development
 - Feasibility for IT & Operation is checked at the time of PD.
- Prepare Documents Submitted to FSA
- Internal Approval Process
- Legal Check of Policy Wording

Risk Management

at the Time of Product Development

- The appropriateness of product design and pricing shall be confirmed from a view of insurance underwriting risk management, such as specified below:
 - Assessment of product design.
 - Validation of premiums rates.
 - Verification of asset management risk.
- Appropriateness of the underwriting scope shall be validated.
 - Age limit for entry.
 - Policy term and premium payment term.
 - Maximum/minimum amount of sum assured.
 - Other items, if deemed necessary.
 - For group life policies, scope of underwriting such as number of life insured shall be determined to ensure adequacy of insured entity.
 - Scope of sales shall be set in view of not only sales policy but also insurance underwriting risk, if deemed necessary for risk management purpose.

Risk Management

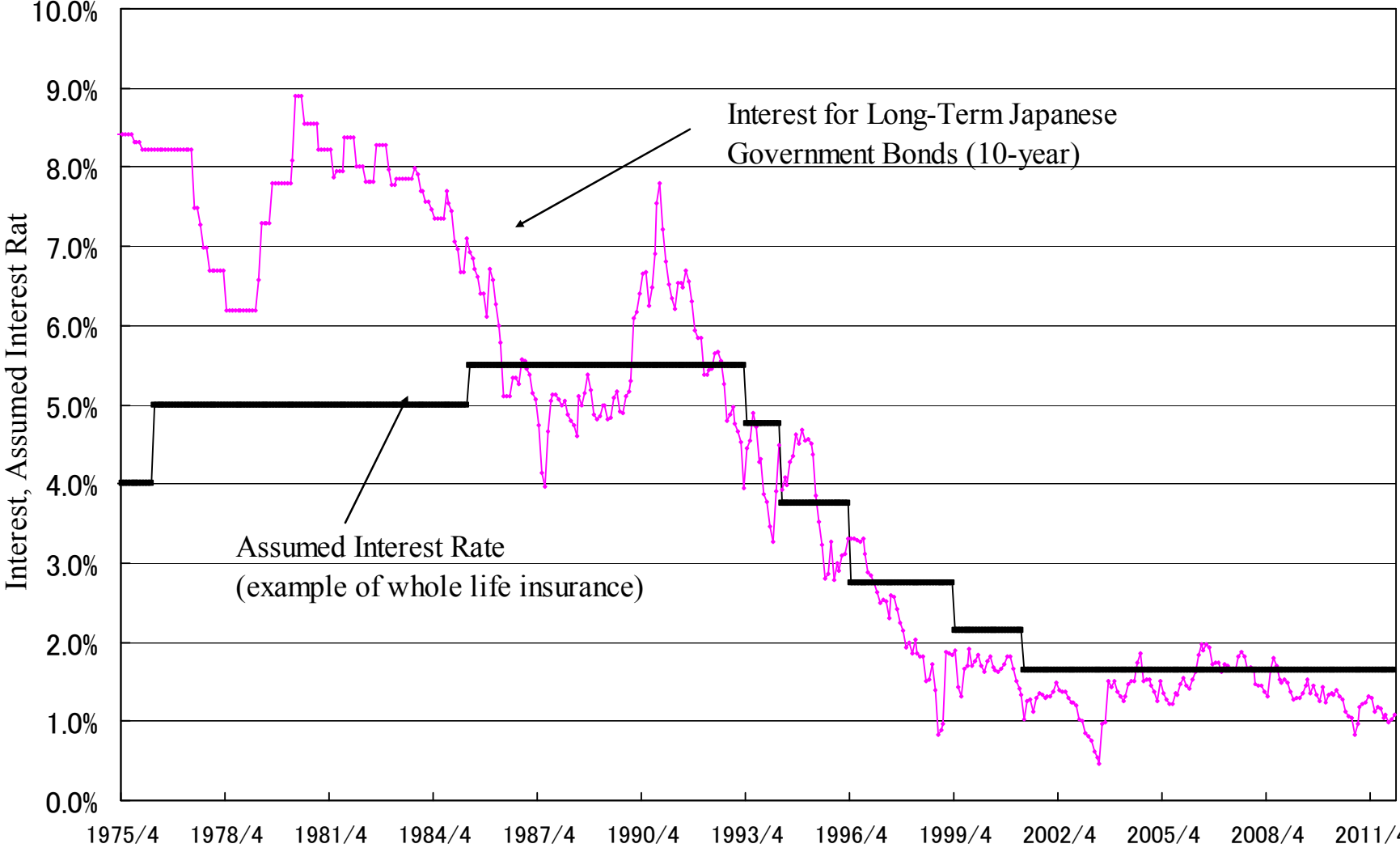
at the Time of Product Development

- Appropriateness of the selection criteria shall be validated.
 - Criteria related to medical selection.
 - Criteria related to occupation of life insured.
 - Criteria related to financial conditions of life insured.
 - Criteria related to appropriateness of sum assured.
 - Criteria related to claim examination.
- Feasibility of operations related to new business, maintenance and claims payment shall be validated.
- Check Solvency on economic value basis as well as statutory basis.
 - Test against current market conditions such as yield curve or implied volatility

Pricing & Product Development

- Topics in Japan -

Shifts in Japanese Government Bond (10yr) & Assumed Interest Rate



Amendments to the Assumed Interest Rate / Accrual of Negative Spread

■ 1970s~1980s

- Increases of the assumed interest rate (competition)
Highest assumed interest rate was 6.25% (10 years)
- Guarantee of a high assumed interest rate for long-term insurances
such as whole life insurance ▪ ▪ ▪ ▪ 5.5%

■ Since the 1990s

- Substantial decline of market interest rates over the long term
- Repeated reductions of the assumed interest rate

■ The present

Debts from contracts with a high assumed interest rate from the past
that still remain = “negative spread”

Liability Reserve Balance (by Contract Year)

Contract Year	Liability Reserve Balance (million yen)	Assumed Interest Rate
~ FY1980	925,828	2.75% ~ 5.50%
FY1981 ~ FY1985	1,635,254	2.75% ~ 5.50%
FY1986 ~ FY1990	4,774,782	2.75% ~ 6.00%
FY1991 ~ FY1995	3,961,698	2.75% ~ 5.50%
FY1996 ~ FY2000	1,735,854	2.00% ~ 2.75%
FY2001 ~ FY2005	2,948,222	1.50%
FY2006	787,000	1.50%
FY2007	772,856	1.50%
FY2008	870,331	1.50%
FY2009	920,876	1.50%
FY2010	1,100,685	1.50%

(Note 1) The value for the “Liability Reserve Balance” is the amount from the end of FY2010. Furthermore, liability reserves for individual insurance and individual annuity (excluding separate account liability reserves and contingency reserves) are listed.

(Note 2) For the “Assumed Interest Rate” the main assumed interest rate pertaining to the liability reserve by contract year is listed.

What are Standard Liability Reserves?

■ Overview

- a. Introduced through the revisions to the Insurance Business Law from FY1996.
- b. In order to ensure the solvency and retain the health of insurance companies, as a rule all insurance companies must accumulate standard liability reserves. This is done by utilizing the funded method (net level premium method) and the actuarial assumptions (standard interest rate and standard life table) set down by the supervisory authorities.
- c. The actuarial assumptions from the time of the contract apply until the termination of the contract (lock-in).

What are Standard Liability Reserves?

■ Standard Interest Rate

a. Are calculated every year on the basis of the smaller of the 3-year and 10-year averages of applicant interest (called the subject interest rate) for long-term government bonds (10-year) in consideration of the safety margin corresponding to the level of the subject interest rates.

b. Safety Margin

Subject Interest Rate	Safety Margin
0.0%~1.0% portion	0.9
1.0%~2.0% portion	0.75
2.0%~6.0% portion	0.5
Over 6.0% portion	0.25

c. Shifts in the Standard Interest Rate

Contract Year	Applicable Standard Interest Rate
FY1996~1998	2.75%
FY1999~2000	2.00%
FY2001~	1.50%

What are Standard Liability Reserves?

- Interest rates applicable for assessments of liability reserves are becoming the rule due to the introduction of standard liability reserves

- Standard interest rates will not rise all that much in the future either
 - The current standard interest rate is 1.5%
 - The current interest for long-term government bonds is lower than 1.5%

What are Standard Liability Reserves?

■ Standard Life Table

- a. The life table is created by the Institute of Actuaries of Japan as actuarial assumptions for standard liability reserves and is validated by the Commissioner of the Financial Services Agency.
- b. They are created from experiential data from life insurance companies.

Changes in the Population Mortality Rate

Males (Unit: ‰)

Age	1990	1995	2000	2005
20s	0.83	0.75 (90)	0.63 (76)	0.56 (67)
30s	0.78	0.79 (101)	0.77 (99)	0.74 (95)
40s	1.55	1.44 (93)	1.47 (95)	1.43 (92)
50s	4.05	4.06 (100)	3.92 (97)	3.57 (88)
60s	11.32	10.66 (94)	9.23 (82)	8.83 (78)
70s	26.41	26.24 (99)	23.84 (90)	21.23 (80)

Females (Unit: ‰)

Age	1990	1995	2000	2005
20s	0.30	0.29 (97)	0.25 (83)	0.26 (87)
30s	0.42	0.40 (95)	0.38 (90)	0.37 (88)
40s	0.89	0.83 (93)	0.78 (88)	0.75 (84)
50s	2.17	2.11 (97)	1.96 (90)	1.76 (81)
60s	4.81	4.57 (95)	3.83 (80)	3.64 (76)
70s	13.24	11.82 (89)	9.99 (75)	8.90 (67)

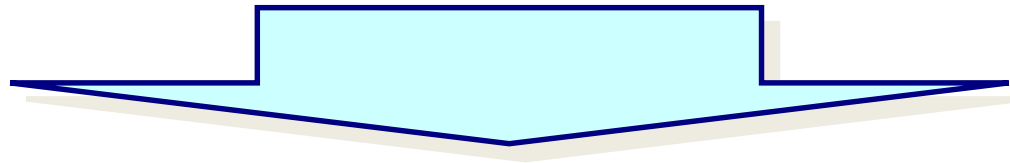
Numbers in parenthesis represent the index for when 1990 has been set at 100.

Increase in average life expectancy of Japanese

- Average life expectancy at age 60

- In 1975 (30 years ago)

Male 17.38 years Female 20.68 years Couple 24.02 years



- In 2005 (At present)

Male 22.09 years Female 27.66 years Couple 30.62 years

Overview of Amendments to the Standard Life Table


- The standard life table has been amended for the first time in 11 years to reflect the improvement in mortality rates in recent years, primarily for elderly generations, with these amendments being applied to new contracts from April 2007 onward.

- The population mortality rate is on a decreasing trend, primarily for the elderly
 - ⇒ Increasing risk of longevity
 - ⇒ Increasing risks for after the start of individual annuity and third sector (health-care, nursing care, accidents, etc.)

Overview of Amendments to the Standard Life Table

■ Overview of the Amendments

- Reduction of the standard life table used for death protection product and annuitization, primarily for elderly generations
- Start-up of a third sector standard life table

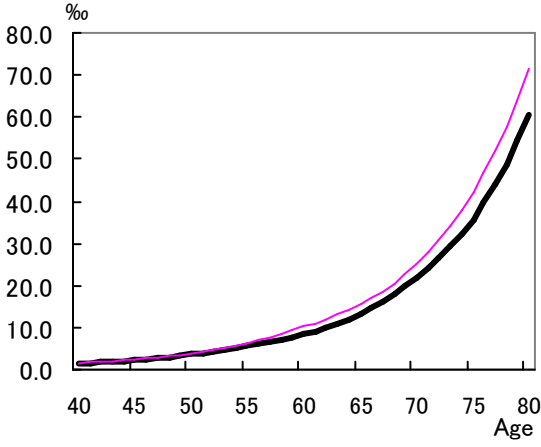
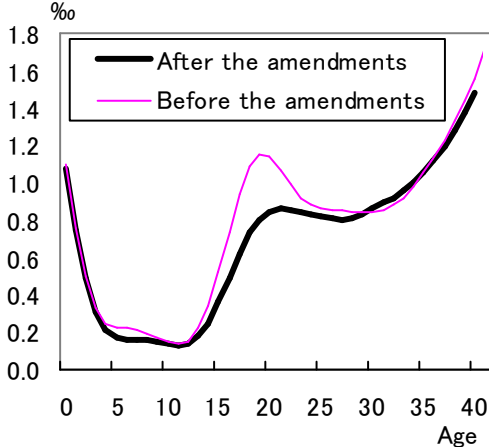
	Life table before the amendments		Life table after the amendments
First sector (for death protection product)	Life insurance standard life table 1996 (for death protection product)		Life insurance standard life table 2007 (for death protection product) [Amended]
First sector (for annuitization)	Life insurance standard life table 1996 (for annuitization)		Life insurance standard life table 2007 (for annuitization) [Amended]
Third sector (for health-care, nursing, accidents, etc)	None		Third sector standard life table 2007 [Start-up]

Overview of Amendments to the Standard Life Table

- Comparison of the standard life table (for death protection product) before and after the amendments
 The range of the reductions averaged 12.4% for men and an average of 17.8% for women.

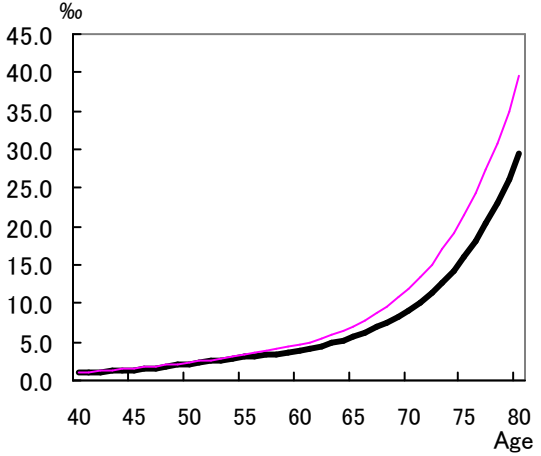
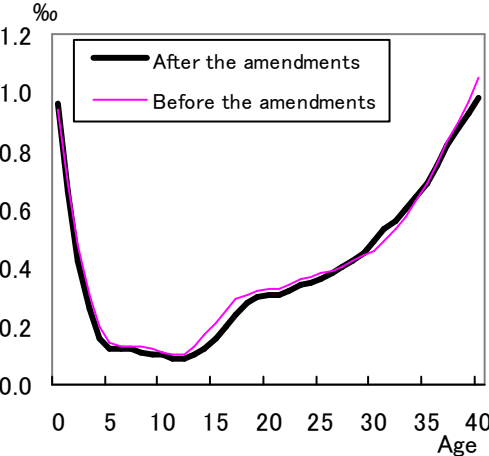
Male, for death protection product

Age	Before the amendments	After the amendments
20s	1.14	0.84 (74%)
30s	0.84	0.86 (102%)
50s	3.79	3.65 (96%)
80s	71.32	60.39 (85%)



Female, for death protection product

Age	Before the amendments	After the amendments
20s	0.33	0.31 (94%)
30s	0.46	0.49 (107%)
50s	2.33	2.16 (93%)
80s	39.49	29.60 (75%)

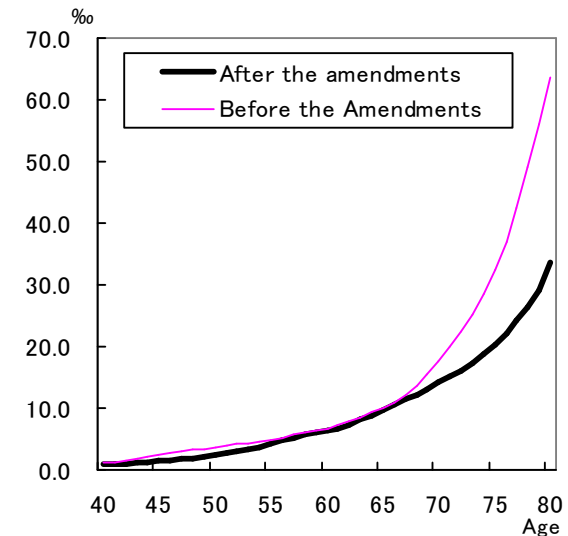


Overview of Amendments to the Standard Life Table

- Comparison of the standard life table (for annuitization) before and after the amendments

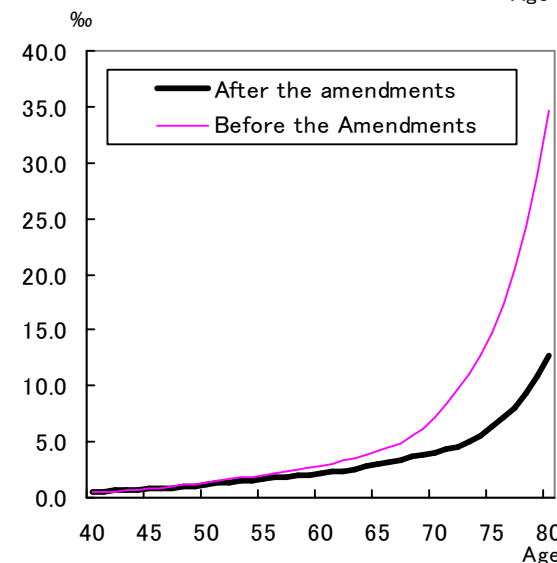
Male, for annuitization

Age	Before the amendments		After the amendments	
	Mortality rate	Average life expectancy	Mortality rate	Average life expectancy
60s	6.75	22.52	6.42 (95%)	26.96 (+4.44)
70s	17.63	14.35	14.11 (80%)	19.08 (+4.73)
80s	63.60	7.77	33.57 (53%)	12.19 (+4.42)
90s	186.12	3.96	83.18 (45%)	7.20 (+3.24)



Female, for annuitization

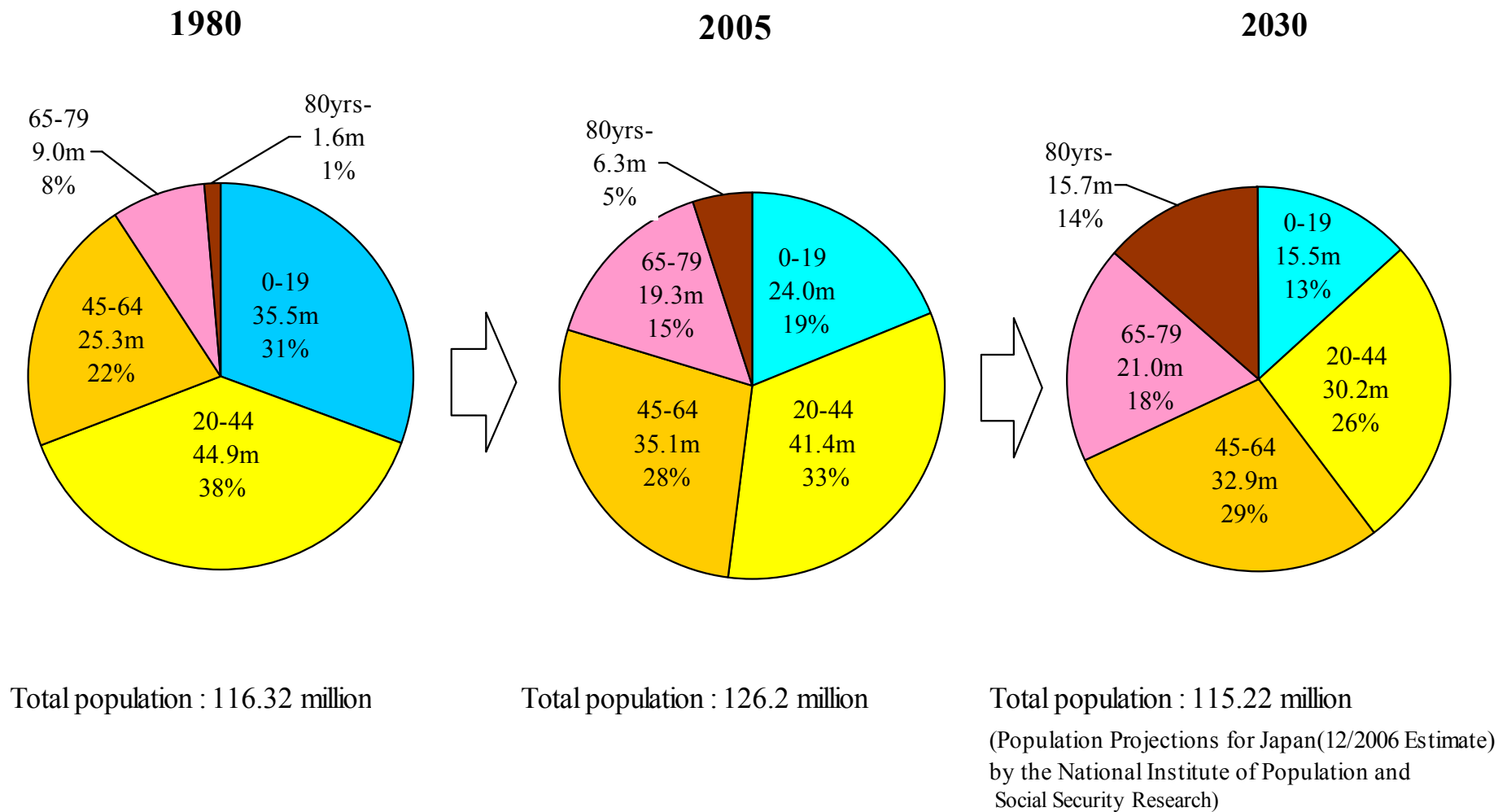
Age	Before the amendments		After the amendments	
	Mortality rate	Average life expectancy	Mortality rate	Average life expectancy
60s	2.84	26.85	2.18 (77%)	34.27 (+7.42)
70s	7.24	17.76	4.10 (57%)	25.13 (+7.37)
80s	34.58	9.73	12.75 (37%)	16.44 (+6.71)
90s	140.47	4.68	48.51 (35%)	9.57 (+4.89)



Changes in average life expectancy at age 60

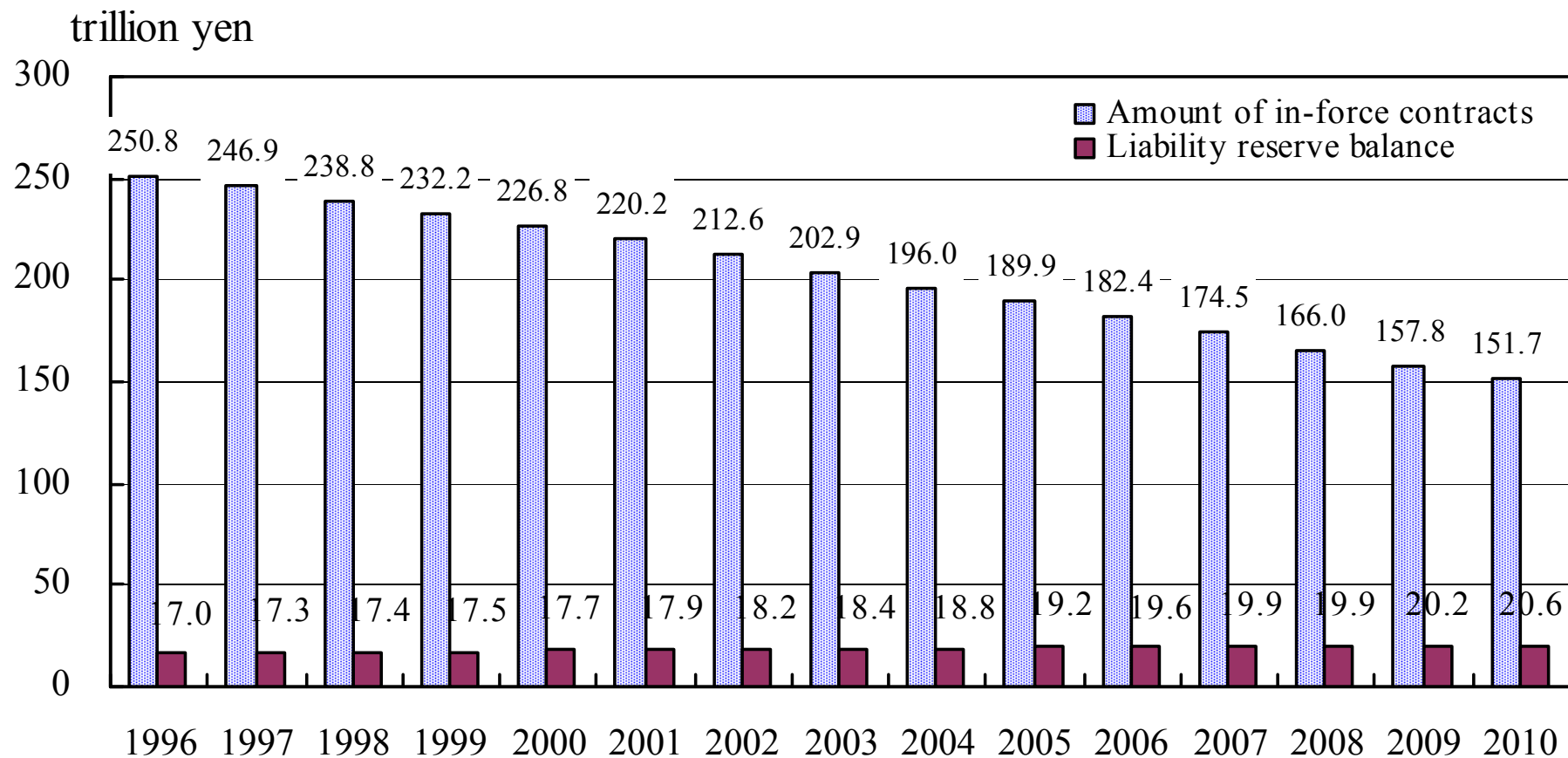
Based on Population Life Table	Male	Female
Year 1965	15.20 years	18.42 years
1970	15.93 years	19.27 years
1975	17.38 years	20.68 years
1980	18.31 years	21.89 years
1985	19.34 years	23.24 years
1990	20.01 years	24.39 years
1995	20.30 years	25.35 years
2000	21.44 years	26.85 years
2005	22.09 years	27.66 years
Life insurance standard life table 2007 (annuitization)	26.96 years	34.27 years

Changes in the Demographic Structure



Reduction of In-Force Contracts

Shifts in the Amount of In-Force Contracts and the Liability Reserve Balance
(Individual Insurance and Individual Annuity)



Changes in and Issues with the Demographic Structure

- Portfolios which are centered around death protection products
 - ⇒ Currently the negative spread is being covered and profits are being generated

- Hereafter the demographic structure will change still further (aging of the population)
 - ⇒ The death protection market will shrink further
 - ⇒ In-force contracts is on the trend of continuous reduction

- What to be required for the future
 - Importance of third sector (health-care, nursing care, accidents, etc.)
 - Share competition in the limited death protection market, which is shrinking

(Cf) Changes in Premiums

Male, annual payment, equalized payment plan, insurance payout amount of 1 million yen

(Unit: yen)

		1987.1~	1990.4~	1993.4~	1994.4~	1996.4~	1999.4~	2001.4~	2007.4~
Whole life insurance	Enrollment at age 35								
	End of installments at age 65	14,430	13,675	15,019	17,730	21,301	23,965	26,840	26,338
Term insurance rider	Enrollment at age 35								
	10 year term expiration	4,770	4,245	4,032	4,032	3,797	3,601	3,589	3,507

Pricing & Product Development

- 3rd sector -

Diversification of 3rd Sector Product

Diversification of benefit targets

Medical care activities such as hospitalization/Surgery

Hospitalization
Surgery
Outpatient
Discharged
Other medical care activities
High precision medical care, organ transplants
Home-based (terminal) medical care, special organ therapy, etc.

Diseases

Taken ill by specific diseases
External injuries
No accidents
etc.

Conditions of the body

Invalid
Nursing care
Life expectancy 6 months
etc.

Diversification of claim reasons

Diseases
Accidents
Lifestyle diseases
Women-specific ailments
Three major adult diseases
Cancer
Dentistry
Specific injuries (fracture, torn tendon, etc)
Intractable diseases
Serious chronic diseases etc.

Diversification of claim models

Lump sum, annuity (defined, living), premium payment exemption, living needs
Amount reflecting hospital inpatient days/outpatient days, reimbursement, fixed amount
Claim limits (hospitalization day limit, claim number limit, total claim limit, no limit for specific diseases, etc.)
Claim conditions (setting for fixed symptom period, hospitalized for more than OO days, waiting period)
Public health system linkage
etc.

Diversification of entry requirements

Women only, children only, pregnant women only
Relaxation of underwriting selection, no selection
etc.

Diversification of contract models

Main contract, rider
Sale of combined main contracts
Possible addition of single rider, addition only possible with other riders

Risk Features of 3rd Sector Product

★ Many “uncertain”, “non-transparent” risk features

1. Unstable rate of incidence

- Due to insufficient long-term and stable data
- Due to fluctuations in risk levels (individual difference) of insured

2. Due to influences of changes in medical technology

3. Due to influences of changes in the structure of diseases

4. Due to influences of public medical care system

5. Consumer trends

① Invasion of adverse selection

- Long-term hospitalization in order to claim benefits, unbalanced risks of the insured

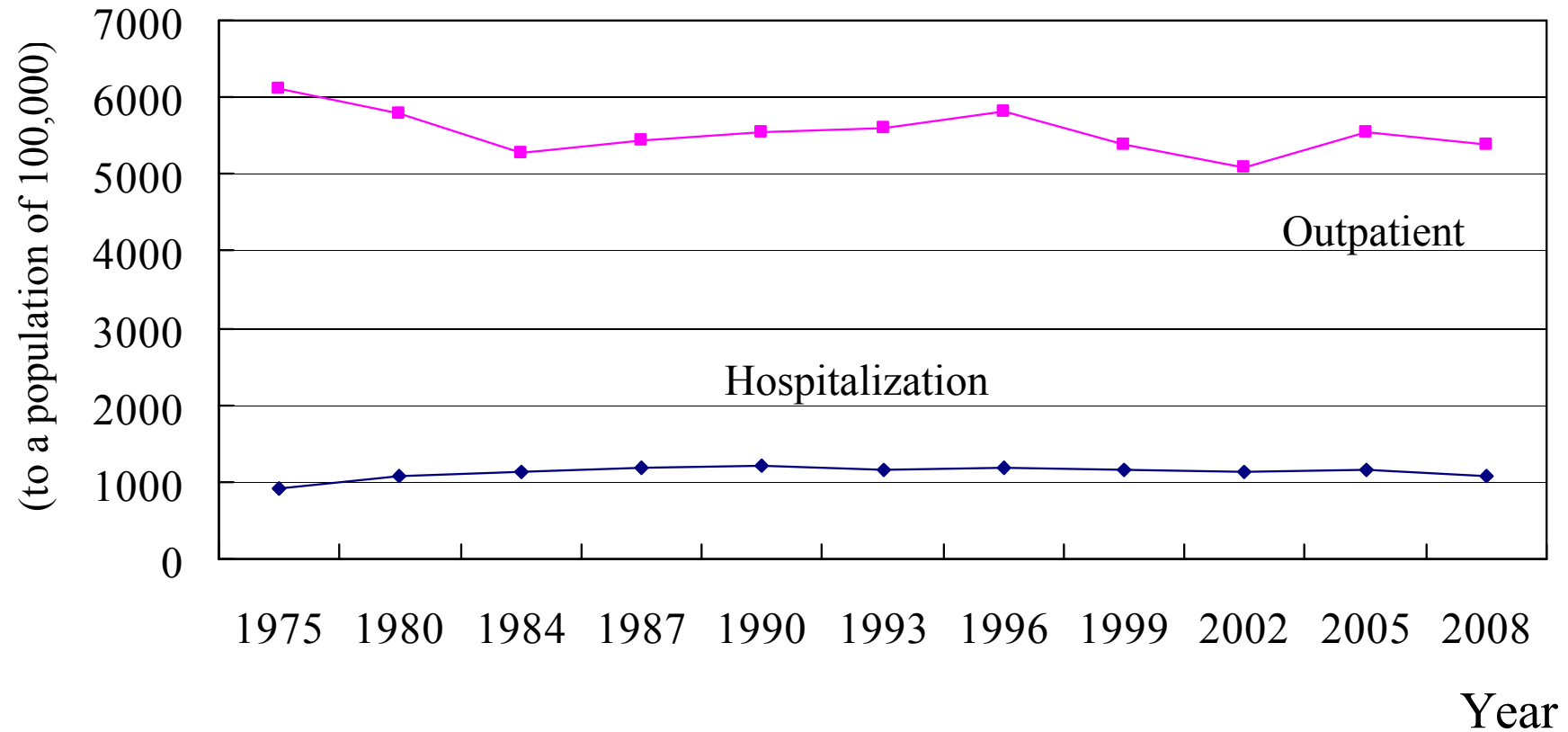
② Concentrated risks

- In general, contracts do not expire when claims, such as hospitalization benefits, are made.

Insured whose health conditions are bad and require repeated hospitalizations are more likely to continue their contracts

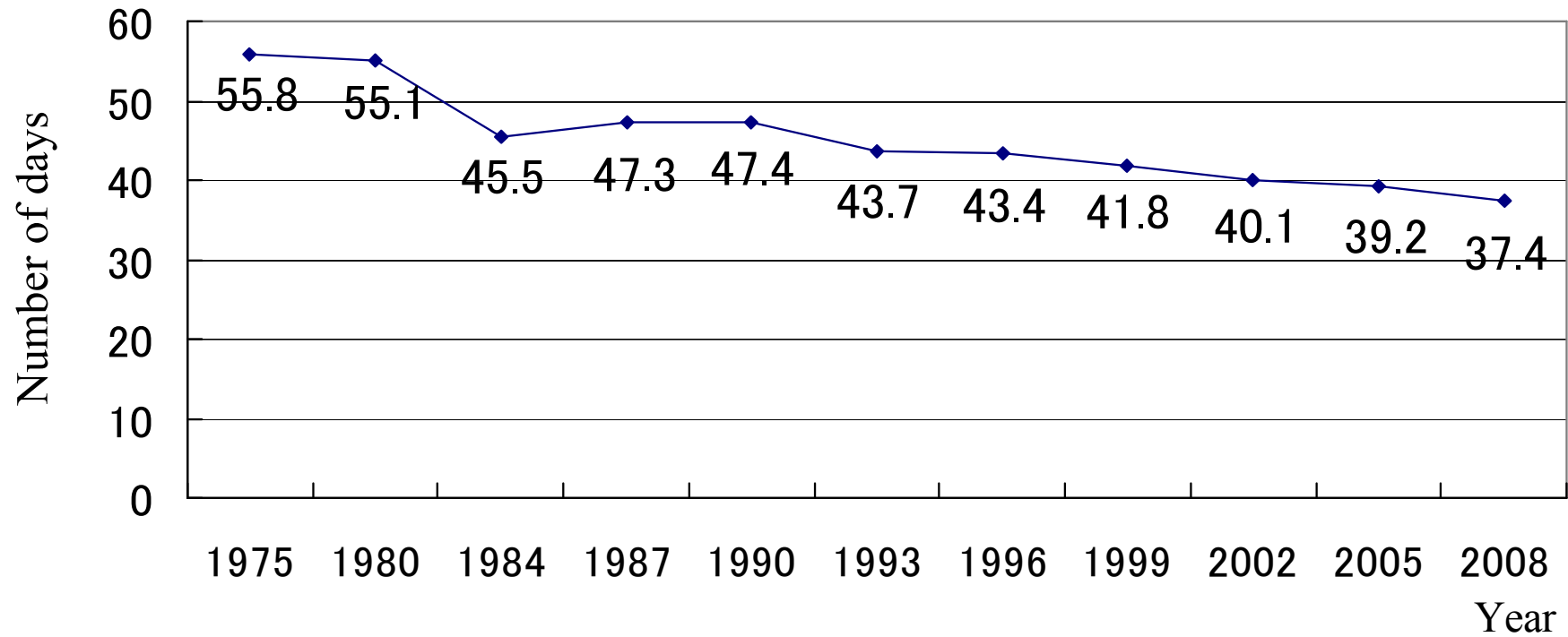
Trend of National Treatment Rate at Health Institutions

Rate of public receiving treatment is almost flat



Trend of National Average Hospital Inpatient Day

Average hospital inpatient days (per hospitalization) is decreasing



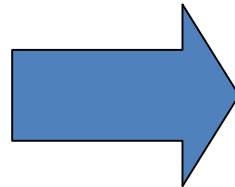
Diversification of Medical Operations

Medical operation becoming diversified with improvements in medical technology

<Medical operations covered by public health insurance>

1986

499 types



2010

1,172 types

Health Insurance Product Revisions (1)

Revised to cover short-term hospitalization as hospital inpatient days get shorter.

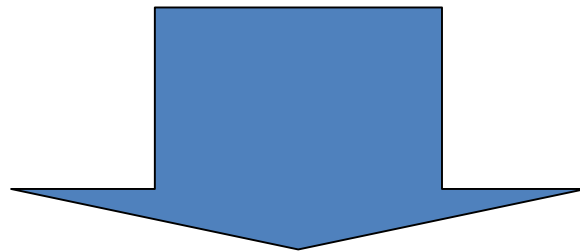
- ① 1974 Benefits paid out for **more than 20 consecutive days** of hospitalization
(e.g. 1. No benefits for 10 consecutive days of hospitalization)
(e.g. 2. 30-day benefits paid for hospitalization of 30 consecutive days)
- ② 1987 Benefits paid out for **more than 5 consecutive days** of hospitalization.
However, no security for 4 days.
(e.g. 3 6-day (10 – 4 days) benefits paid for hospitalization of 10 consecutive days)
- ③ 2002 Benefits paid out for **more than 2 consecutive days** of hospitalization.
(e.g. 4. 4-day benefits paid for hospitalization of 4 consecutive days)
- ④ 2007 **More than 1 day** of hospitalization (benefits pay-out starts from day hospitalization)

In addition, a 60-day limit type benefit product was sold in place of the 120-day hospital benefit limit per hospitalization.

Health Insurance Product Revisions (2)

★ Implementations of revisions in response to diversification of medical operations as a result of improvements in medical technology

In the past: Operations claimable were restricted and listed in policy provisions
(88 types)



Examples of operations not claimable

- Eardrum incision surgery
- Tonsillectomy etc.


In 2007 All medical operations covered under public health insurance are claimable
In addition, advanced medical care not covered under public health insurance are also claimable

Risk Management of Health Insurance

★ Risk stabilization through combining different benefits

Hospitalization benefits
= occurrence is decreasing

Operation benefits
= occurrence is increasing

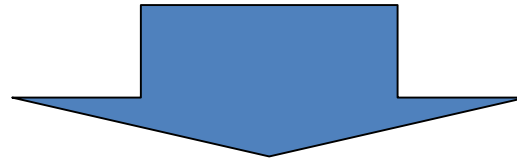


Product earnings and
expenses are stabilized
as a result

Law Revisions (1) Revisions to Standard Liability Reserve System

(Setting the Standard Mortality Rate for 3rd Sector Insurance Products)

- ① Declining national mortality rate (Increasing older population)
⇒ worries over deterioration of health insurance expenditures due to an increasing older population requiring high rates of hospitalization
- ② Greater customer needs for third sector products such as health insurance, etc.



One of the actions taken by competent authorities with a view to secure healthier financial positions for insurance companies and provide better protection for policy holders

= Introduction of [Third Sector Standard Life Expectancy Table]
(Implemented from 2007 Apr.)

Standard Life Expectancy Table (Example of Mortality Rate) for the 3rd Sector Insurance Products

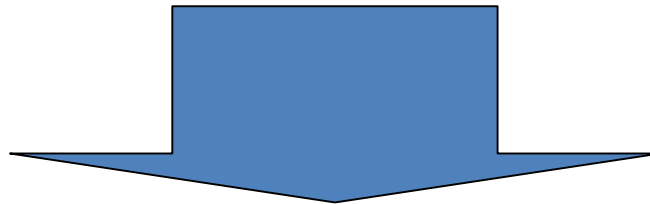
Lower mortality rates than those used in death insurances because of accompanying living risks

Males	①	②	
	Death insurance	Third Sector	$② \div ①$
50s	0.00365	0.00259	71%
60s	0.00834	0.00658	79%
70s	0.02193	0.01798	82%

Females	①	②	
	Death insurance	Third Sector	$② \div ①$
50s	0.00216	0.00135	63%
60s	0.00379	0.00264	70%
70s	0.00914	0.00670	73%

Revisions to Health Insurance Premiums (Company's Response to Law Revisions)

- ★ 2007 Apr. With the introduction of the “Third Sector Standard Life Expectancy Table”, health insurance premiums were revised
- ★ ① Declining mortality rate \Rightarrow increased premiums
- ★ ② Shortening of hospitalization \Rightarrow decreased premiums



<**Whole-life type** health insurance>

Premiums **trend to increase**

<**Term-type** health insurance>

Premiums **trend to decrease**

Law Revisions (2) Enactment of 3rd Sector Liability Reserve Accumulation Rules

★ To be introduced gradually from 2006

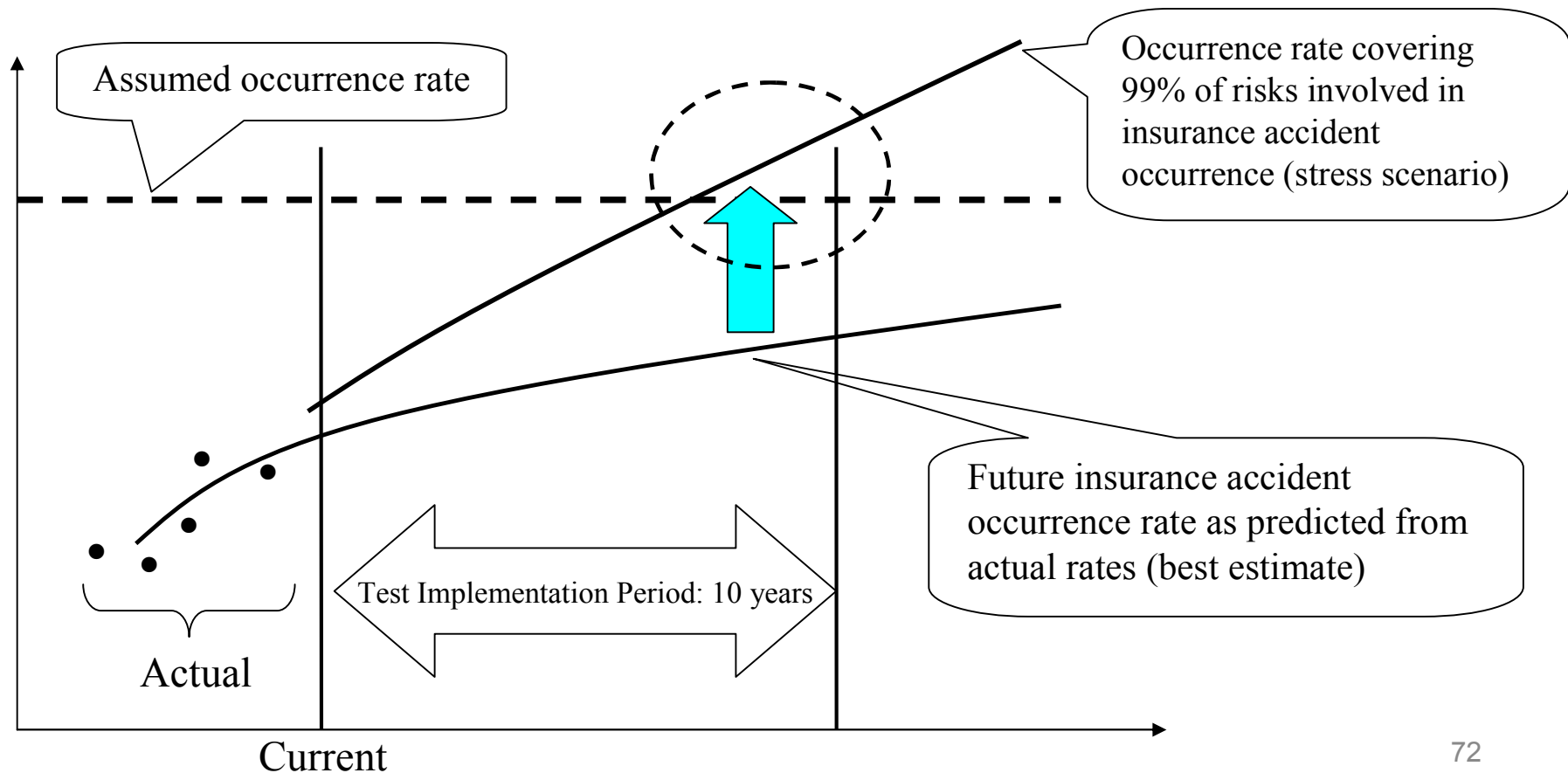
- ① Confirmation of adequacy of liability reserve accumulation using **stress tests**
- ② Disclosure
 - Disclosure of benefit claim **status** (ratio of benefit claims to the premium)
 - Disclosure of stress test implementations
- ③ Monitoring by competent authorities
Submission of ratio of actual claim rates to assumed claim rates to competent authorities
- ④ Securing of implementation of **right to change actuarial assumption**

Law Revisions (2) Enactment of 3rd Sector Liability Reserve Accumulation Rules - Implementation of Stress Test -

- ① Confirm whether assumed insurance accident occurrence rates applicable to insurance premiums are duly covered.
- ② Using actual insurance accident occurrence rates, confirm whether standard covers 99% of risks involved in the occurrence rate during the test period (10 years in the future).
- ③ If not sufficient, to top up liability reserves or claim fluctuation reserves.

Law Revisions (2) Enactment of 3rd Sector Liability Reserve Accumulation Rules - Implementation of Stress Test -

- ★ Under the stress scenario, liability reserves or claim fluctuation reserves will be topped up if inadequacies are predicted for the future.



Law Revisions (2) Enactment of 3rd Sector Liability Reserve Accumulation Rules

- Confirmation of implementation of right to change actuarial assumption -

1. What is right to change actuarial assumption?

– when insurance accidents exceed the assumed insurance accident rate set by the premium and benefit pay-outs are difficult, insurers have the right to change the actuarial assumption and premium.

Generally noted in the policy provisions of insurance with the latest claims

2. About the current regulations

- ① Defined exercise standard of right to change actuarial assumption (numeric standard)
- ② Explanation of rationality of assumed occurrence rate, and the exercise standard of right to change actuarial assumption when selling the insurance
- ③ Provision of information on possibility of changes to the actuarial assumption in the future to the policyholders after enrollment.

Mortality / Morbidity Study

Objective of Mortality / Morbidity Study(1)

- Underwriting risk management
 - Research and analyze mortality / morbidity experience and report them to management and other department.
- Introduction of valuation rule for third sector products (medical products)
 - Stress test (from 2007)
 - Disclosure (from 2007)
 - Off-sight monitoring by FSA

Overview of Mortality / Morbidity Study(2)

- Subject
 - Individual insurance / annuity
- Classes
 - First sector (life products)
death benefit product,
living benefit product, annuity
 - Third sector (medical products)
 - ▪ feature of benefit
- Research method
 - research by fiscal year basis
 - ✘ Simplified research by monthly basis

Overview of Mortality / Morbidity Study(3)

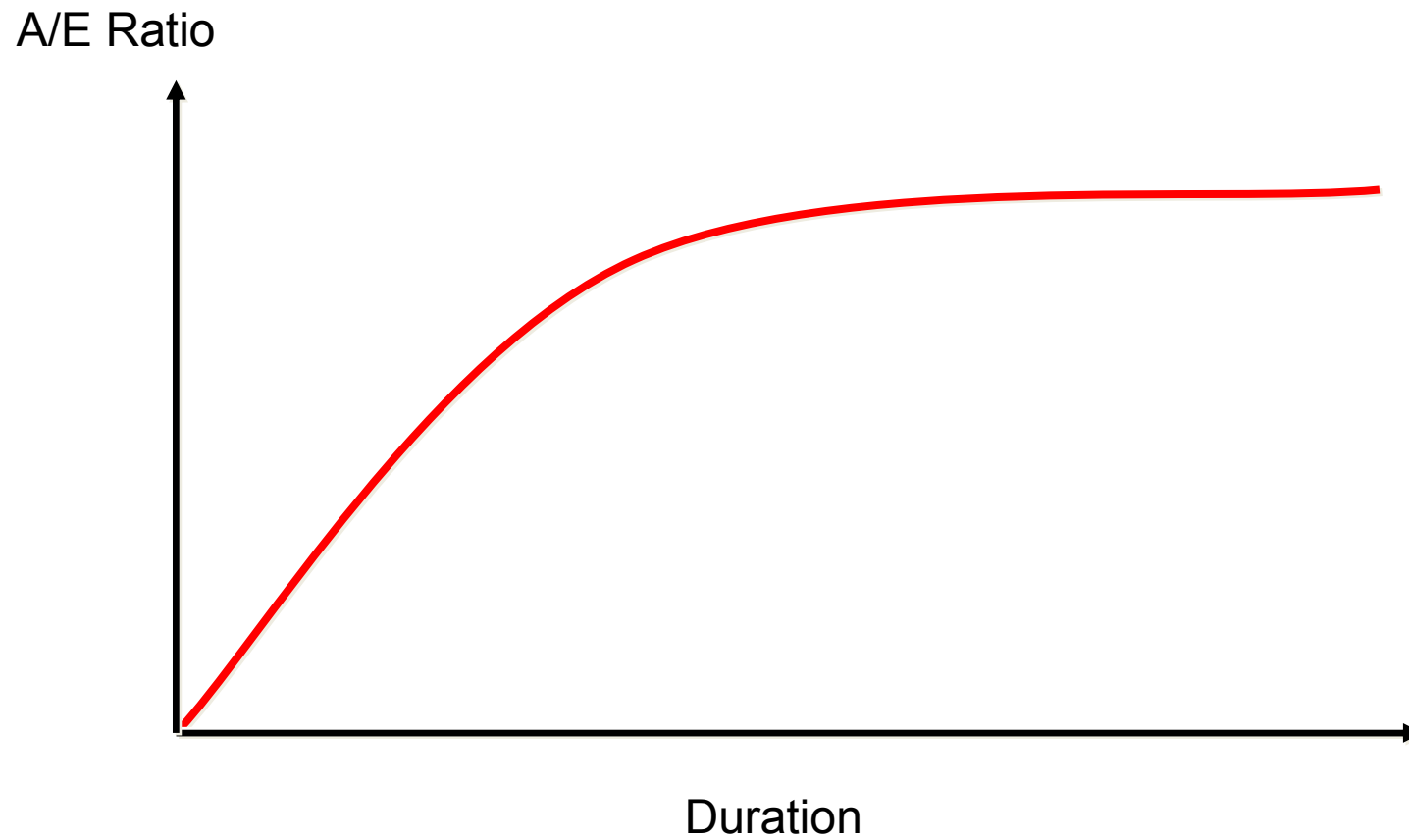
- Definition
 - A/E ratio ▪ ▪ ▪ actual to expected
loss ratio
 - Expected rate
 - Mortality ▪ ▪ ▪ standard mortality table 2007
 - Morbidity ▪ ▪ ▪ Pricing basis

Mortality Study(1)

- Use standard mortality table as expected mortality rate.
- Analysis by following classes
 - Sex
 - Attained age
 - Policy year
 - Cause of death
 - Underwriting method
 - Sum insured
 - Etc...

Mortality Study(2)

A/E mortality ratio by policy year



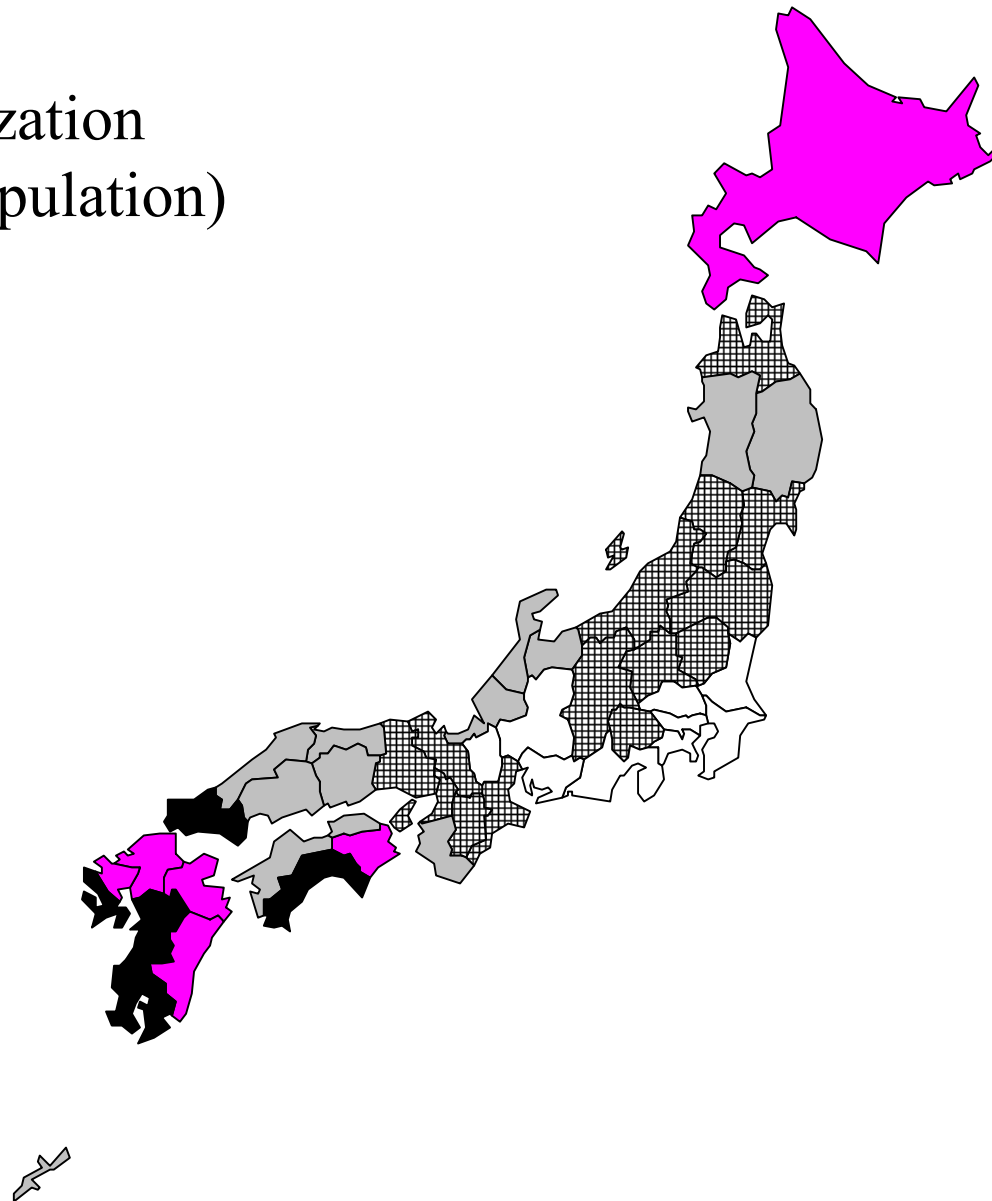
Morbidity Study(1)

- Use pricing assumption
as expected morbidity rate.
- Analysis by following classes
 - Sex
 - Attained age
 - Policy year
 - Cause
 - Sum insured
 - Occupation
 - Prefecture
 - Etc...

Morbidity Study(2)

No. of hospitalization
(per 100,000 population)

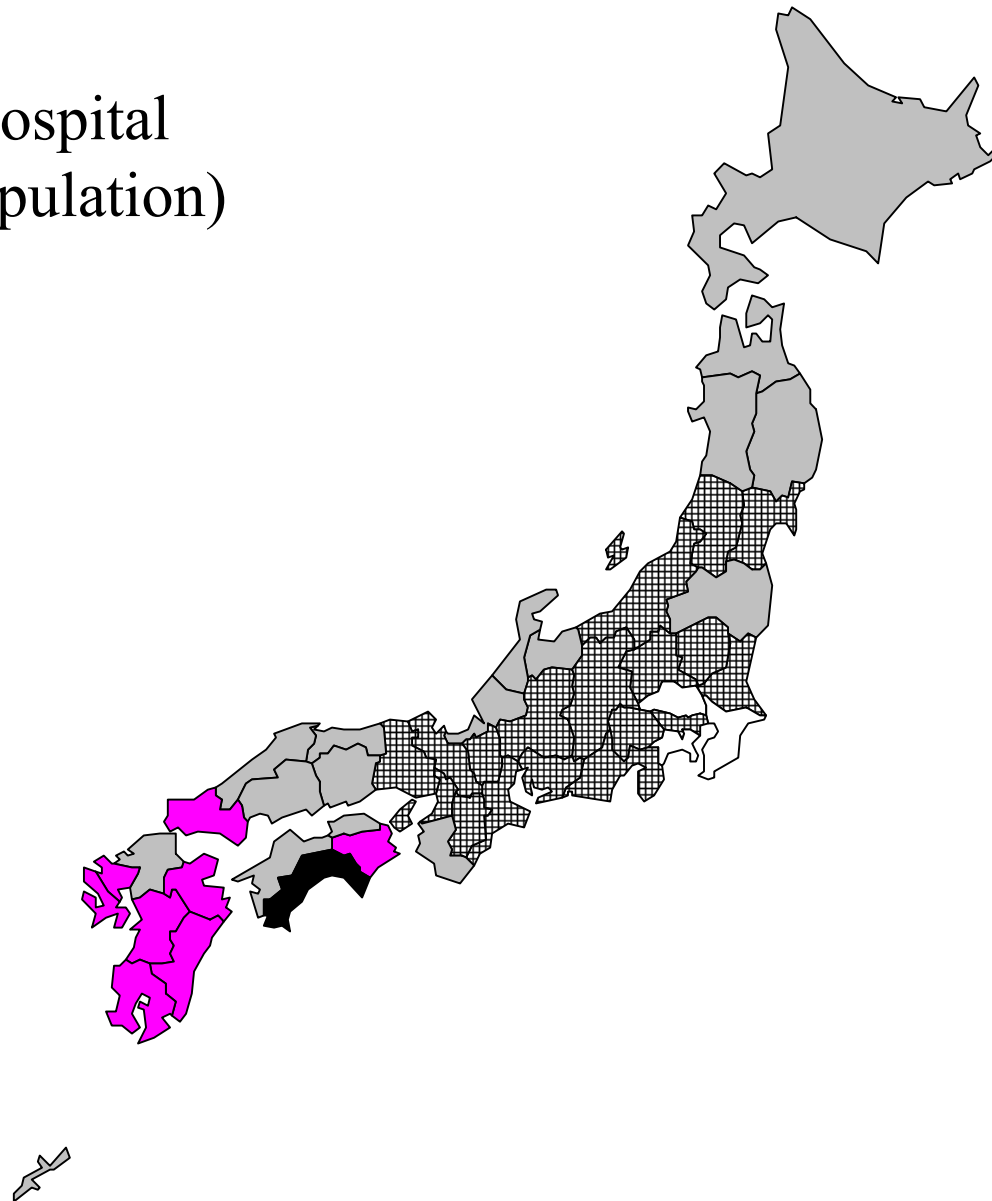
Black	1.8%-
Magenta	1.5%-
Light Gray	1.2%-
Dark Gray	0.9%-
White	0.6%-



Morbidity Study(3)

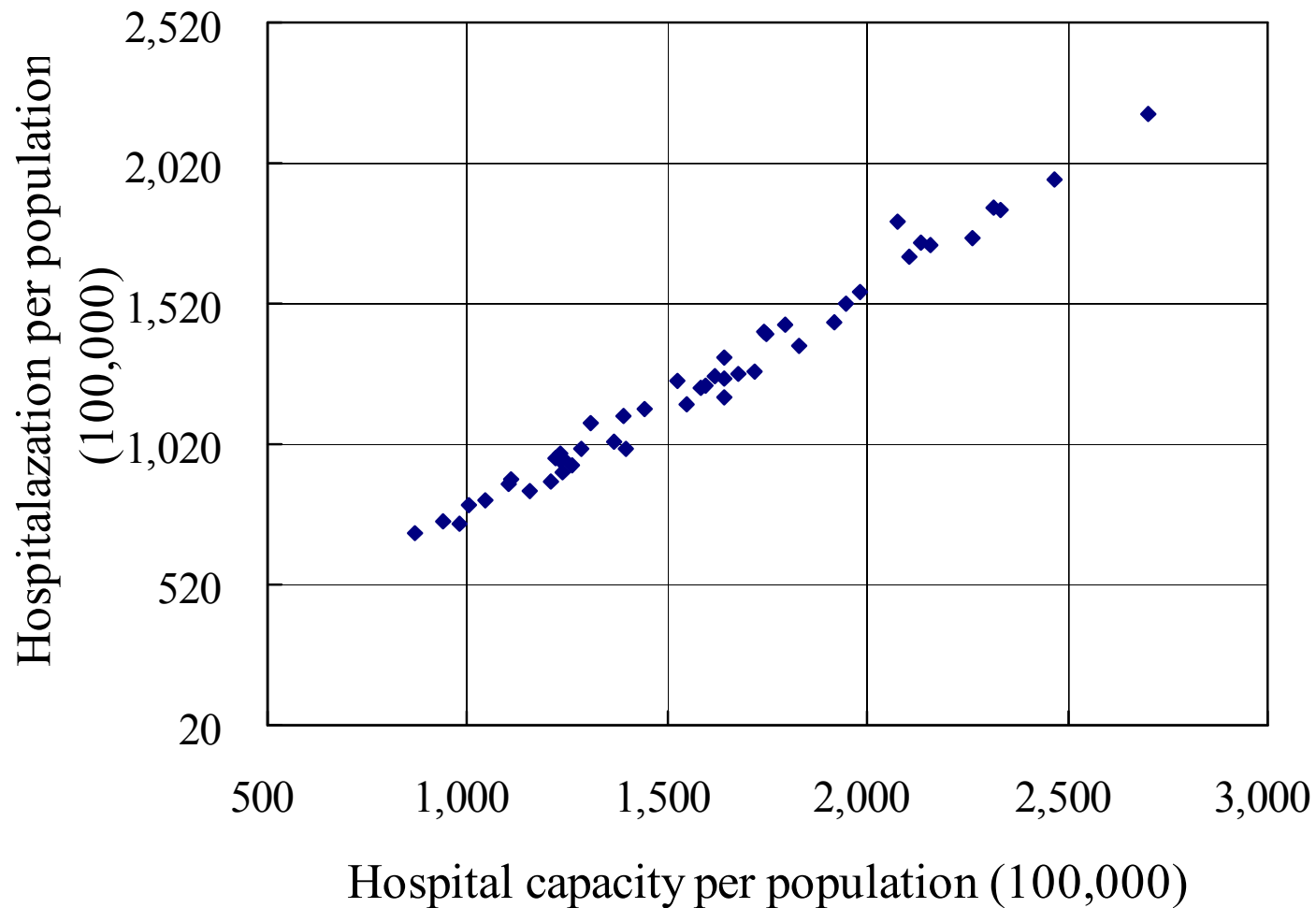
No. of beds in hospital
(per 100,000 population)

Black	2.5%-
Magenta	2.0%-
Light Gray	1.5%-
Dark Gray	1.0%-
White	0.5%-



Morbidity Study(4)

Corelation between hospital capacity and hospitalization by prefecture



Summary

- Building risk management cycle of insurance underwriting business is the “minimum standard“ for life insurer.
 - Pricing
 - Check at the time of PD
 - Monitoring & Experience Study
 - Reserving
 - Financial Control
- Introducing risk management policy explicitly will be helpful.

Appendix:

Effect of The East Japan Earthquake

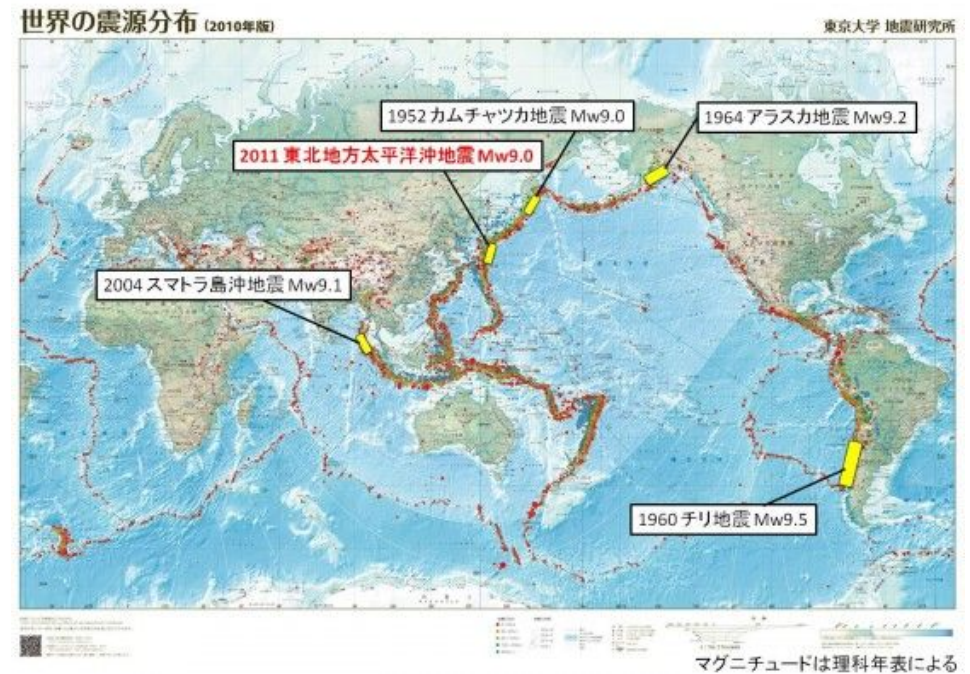
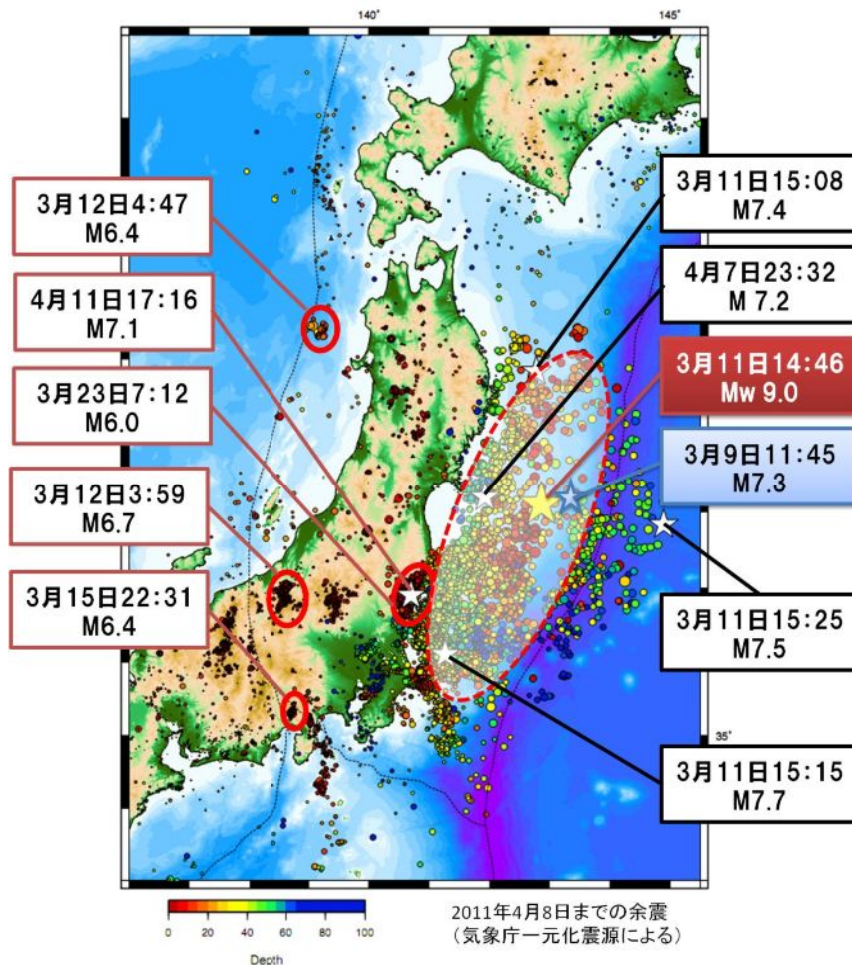
Effect of The East Japan Earthquake(1)

(1) Overview of the Earthquake

Date March 11, 2011

Magnitude 9.0(greatest ever observed in Japan)

Epicenter Tohoku region



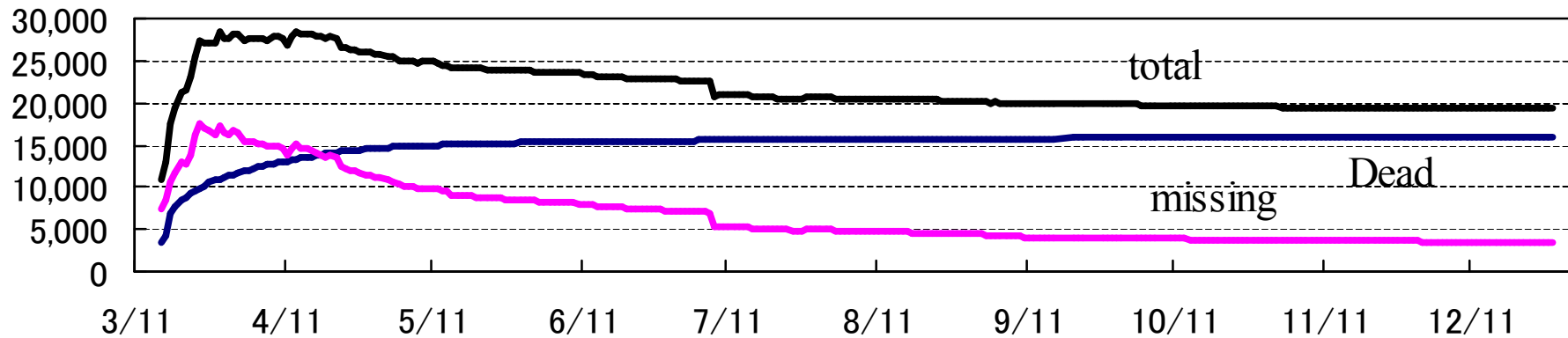
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Earthquake Research Institute; The
university of Tokyo

Effect of The East Japan Earthquake (2)

(2) Damage (as of 12/28/2011)

Dead 19,312

Missing 3,468



(3) Effect on the mortality rate

casualty of the earthquake (approximately 20,000) will increase mortality rate of 2011 by approximately 2%

Deaths in Japan

				(million)
2008	2,009	2010	2011	casualty of earthquake
1.20	1.14	1.14	?	0.02

2%

Thank you !
Terima kasih !