Swiss Re

Long Term Health Insurance Guarantees

3rd Health Insurance Conference

Maple Lam, Vice President, Life & Health

May 2012



Life Reinsurer of the Year 2011

Swiss Re

Agenda

- Guaranteed Health Insurance Products
- Case Studies – Guarantee Risks
- Managing Long-Term Guarantee Risks

Swiss Re

Guaranteed Health Insurance Products



Swiss Re

Guaranteed Health Products

- Lump Sum / Fixed Income Products
  - Cancer (Diagnosis, Hospitalisation, Surgery, etc)
  - Critical Illness
  - Hospital & Surgical Cash
  - Disability Income & Long-Term Care
- Reimbursement Products
  - Medical Expenses
  - Long-Term Care

Swiss Re

Where are guarantees offered?

Product	Countries
Cancer	Japan, Korea, Taiwan, China
Critical Illness	Japan, Korea, Taiwan, China, Hong Kong (limited pay), South-East Asia, UK, Canada
Hospital & Surgical Cash	Japan, Korea, Taiwan, China
Disability Income	UK, US, Canada
Long-Term Care	Singapore (ElderShield), US, Canada
Medical Reimbursement	Japan, Korea (up to ~10 years)

Swiss Re

What are the risks?

- Mispricing – getting the best estimate wrong
- Underwriting & claims management
- Trend – changes in claims experience over time
- Inflation – increasing healthcare costs
- Coverage Scope – unintended coverage
- Medical Advances – technological change
- Healthcare System – scope and incentives
- Policyholder Behaviour – learning how to claim

Swiss Re

Case Studies
Guarantee Risks

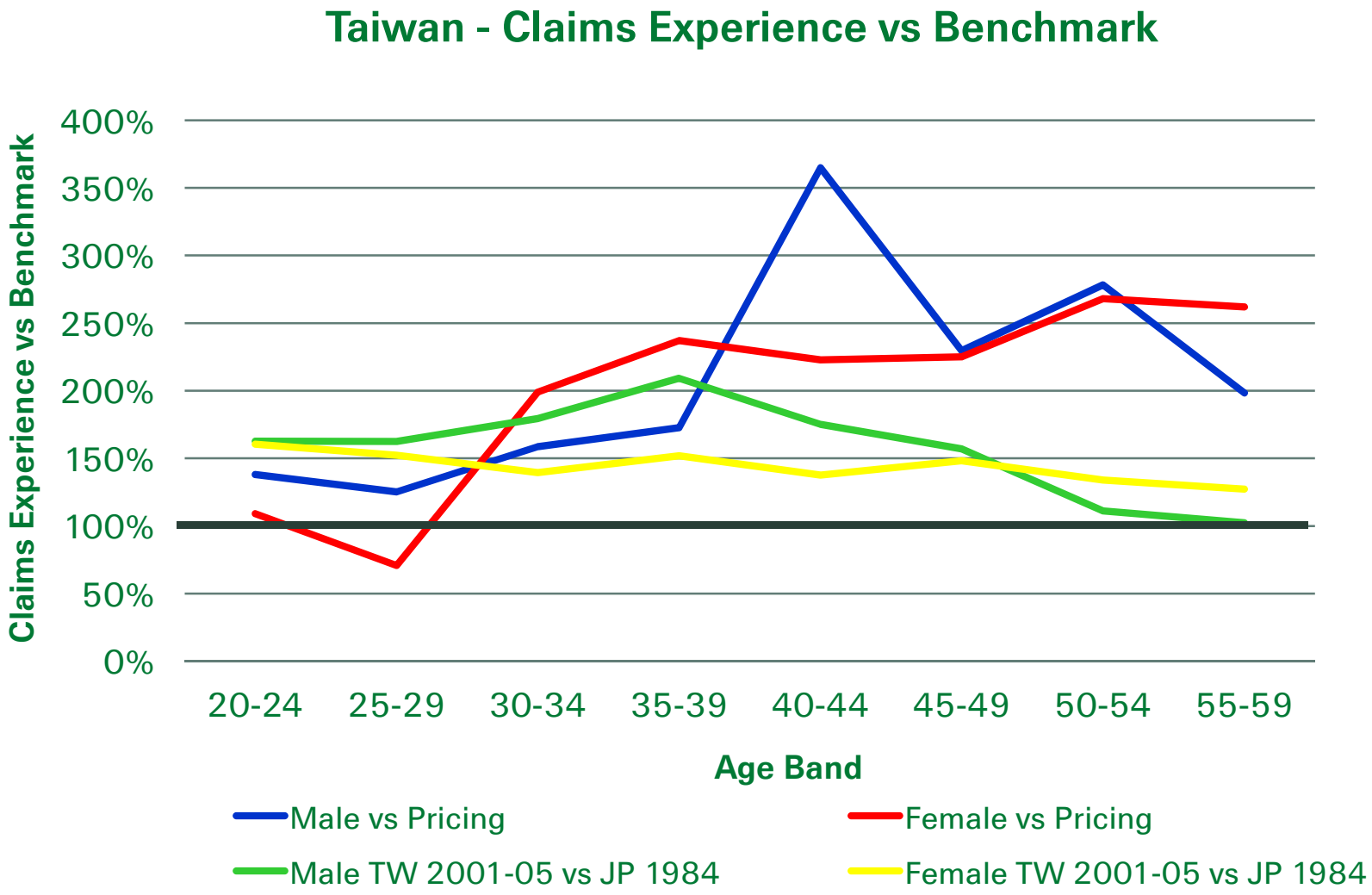
Swiss Re

Taiwan Cancer

- Early Taiwanese Cancer products originally copied from similar products in Japan
- Pricing of early Taiwanese Cancer products also copied from Japanese pricing
- Unfortunately, pattern of Cancer incidence in Taiwan is nothing like Japan...

Swiss Re

Taiwan Cancer



Swiss Re

UK Critical Illness

Insurance that is in critical condition

- The price of insuring yourself against serious illness is to rise by around 50% over the next few months, while cover for conditions such as diabetes will be withdrawn as insurers battle against the rising cost of claims on critical illness policies.

The Guardian (UK) – 2 November 2002

Why critical illness cover will cost you more

- The major providers are bracing us for increases in premiums of up to 50 per cent in the coming year.
- The cost of insuring yourself against getting a serious illness looks set to increase sharply next year. Insurers have already started to nudge up the premiums on critical illness policies but, over the next 12 months, these could soar by as much as 50 per cent.

Sunday Telegraph (UK) – 1 December 2002

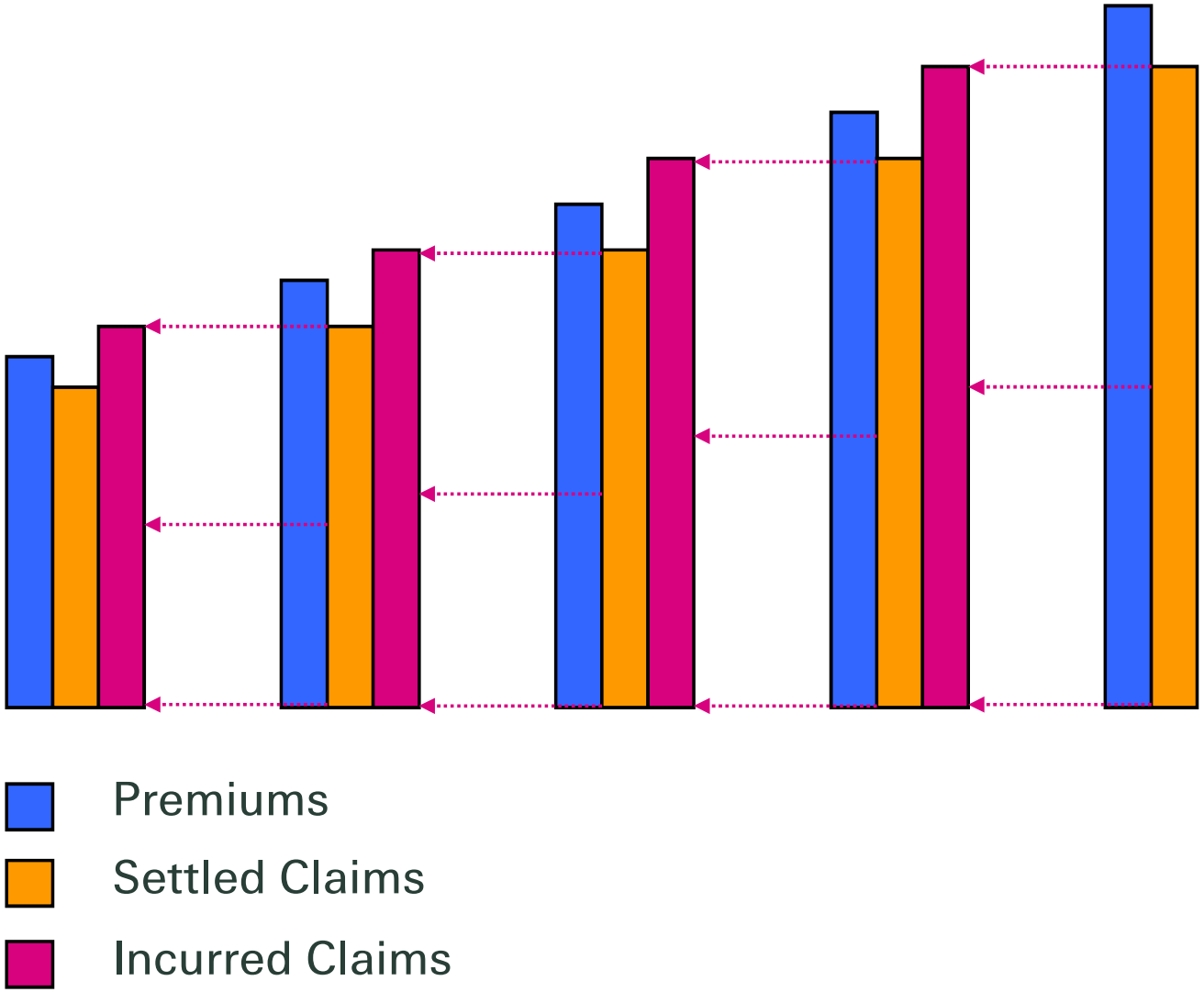
Swiss Re

UK Critical Illness

- Average delay from diagnosis to settled
- UK 1999-02 data -> 176 days !!!
- UK experience studies typically considered only claims that are settled
- With a growing portfolio, this leads to an understatement of claims experience
- Estimated IBNR/RBNS allowance
- UK 1999-02 data -> 15% of claims !!!

Swiss Re

UK Critical Illness



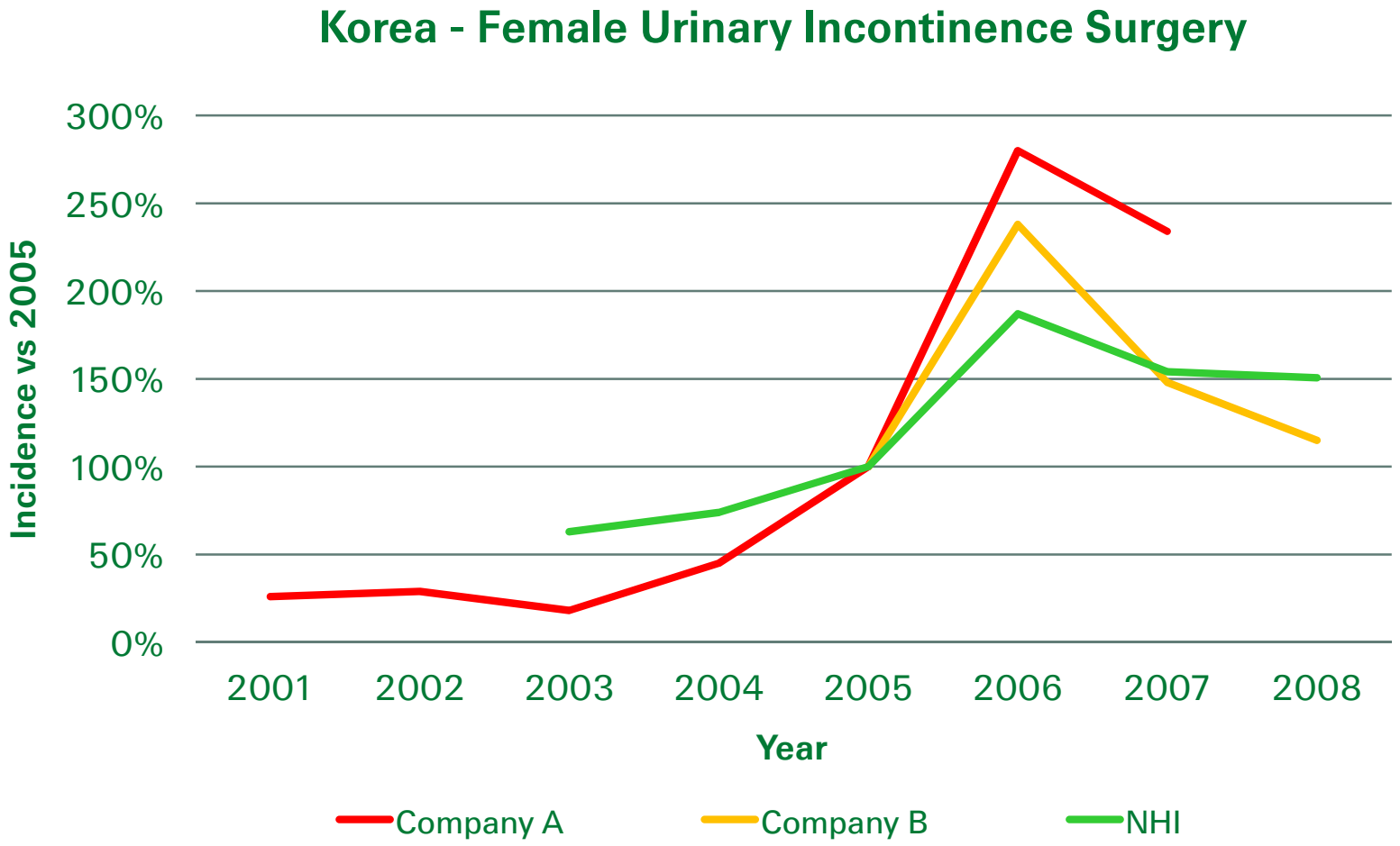
Swiss Re

Korea Surgical Cash

- Female Urinary Incontinence Surgery
  - When products first launched in late 1990s
    - Surgery cost KRW 2-3m
    - Surgery took 2 hours under general anaesthesia
    - Insurance companies paid KRW 1.5-3m lump sum
  - By mid-2000s
    - Surgery cost KRW 1m or KRW 0.2-0.3m after NHI
    - Surgery can take 20 mins under local anaesthesia
    - Insurance companies still pay KRW 1.5-3m lump sum

Swiss Re

Korea Surgical Cash



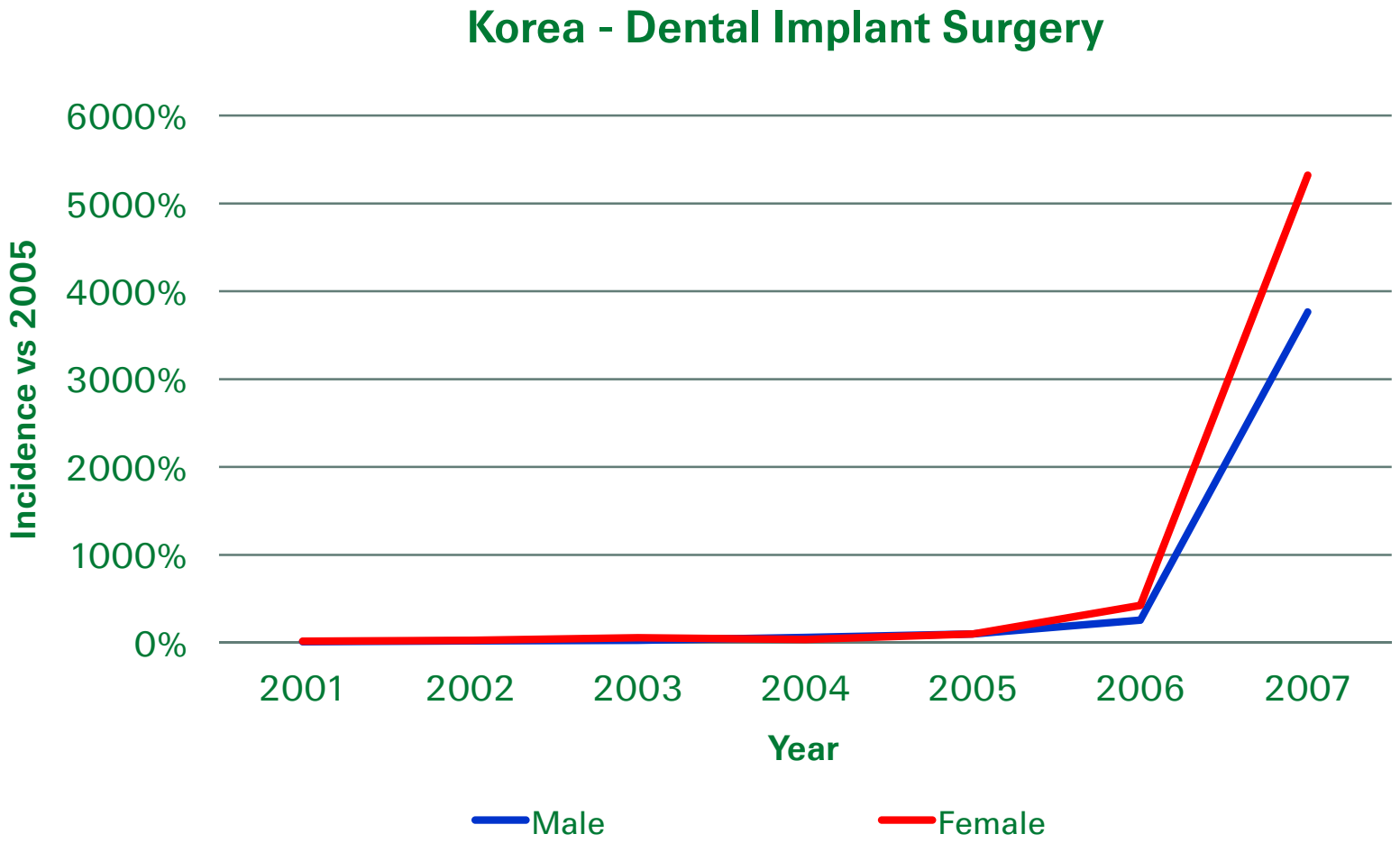
Swiss Re

Korea Surgical Cash

- Dental Implant Surgery
  - Dental implants not specifically named as a covered procedure
  - Some companies paid under “bone transplantation” in association with alveolar bone grafts
  - Dental implants cost KRW 2.0-3.5m with no NHI reimbursement
  - Insurance plans pay KRW 1.0-2.0m per surgery
  - Insurance coverage actively promoted by agents and dentists

Swiss Re

Korea Surgical Cash



Swiss Re

Japan & Korea Hospital Cash

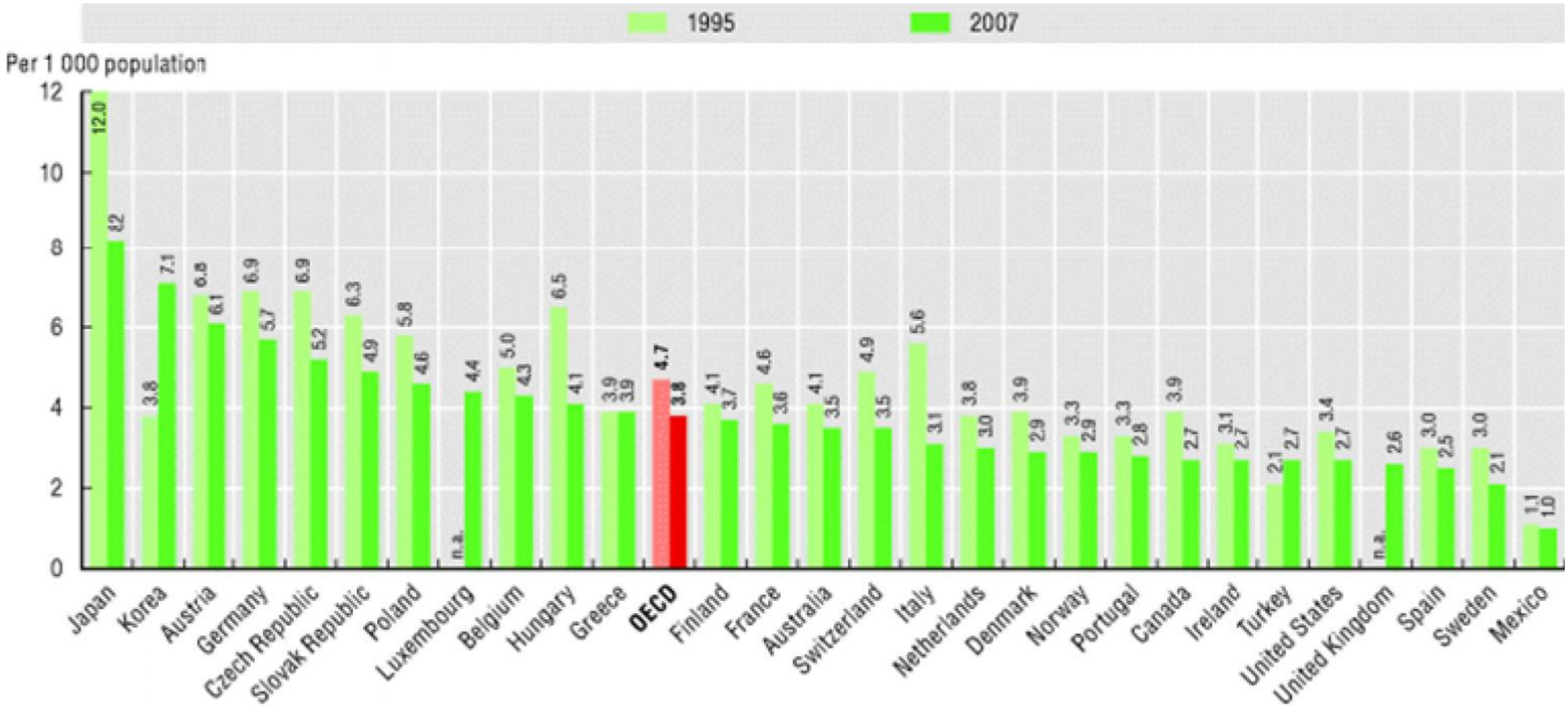
A Tale of Two Countries

Japan	Korea
Acute government budgetary constraints on healthcare funding	Increasing healthcare costs funded by increasing NHI contribution rates
Decreasing hospital beds per capita with explicit government reduction targets	Increasing hospital beds per capita mainly in small private hospitals
Expanding pilot programs to switch from "fee for service" to DRG (DPC) system	Strong resistance from healthcare providers towards DRG system
Targeted shift in long-term nursing care from hospitals to community care	New government funded long-term care scheme introduced
Decreasing hospitalisation claims trend, mostly from decreasing lengths of stay	Increasing incidence and average length of stay, especially in insured portfolio

Swiss Re

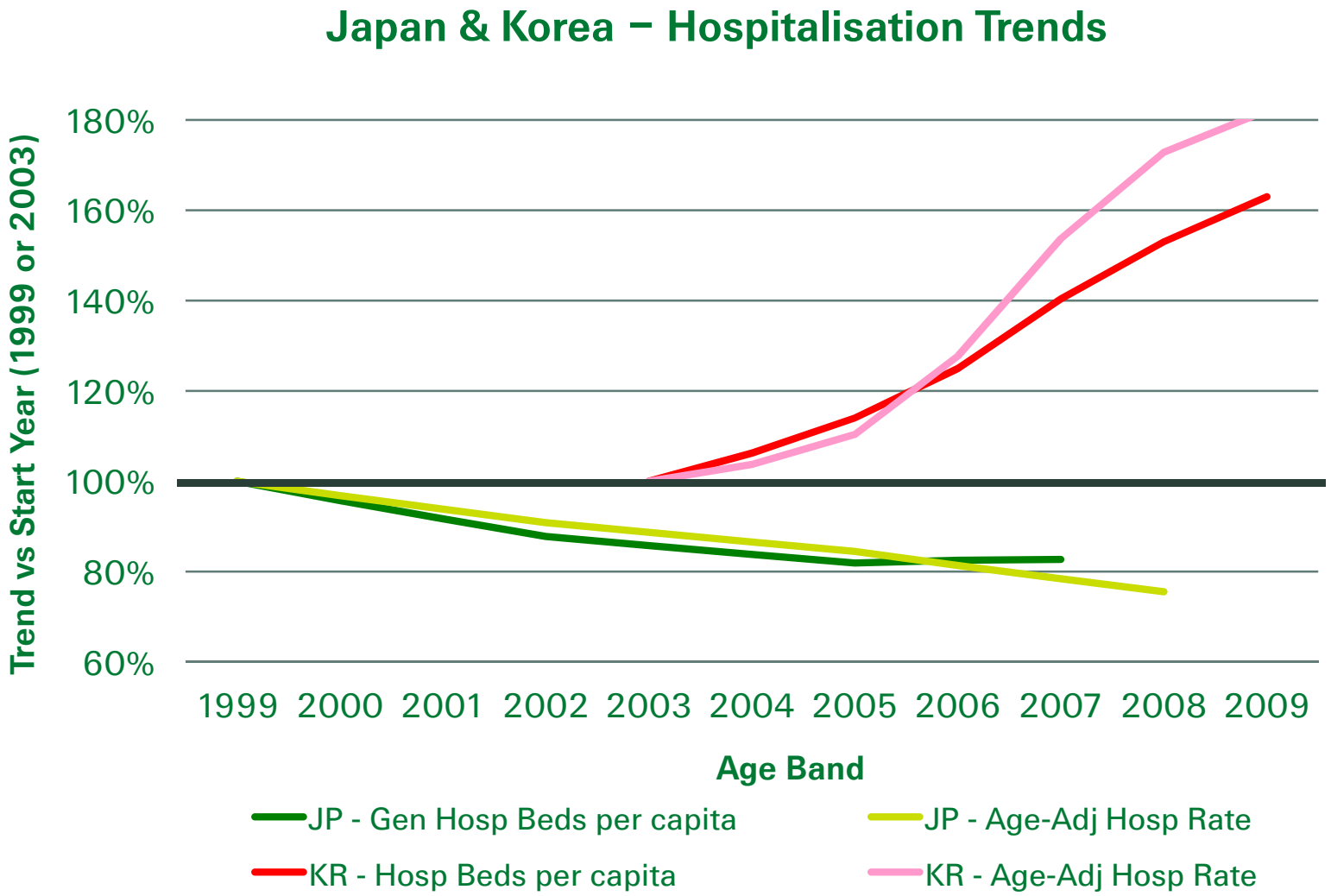
Japan & Korea Hospital Cash

Acute Care Hospital Beds per 1,000 (OECD Health Data 2009)



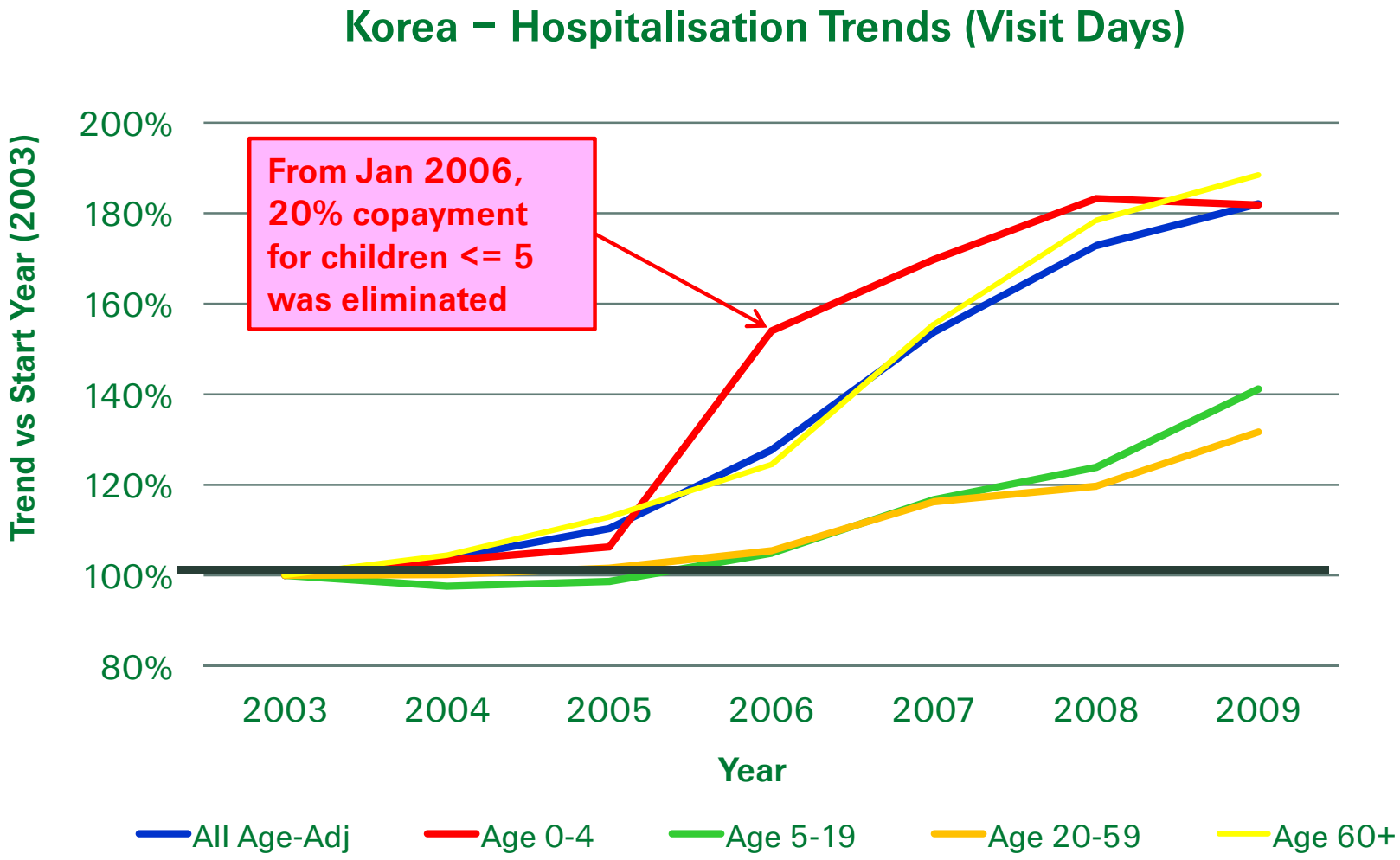
Swiss Re

Japan & Korea Hospital Cash



Swiss Re

Japan & Korea Hospital Cash



Swiss Re

Managing Long Term Guarantee Risks



Swiss Re

Forward Looking Analysis

"Those who cannot remember the past are condemned to repeat it"
(George Santayana)

"Past performance is no guarantee of future results"
(standard financial services disclaimer)

“History teaches us that things that never happened before do happen”
(Nassim Nicholas Taleb)

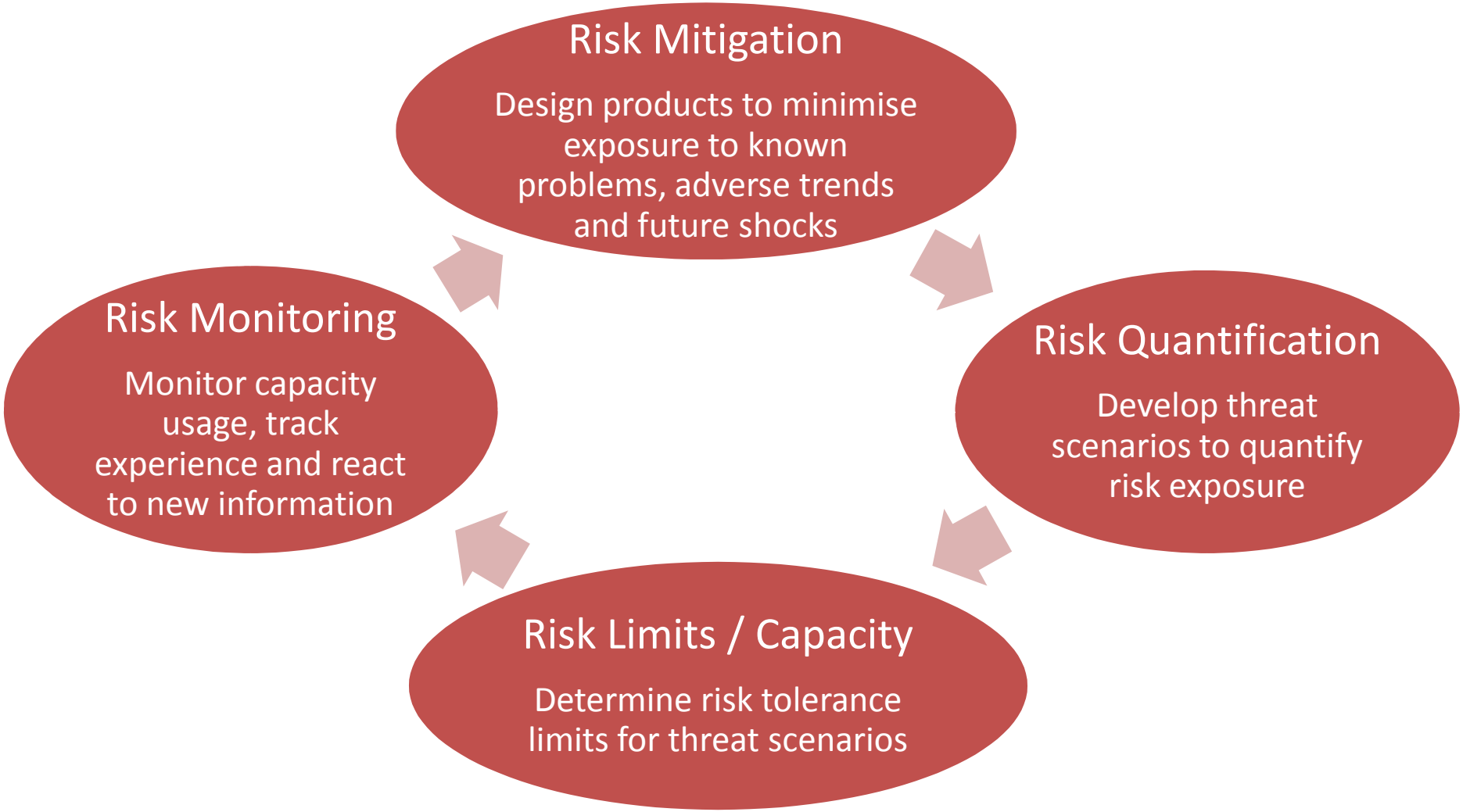
Swiss Re

Beyond death and taxes

- Things you can count on
  - People want to live longer
    - There will always be demand for better / more healthcare
  - People will try to maximise their income / benefits
    - Agents will sell policies that earn them commission
    - Doctors will recommend treatments from which they can earn income
    - Policyholders will seek out healthcare if someone else is paying for it
  - People like guarantees that don't cost anything

Swiss Re

Managing health guarantee risks



Swiss Re

Risk Mitigation – Danger Signals

- Best addressed via product design (ie prevention)
  - Insurance benefits that significantly exceed cost of treatment / financial losses
  - Coverage of elective conditions / "behavioural" risk
  - Vague / unclear definitions / scope of coverage
  - Over-reliance on the "opinion" of medical professionals
  - Poor alignment with distributors / poor quality of underwriting
  - Ignorance of current and anticipated future near-term medical developments

Swiss Re

Risk Mitigation – Controls & Limits

- Product features providing risk mitigation
  - Participation features (bonuses, dividends, etc) - but good experience needs to be used to build up a buffer
  - Inner and lifetime limits can cap underwriting losses on individuals but are rarely meaningful across a portfolio
  - Limited rate reviewability (at specified time intervals, or with an upper limit on rate increases) but there are limits
  - Decreasing sums at risk can reduce long-term exposure but might be less meaningful for customers
  - Packaging of benefits and internal hedging (bundling risky benefits with less risky benefits)
  - Diversification across benefits is beneficial but problematic across tranches of new business over time

Risk Quantification – Threat Scenarios

Actuaries do not have all the answers!



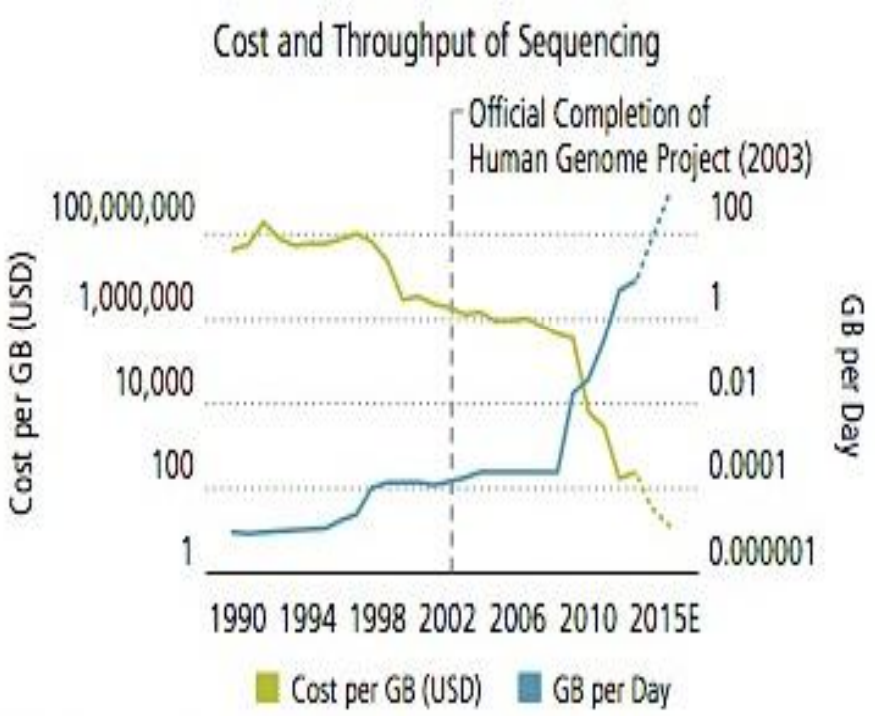





Swiss Re

Our focus must be on the future – BOTH THE GOOD

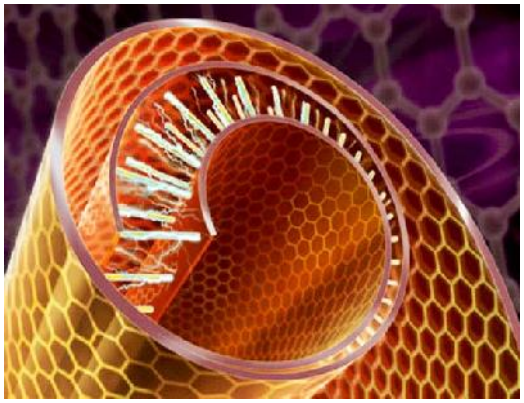
Sequencing Costs Have Plunged, and Throughput Has Climbed

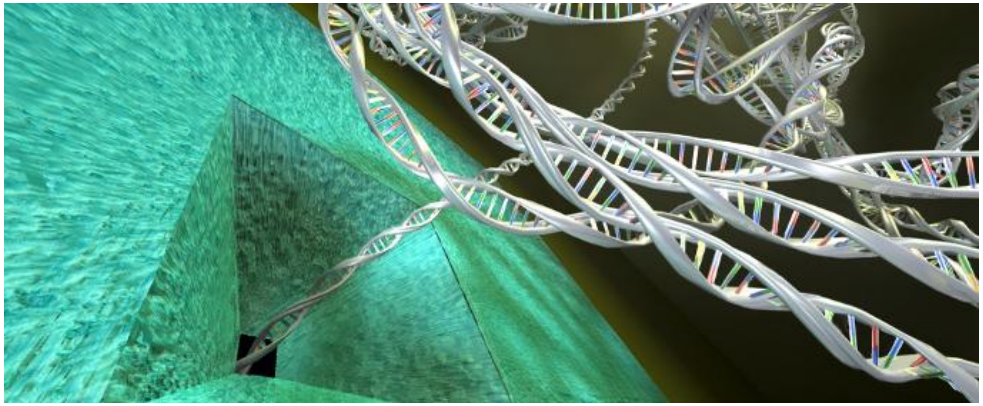


As of December 31, 2010; estimates are subject to change.
One gigabase (GB) equals 1 billion bases.
Source: Washington University and AllianceBernstein









Swiss Re

- AND THE BAD that will be with us for some time





Swiss Re

Risk Quantification – Threat Scenarios

Cancer example

- Screening scenarios
  - Existing tests (PSA in the US, thyroid ultrasound in Korea)
  - Future tests (how much can diagnosis be accelerated?)
- Risk factors
  - Infectious diseases (H. pylori, HBV, HPV, EBV, HIV, etc)
  - Carcinogens (smoking, betel nuts, diet, air pollution, etc)
- Pre-detection
  - Genetic / DNA tests of susceptibility
  - Biomarkers of risk factor exposure
- Disaster scenarios (1 in 200 years and beyond)
  - Could almost everyone be diagnosed with cancer?

Risk Quantification – Threat Scenarios

Surgical Cash example

- Safer / simpler surgical procedures (especially endoscopic, non-invasive, outpatient)
  - More aggressive / earlier surgical intervention for chronic illness
  - Higher rates of surgery in elderly lives
  - Greater willingness of patients to undergo surgery
  - Medical device improvements (stents, implants, prosthetics, artificial organs, etc)
- Changes in scope of National Health Insurance coverage
  - Political pressure for inclusion of life-saving treatments
  - Higher volumes of cheaper surgical procedures
- Disaster scenarios (1 in 200 years and beyond)
  - Could surgery be used as routine treatment for simple illnesses?

Swiss Re

Risk Limits / Capacity

Risk accumulation and diversification

- Some health risks accumulate
  - e.g. technological life-saving breakthroughs, longevity
- Some health risks diversify
  - e.g. national health system design, different types of diseases

Quantify exposure to key threat scenarios

- Sensitivity / scenario analysis
  - Impact on profitability and solvency based on capacity limits
- Incorporate impact of lapse behaviour
  - Policyholders with valuable benefits / guarantees less likely to lapse
- Set capacity limits for risk tolerance / exposure

Swiss Re

Risk Monitoring

- Regular experience and claims analysis
  - Cannot "write and forget"
  - Identify mispricing and underwriting errors quickly
  - Early recognition of claim shocks, flaws in product design and extension of coverage beyond original intentions
- Reacting to adverse experience
  - Be prepared for poor experience on new and risky products
  - News of product withdrawal often increases sales
  - Customer / distributor reaction best managed in advance
  - Actively manage large in force portfolios

Swiss Re

Final Remarks

- Are long-term health insurance guarantees really the best solution for consumers?
  - High uncertainty – windfall gain or opportunity cost?
  - Accumulated credit exposure to the insurance industry?
  - Will future healthcare triggers match existing products?
- Is it really viable for insurers to offer long-term health insurance guarantees?
  - Are healthcare needs really predictable over a few decades?
  - Is capital allocation for long-term guarantees sufficient?
  - Is profitability sufficient for the level of risk assumed?

Swiss Re

Thank you



Life Reinsurer of the Year
2011

Swiss Re

Legal notice

©2012 Swiss Re. All rights reserved. You are not permitted to create any modifications or derivatives of this presentation or to use it for commercial or other public purposes without the prior written permission of Swiss Re.

Although all the information used was taken from reliable sources, Swiss Re does not accept any responsibility for the accuracy or comprehensiveness of the details given. All liability for the accuracy and completeness thereof or for any damage resulting from the use of the information contained in this presentation is expressly excluded. Under no circumstances shall Swiss Re or its Group companies be liable for any financial and/or consequential loss relating to this presentation.