



Swiss Re



# Mortality and Morbidity Gaps, Aging Society and Implications on Product Development

July 2012



## Executive Summary

- There has never been a better time for us to discuss our customers' protection needs, address the challenges and work together to capture the opportunities ahead of us.
- Opportunities in front of us:
  - Mortality Protection: Under-insurance of over **USD 100 billion premium** in 2010
  - Health Protection: Under-insurance of over **USD 200 billion premium** in 2020
  - Aging Society: An old age dependency ratio of over **40%** in 2030
- Time for action - Going beyond Numbers
  - Find new ways of educating customers about their protection needs
  - Innovate in products and distribution channels in order to close the gap.



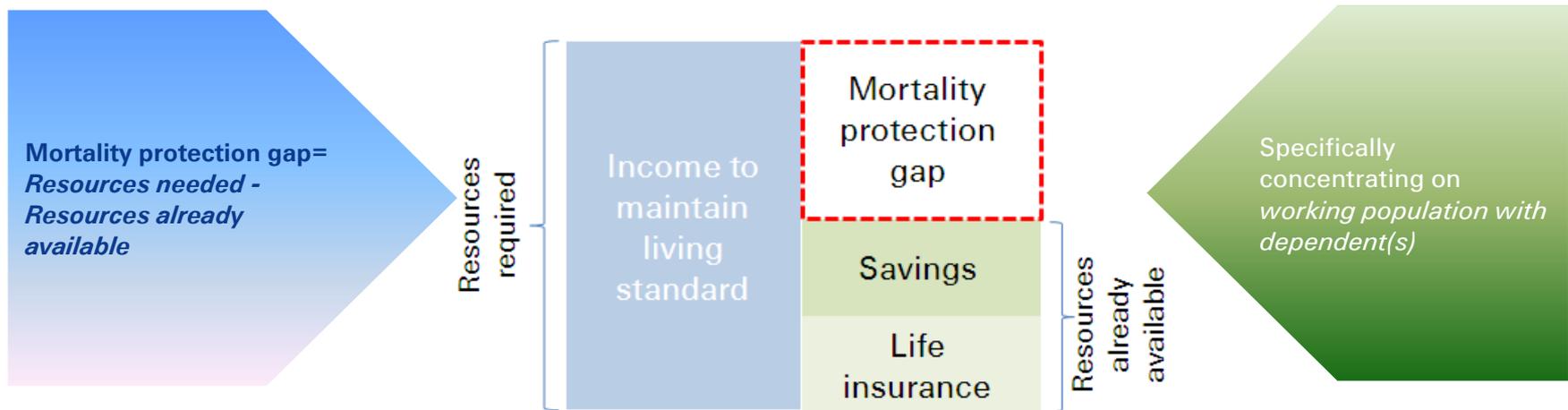
# Mortality Protection Gap in Asia





# Background of Mortality Protection Gap Study

This is the first protection gap study to feature multiple markets in Asia-Pacific. Swiss Re hopes that such study will be beneficial to both the insurance industry and the public.



This study compares and contrasts mortality protection gap and its trend across the region:

Provides valuable insights into the stage of development of protection products in different markets  
Quantifies growth opportunities for life insurance in Asia



## Expanding mortality protection gap...

### Mortality protection gap

<i>USD bn</i>	2000	2004	2007	2010	CAGR* (2000 to 2010)
China	3,731	6,521	11,162	18,745	18%
Japan	6,204	6,555	6,314	8,445	3%
India	2,045	3,061	4,876	6,676	13%
South Korea	1,759	2,477	3,688	3,615	7%
Australia	550	822	1,027	989	6%
Indonesia	256	443	531	711	11%
Thailand	294	321	465	533	6%
Hong Kong	396	401	425	473	2%
Malaysia	171	224	288	380	8%
Vietnam	99	142	240	365	14%
Singapore	154	170	225	305	7%
Taiwan	103	234	197	175	5%
<b>Total</b>	<b>15,762</b>	<b>21,372</b>	<b>29,437</b>	<b>41,411</b>	<b>10%</b>

\* CAGR = cumulated annual growth rate

**A SIZABLE and EXPANDING mortality protection gap in all markets. The total gap has reached USD 41 TRILLION**

**From 2000 to 2010, the total mortality protection gap has been more than DOUBLED, with average 10% growth per year**

#### Key Assumptions:

- Income to maintain living is 10x of average annual salary
- Working population: 50% has dependent(s). Non-working population: 80% aged 15-64 ( of which 50% has dependent(s)); 20% aged 65+ (of which 25% has dependent(s))
- Savings= household financials assets exclude life insurance
- Life insurance= sum insured of life in force



## How about gap per working person?

### Mortality protection gap per working person with dependents

USD	2000	2004	2007	2010	CAGR* (2000 to 2010)
South Korea	155,267	208,268	302,746	290,210	6%
Japan	183,520	197,046	188,650	258,037	3%
Hong Kong	234,663	227,585	229,733	253,513	1%
Singapore	149,475	156,523	183,651	219,939	4%
Australia	114,483	160,604	185,304	168,630	4%
Malaysia	35,125	41,686	50,277	61,972	6%
China	10,279	17,287	28,953	47,515	17%
Taiwan	21,018	45,630	36,694	31,531	4%
India	10,610	14,754	22,121	28,673	10%
Thailand	17,152	17,504	24,386	27,288	5%
Vietnam	5,248	6,825	10,776	15,360	11%
Indonesia	5,276	8,449	9,564	12,079	9%

The high gap per working person in developed countries brings opportunities to develop **high net worth protection products**

\* CAGR = compound annual growth rate

### ASIA

- We can see the gap ranges widely, from USD 12,079 (in Indonesia) to USD 290,210 (in South Korea), suggesting huge heterogeneity across the region
- Especially for developed and matured markets, the gap can be very substantial. This can be, at least partly, explained by high income and cost of living in these markets



## Increase in current insurance coverage is not enough to fill the gap...

### Sum insured per working person with dependents

USD	2000	2004	2007	2010	CAGR* (2000 to 2010)
Australia	67,446	111,570	168,399	269,305	15%
Japan	139,614	125,691	104,145	129,101	-1%
Singapore	46,500	58,992	86,730	110,034	9%
Taiwan	108,892	77,529	89,060	96,154	-1% <sup>+</sup>
Hong Kong	48,168	53,822	58,470	68,396	4%
South Korea	19,708	29,504	44,524	37,434	7%
Malaysia	6,793	9,101	11,386	12,842	7%
Thailand	1,029	1,261	2,315	3,572	13%
India	248	467	1,518	2,158	24%
China	110	343	502	1,796	32%
Indonesia	207	323	640	973	17%
Vietnam	44	213	239	290	21%

The average sum insured per working person with dependents in most of the countries has increased between 2000 and 2010

The life in force has contributed to the tightening of the mortality gap, especially in the developed markets.

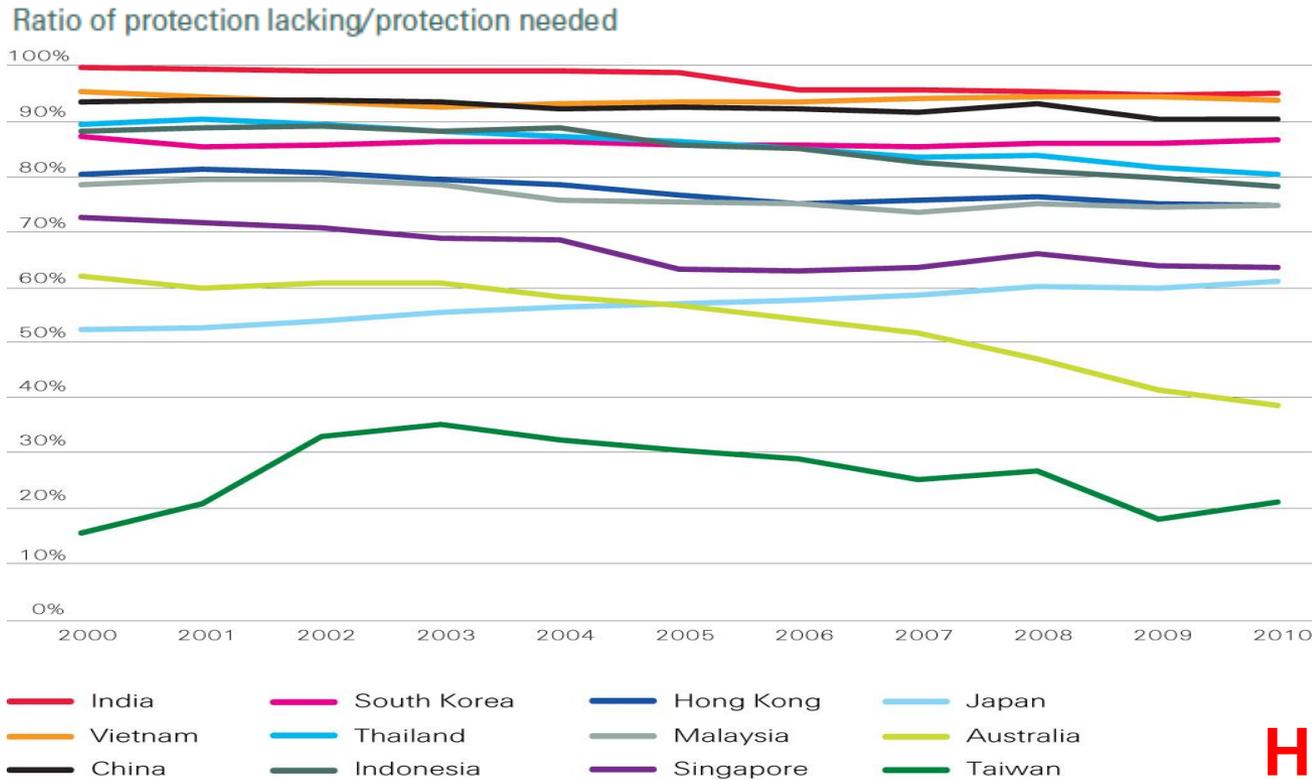
\* CAGR = compound annual growth rate

**In spite of rising sum insured, the protection gap still widens, as the growth of life insurance coverage has lagged behind economic growth**

<sup>+</sup> The CAGR for sum insured in Taiwan from 2000 to 2010 is -1%. This is mainly attributable to the decrease in sum insured for group business (-5.8% from 2000 to 2009); the sum insured for individual business has actually increased by 4.3% throughout the years.



# Trend of the gap...



**LARGE GAP**  
 Inadequacy of protection in Asia and in particular the developing markets.

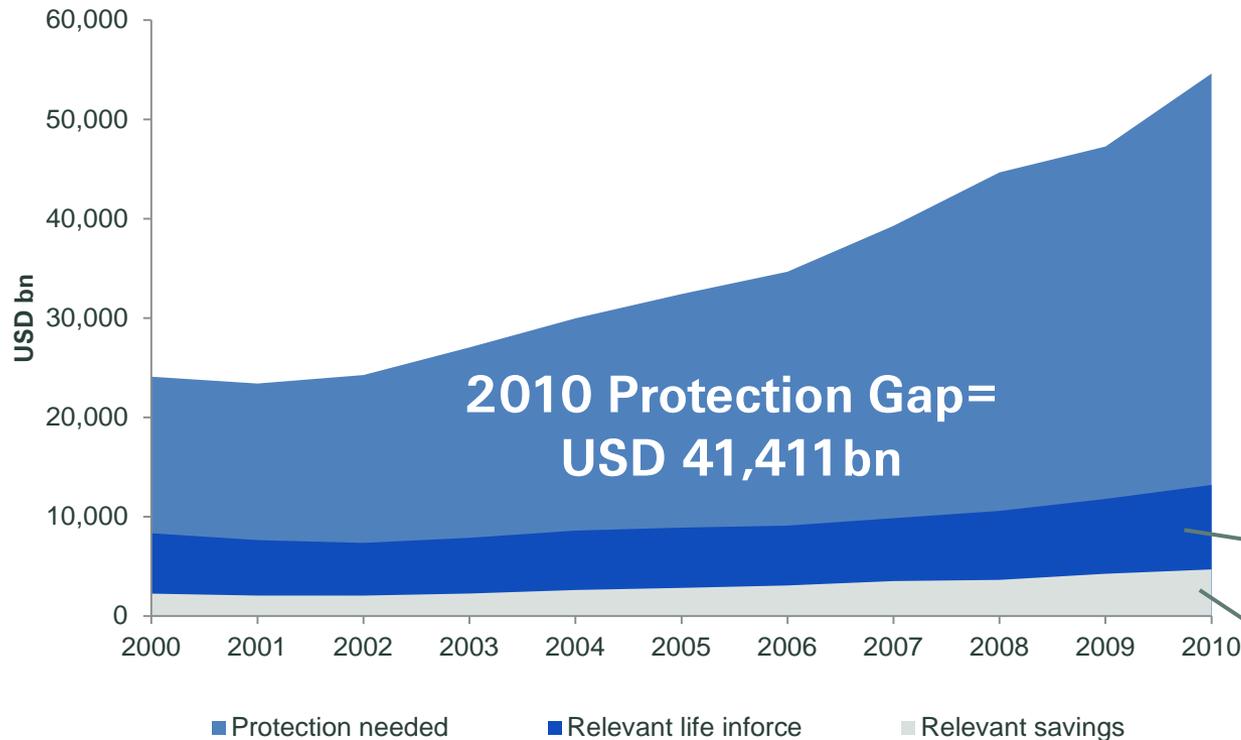
**FALLING RATIO, but...**  
 Does not necessarily mean a shrinking protection gap in absolute sense. Due to economic growth, the aggregate protection need increase, leading to insurance market expansion



**HUGE POTENTIAL FOR BUSINESS!!!**



# Asia Region Protection Gap



*Per Capita Protection Gap (Average 2010)*

Protection Gap per person with dependents USD 76,239

Protection Gap per working person with dependents USD 117,896

Protection lacking  
Protection needed 69.1%

2010

Life insurance = USD 8,507bn

Savings = USD 4,693bn

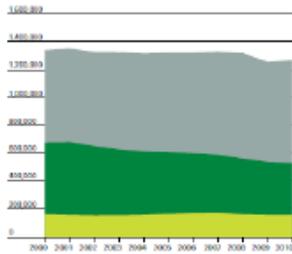
The huge mortality protection gap implies massive room for insurers to offer good value insurance products to customers

The high gap per working person brings opportunities to develop high net worth protection products

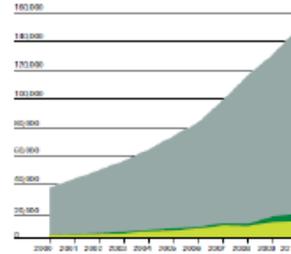


# Protection Gap in Various Markets

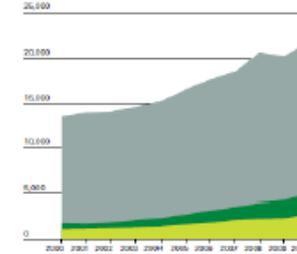
Japan = 8,445bn



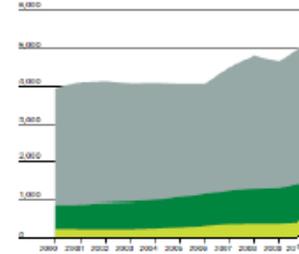
China = 18,745bn



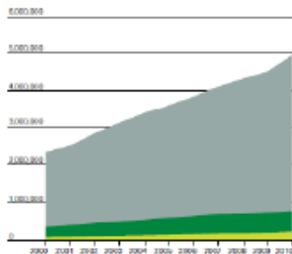
Thailand = 533bn



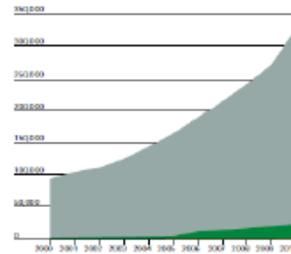
Hong Kong = 473bn



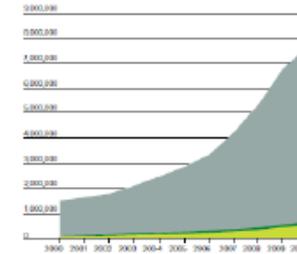
South Korea = 3,615bn



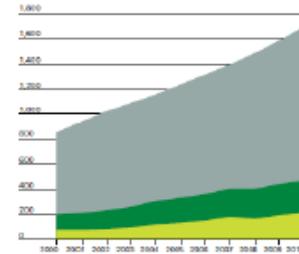
India = 6,676bn



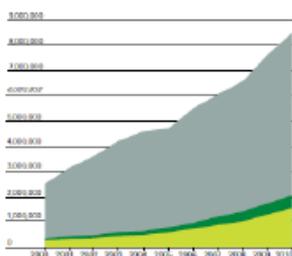
Vietnam = 365bn



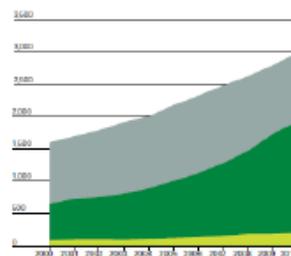
Malaysia = 380bn



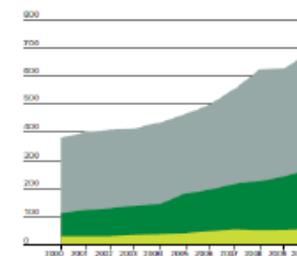
Indonesia = 711bn



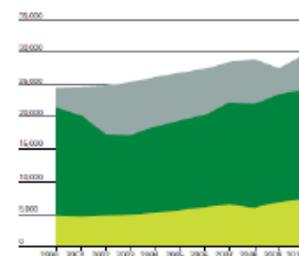
Australia = 989bn



Singapore = 305bn



Taiwan = 175bn



■ = Protection Gap

■ = Life Insurance

■ = Savings



## What is the implication for Insurers?

Total Protection Gap in 2010=  
USD 41,411bn

The gap equals to about **5 TIMES** the  
current amount of life insured in  
all the 12 Asian markets

Potential total new annual premium  
volume = USD 41,411bn x 0.3%\*  
= USD 124.2bn



\* Based on Swiss Re's assumptions



## Actions by Insurers & Regulators?

### Arouse public awareness

- Insurance companies, governments and industry regulators help publicise the report and worked collectively to promote greater awareness of the benefits of insurance protection to the general public

### Distinct Solutions & Channels

- The report shows markets with a modest gap per capita but a very large population - such as India and China; while there are others with fewer customers with insurance needs but where the potential size per policy is large - such as Hong Kong. These two scenarios require different product and distribution solutions.

### Address the rationale

- Apart from looking at the numbers, we should focus on the underlying rationale behind the large protection gap – Is the gap initiated by the Asian traditional reliance on support from extended families? Or insurers not providing enough clear message of the value and cost of life insurance?

### Propose Solutions

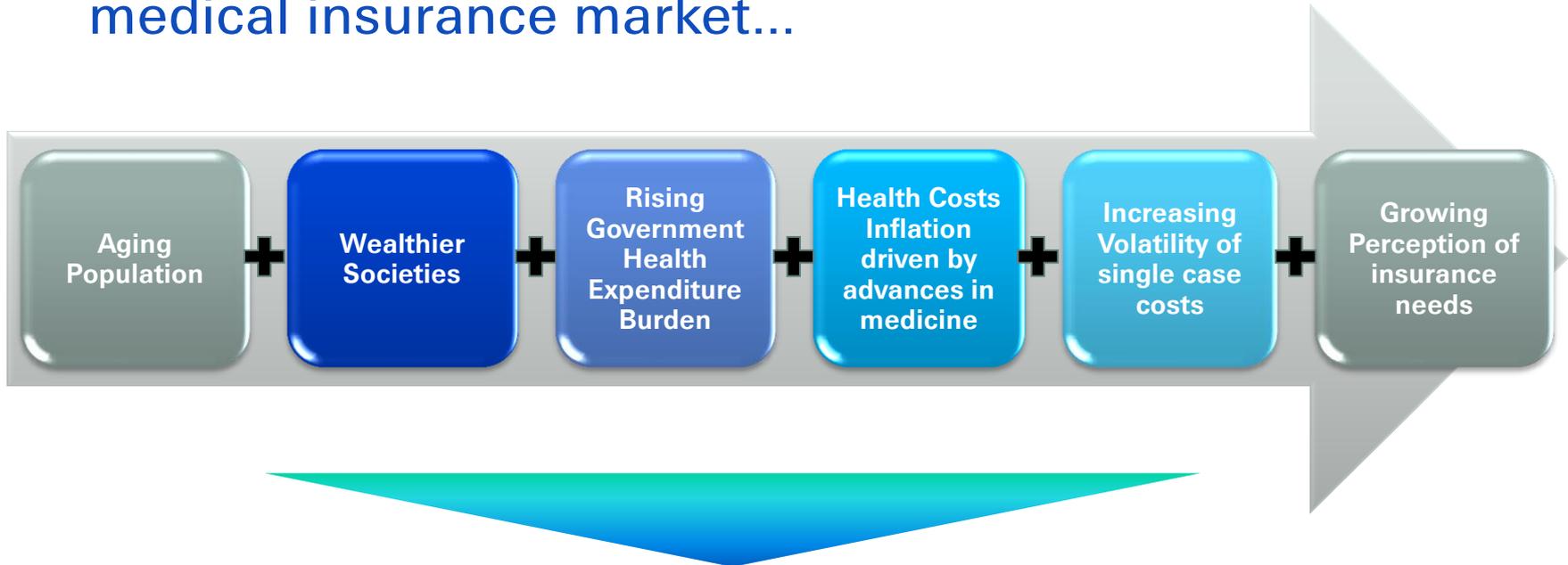
- In order to tackle the protection gap challenge, life insurers should come up with strategies including diversifying distribution channels, focus on direct-to consumer approach etc.
- Insurers, governments and industry regulators should also frame discussions about potential solutions to close the protection gap



# Health Protection Gap in Asia



## Massive opportunities in the health and medical insurance market...



**Massive room and opportunities for insurers to offer good value health/medical insurance products to customers!**



# Major trends leading to the increasing need of health/medical insurance

## Major Trends in Asia

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### Aging Population

- The aging population will add pressure to the medical expenses needed in the region. There will also be less contribution from the society.

### Wealthier Societies

- People tends to spend more on health and medical as they get wealthier

### Rising Government Health Expenditure Burden

- A lot of governments in Asia are undergoing health reforms in order to trim down the financial burden from health expenditure

### Health Costs Inflation driven by advances in medicine

- The health and medical cost has been increasing rapidly over time, leading to elevating health expenditure

### Increasing Volatility of single case costs

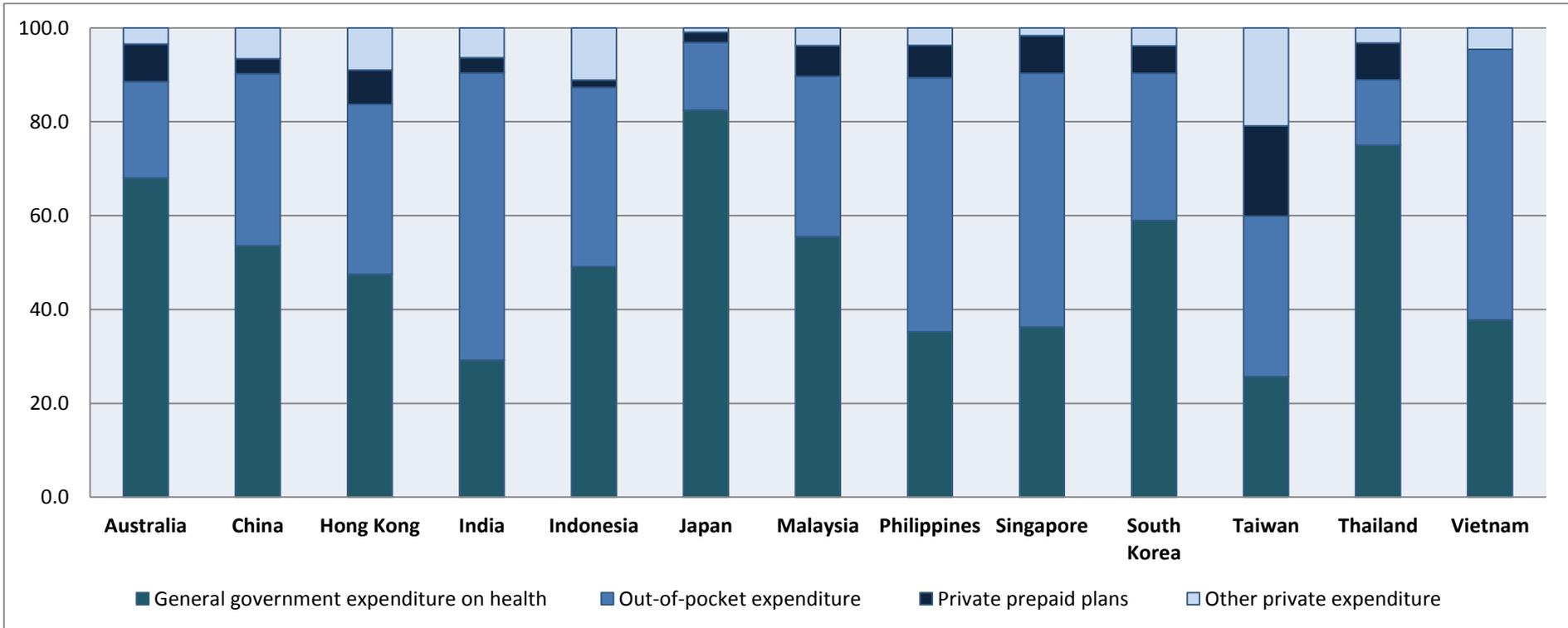
- Apart from the increasing medicine cost, the surgical cost and hospital utilisation cost also amplify the needs for insurance

### Growing Perception of insurance needs

- People are now more aware of the risk of getting serious illness and inability to pay medical expenses and demanding for more insurance

# The Composition of Health Expenditure across Asia shows a material amount of "out of pocket" expenditure

**Health Expenditure Breakdown in 2010**  
 (expressed as a percentage of total health expenditure)

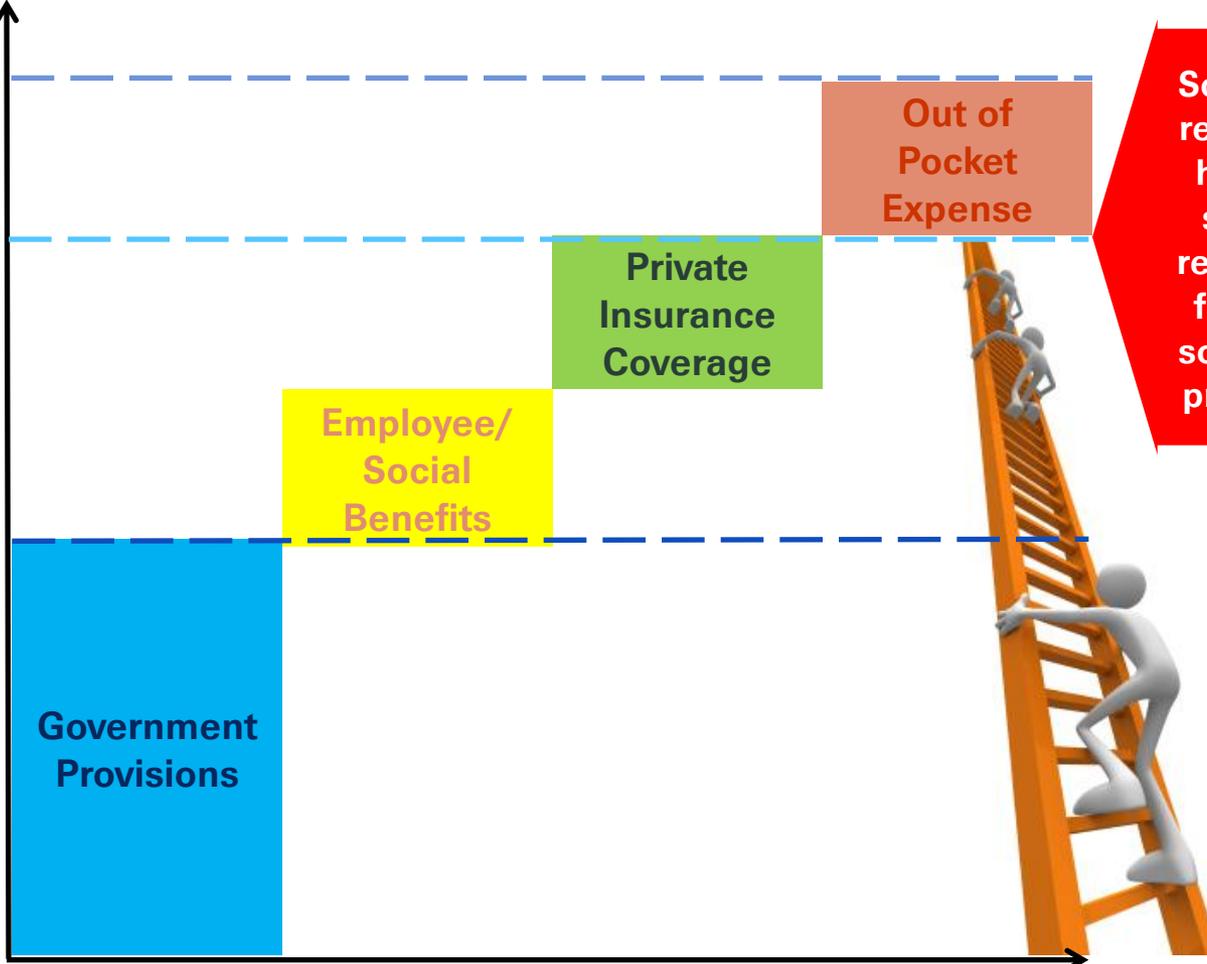


# The size of health protection gap is "a matter of choice"...

Some demand higher level of health/ medical services which triggers use of own savings/ assets

People who is comfortable with the quantity and quality of public health/ medical services; they have no health gap

Required Level of Medical Service



Out of Pocket Expense

Private Insurance Coverage

Employee/ Social Benefits

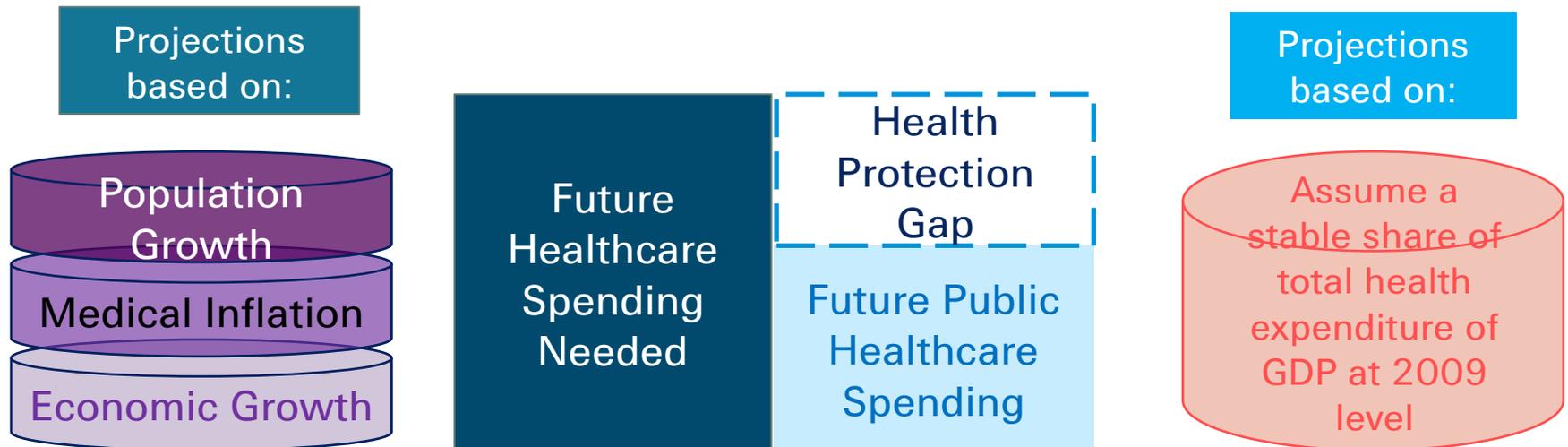
Government Provisions

Some people may require additional health/ medical services which requires coverage from employee/ social benefit and private insurance



# Background of Health Protection Gap Study

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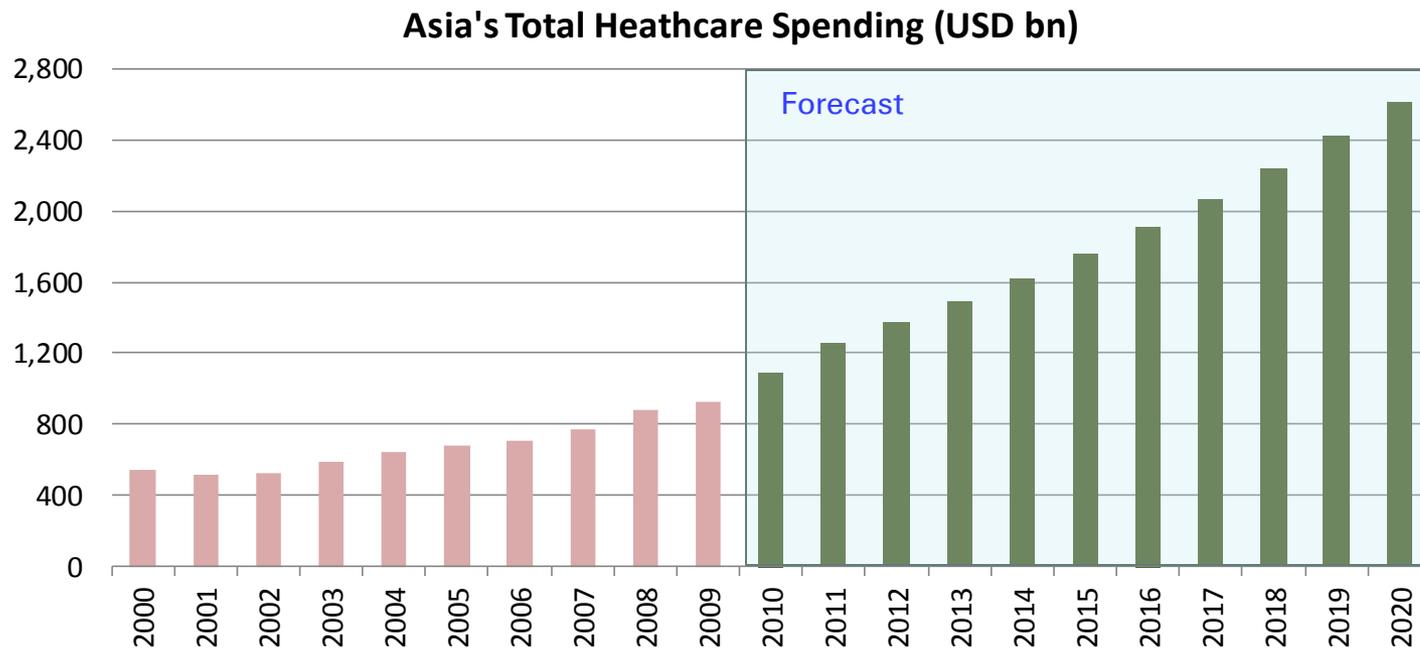


In this study, the healthcare spending protection gap is measured as the difference between the level of healthcare spending (S1) that an economy would need over time and the amount it would spend (S2)

**Provides valuable insights into the stage of development of protection products in different markets**  
**Quantifies growth opportunities for health/ medical insurance in Asia**



Healthcare spending in Asia is projected to increase to **USD2.6 trillion** by 2020. The insurance industry has a great opportunity to step in and participate in this fast growing market by providing effective solutions to consumers



Note: Countries included Australia, China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand, Vietnam

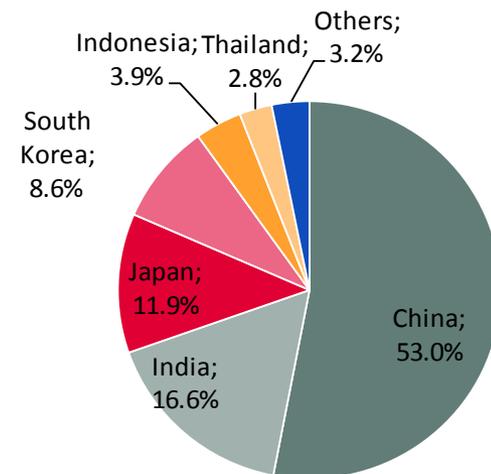
Source: United Nations, National Statistics, Swiss Re



Even if the Asian governments continue to fund healthcare expenditure as a stable share of GDP, there remains a sizeable health gap of **USD226 billion** by 2020

	S1	S2	S1- S2
	Swiss Re projection	Individual countries THE/GDP ratio unchanged at 2009	The Gap
	USD bn	USD bn	USD bn
2010 F	1,091	1,074	17
2011 F	1,252	1,214	38
2012 F	1,371	1,331	41
2013 F	1,488	1,429	59
2014 F	1,616	1,539	78
2015 F	1,758	1,657	101
2016 F	1,909	1,780	130
2017 F	2,069	1,912	157
2018 F	2,240	2,057	183
2019 F	2,421	2,215	206
<b>2020 F</b>	<b>2,613</b>	<b>2,387</b>	<b>226</b>
2000-2009 average growth	6.1%	6.1%	---
2010-2020 average growth	9.1%	8.3%	---

Healthcare Spending Gap by Countries (2020)



Note: S1 based on projections of economic growth, medical inflation and population growth; S2 based on individual country's stable share of total health expenditure of GDP at 2009 level  
 Source: United Nations, National Statistics, Swiss Re



# Healthcare protection gap in different Asian Countries

## Asia's healthcare spending/ GDP share (%)

Year	Australia	China	Hong Kong	India	Indonesia	Japan	Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand	Vietnam	Total
2000	8.0%	4.6%	5.1%	4.6%	2.0%	7.7%	4.8%	3.2%	3.4%	2.8%	5.5%	3.4%	5.4%	6.5%
2005	8.4%	4.7%	5.1%	4.0%	2.1%	8.2%	5.7%	4.1%	3.6%	3.0%	6.0%	3.5%	6.0%	6.4%
2009	8.5%	4.6%	5.1%	4.2%	2.4%	8.3%	6.5%	4.8%	3.8%	3.9%	6.7%	4.3%	7.2%	6.1%

## Asia's healthcare protection gap (S1 minus S2), USD bn

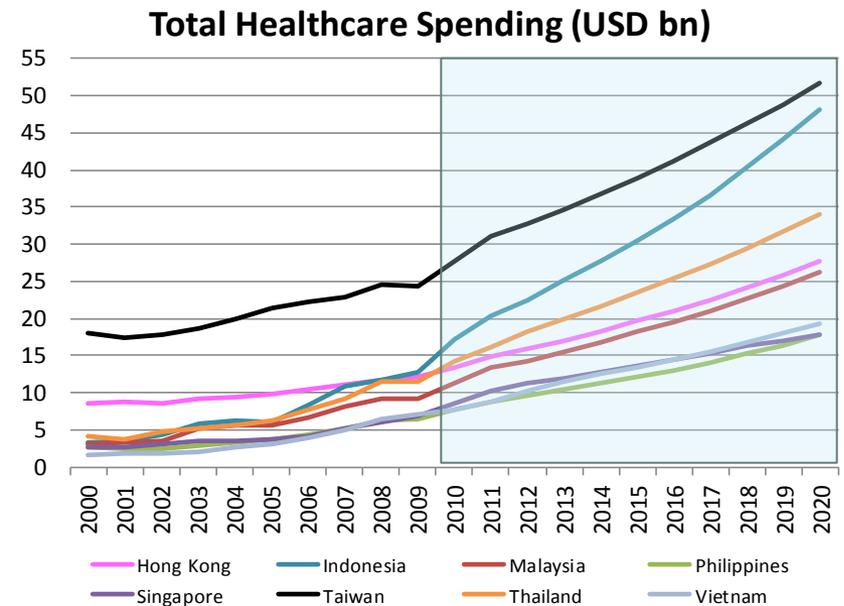
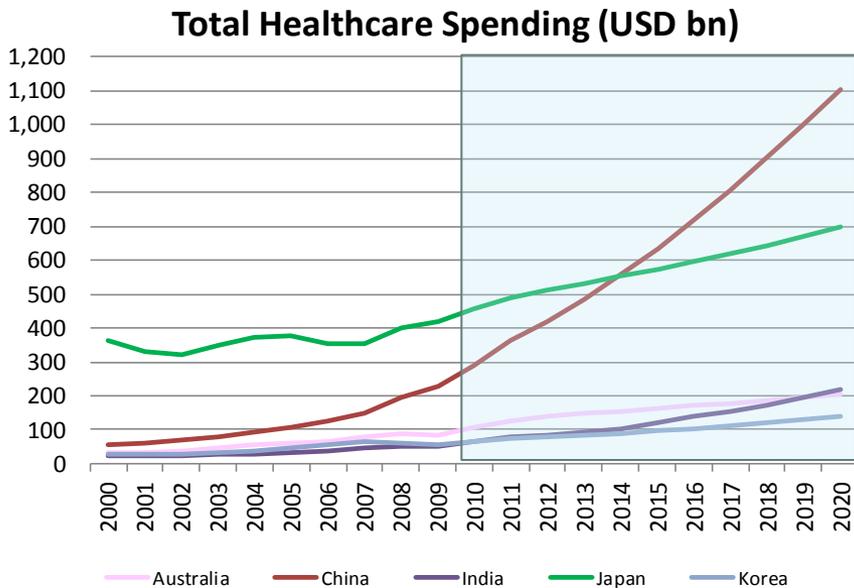
Year	Australia	China	Hong Kong	India	Indonesia	Japan	Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand	Vietnam	Total
2010F	0.1	15.6	0.1	-0.8	0.2	0.9	0.3	0.1	0.1	0.2	0.0	0.2	0.2	<b>17.2</b>
2011F	0.1	32.8	0.1	1.2	0.5	0.5	1.5	0.3	0.1	0.3	0.0	0.6	0.2	<b>38.3</b>
2012F	0.2	32.1	0.1	0.7	0.9	0.8	2.7	0.3	0.1	0.4	0.2	1.9	0.2	<b>40.6</b>
2013F	0.2	45.5	0.2	-1.1	1.4	6.2	2.9	0.5	0.1	0.4	0.1	2.3	0.3	<b>58.9</b>
2014F	0.4	56.4	0.2	1.3	2.2	8.5	4.0	0.9	0.2	0.4	0.1	2.9	0.3	<b>77.6</b>
2015F	0.5	68.9	0.2	7.1	3.1	9.9	5.4	1.1	0.3	0.4	0.1	3.4	0.2	<b>100.6</b>
2016F	0.5	85.8	0.3	13.2	4.0	12.0	7.2	1.4	0.5	0.5	0.1	3.9	0.2	<b>129.7</b>
2017F	0.6	100.6	0.5	17.9	5.0	15.2	9.4	1.6	0.6	0.5	0.1	4.5	0.3	<b>156.8</b>
2018F	1.1	111.8	0.6	23.3	6.3	18.7	12.1	1.9	0.9	0.6	0.2	5.0	0.4	<b>182.9</b>
2019F	1.3	118.8	0.8	29.8	7.6	22.2	15.4	1.7	1.1	0.7	0.2	5.6	0.4	<b>205.6</b>
2020F	1.1	120.0	0.9	37.5	8.9	27.0	19.4	2.2	1.5	0.8	0.2	6.2	0.4	<b>226.2</b>

Source: United Nations, National Statistics, IMF, Swiss Re

- Asia countries will see rising health spending protection gap over time
- Some markets start with a relatively high healthcare/GDP ratio in 2009, which likely results in a smaller gap. There is also a lingering concern on whether that level of healthcare/GDP ratio can be maintained over the long-run



Total healthcare expenditure by Asian economies will continue to increase in the next decade. Emerging markets, with low healthcare expenditure as share of GDP, will see faster growth



Source: United Nations, National Statistics, Swiss Re Economic Research & Consulting



## What should be do next?

Implications and questions for insurance companies to address given massive health protection gap

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Do you have a health strategy?



Does your range of products today cover your different customer segments?



Have your distribution channels been trained to sell health/ medical products?



Do you know how your customers want to buy?

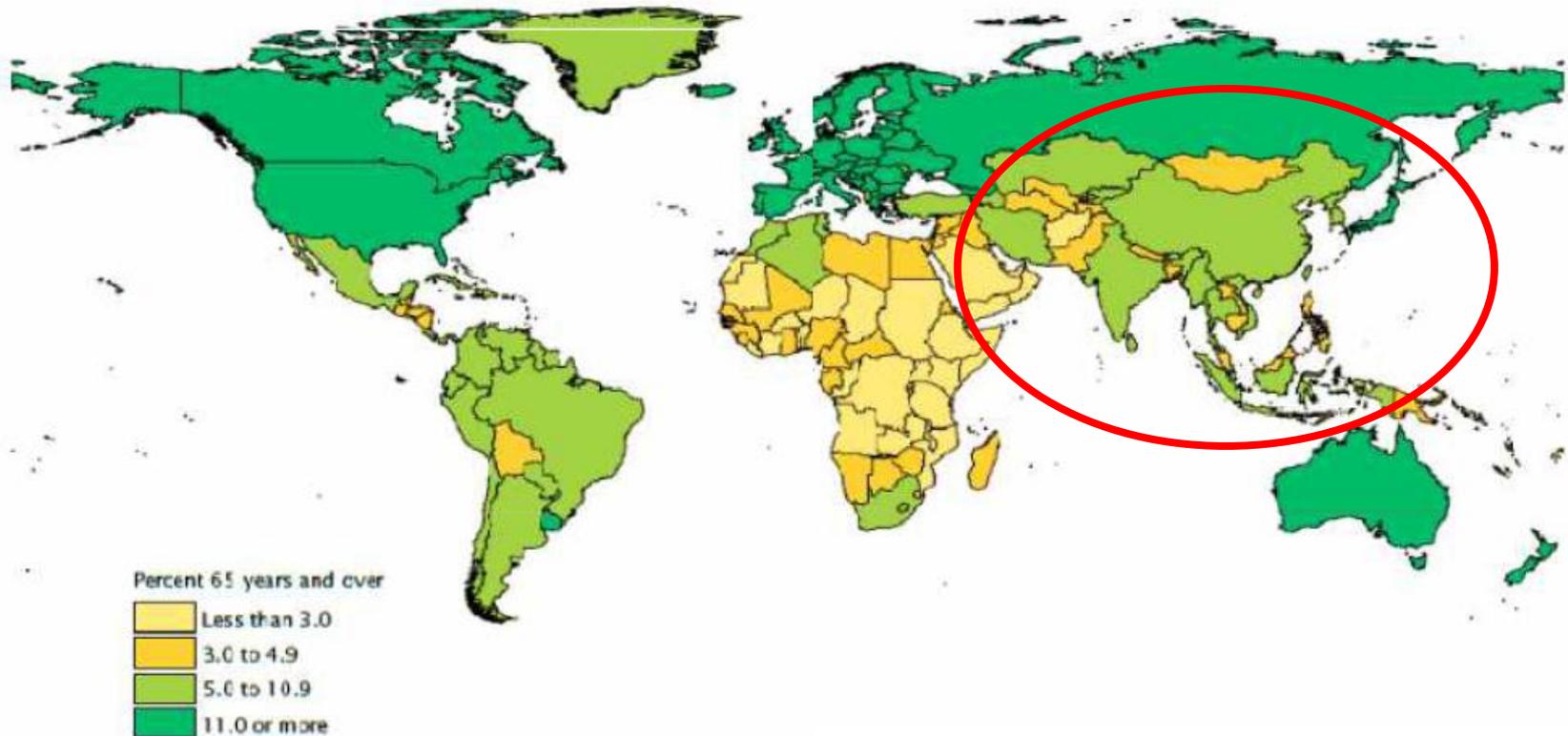


# The Ageing Society and Consumer Perceptions



# The aging problem in Asia is emerging and worsening...

Percent population aged 65 and over: 2008



Source: U.S. Census Bureau, 2008



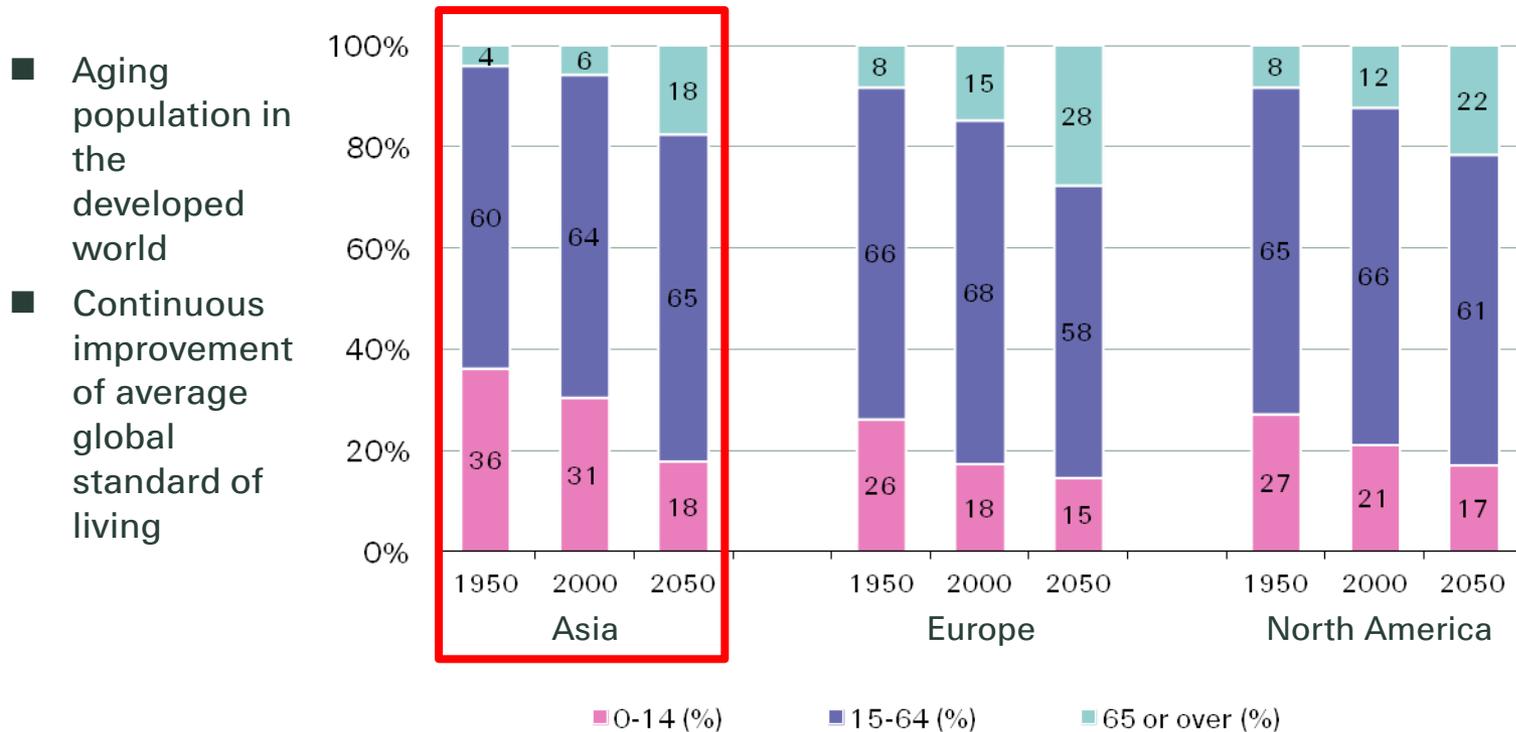
...more than 11% of population in Asia will be aged 65 years and over in 2040...

### Percent population aged 65 and over: 2040



Source: U.S. Census Bureau, 2008

# The percentage of 65 years old and over age group in Asia will more than quadruple over the century, according to United Nations

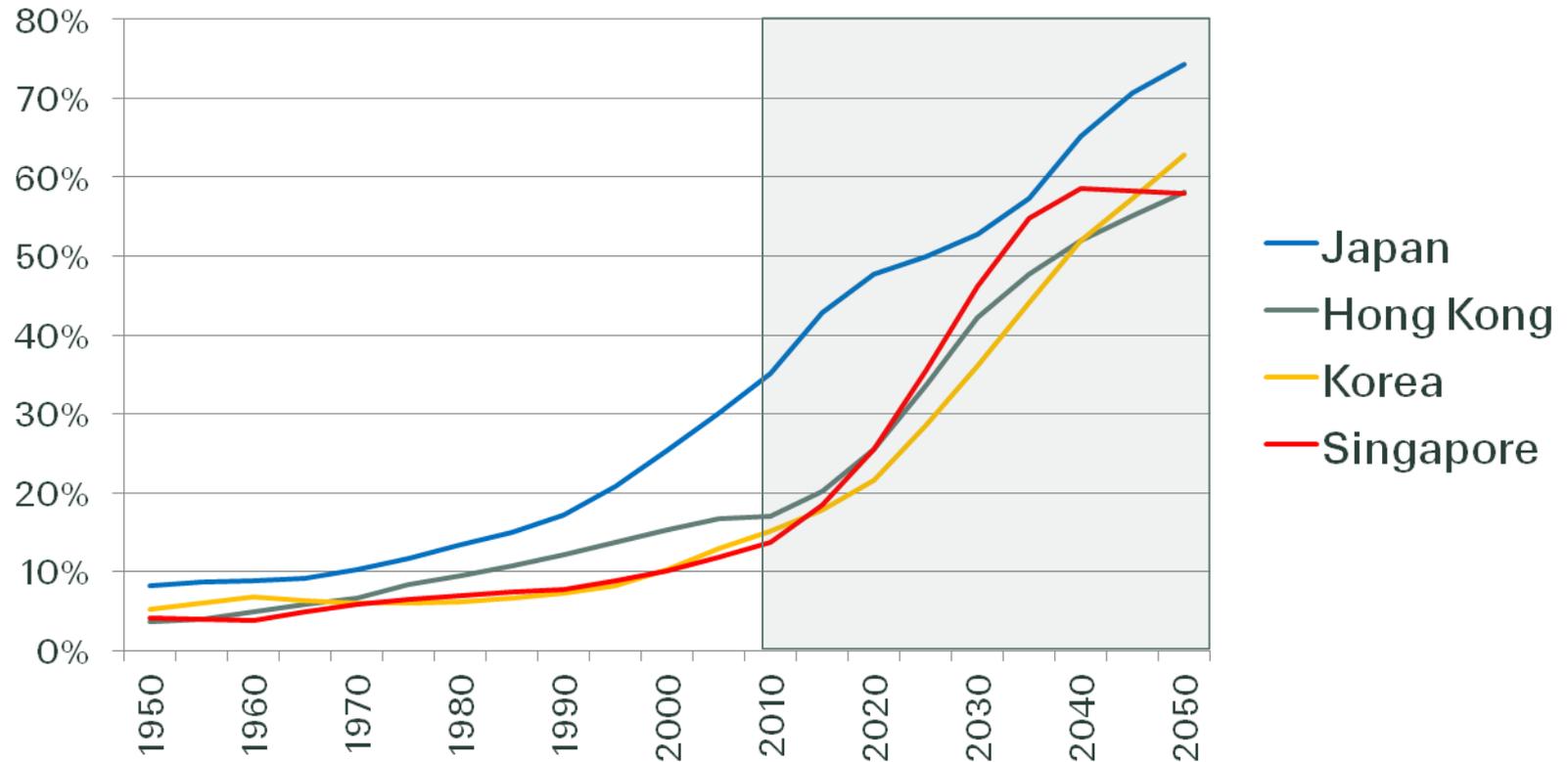


- Humanity's fundamental desire to prolong life will ensure this phenomenon will be hard to stop

Source: Swiss Re, Economic Research and Consulting

The dependency ratio is increasing rapidly since 2010 and is projected to further rise rapidly...

### Old-Age Dependency Ratio (65+ vs 15-64)

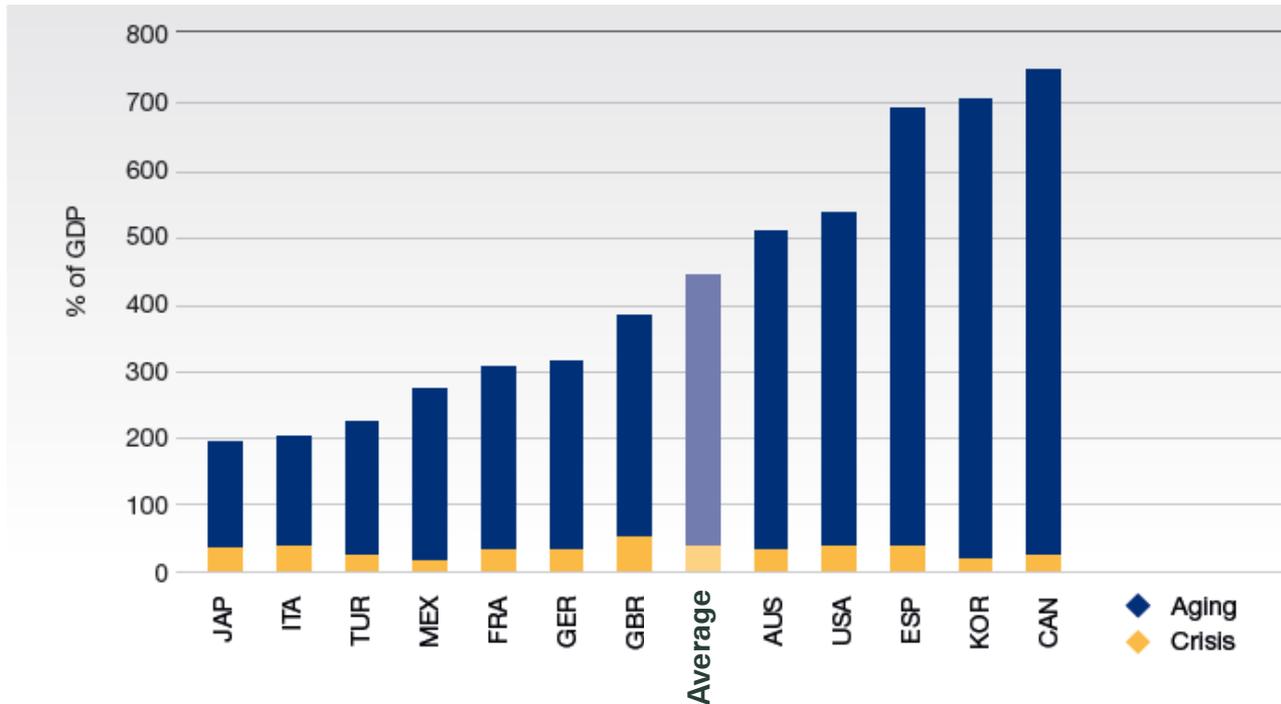


Source: UN - World Population Prospects: 2008 Revision



## How big a problem is this?

Net present value of the impact on fiscal imbalance deficits of the financial crisis and ageing-related spending for selected countries.



"Innovative financial solutions, such as longevity risk transfer instruments, combined with improved data, may also help those currently bearing these risks."

WEF Global Risks Report, 2011

Sources: Global Risks Report 2011 & Fiscal Implications of Global Economic and Financial Crisis, IMF Staff Position Note SPN/09/13, 9 June 2009

# The approaching fiscal challenge

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Public expenditure, per cent of GDP (OECD)

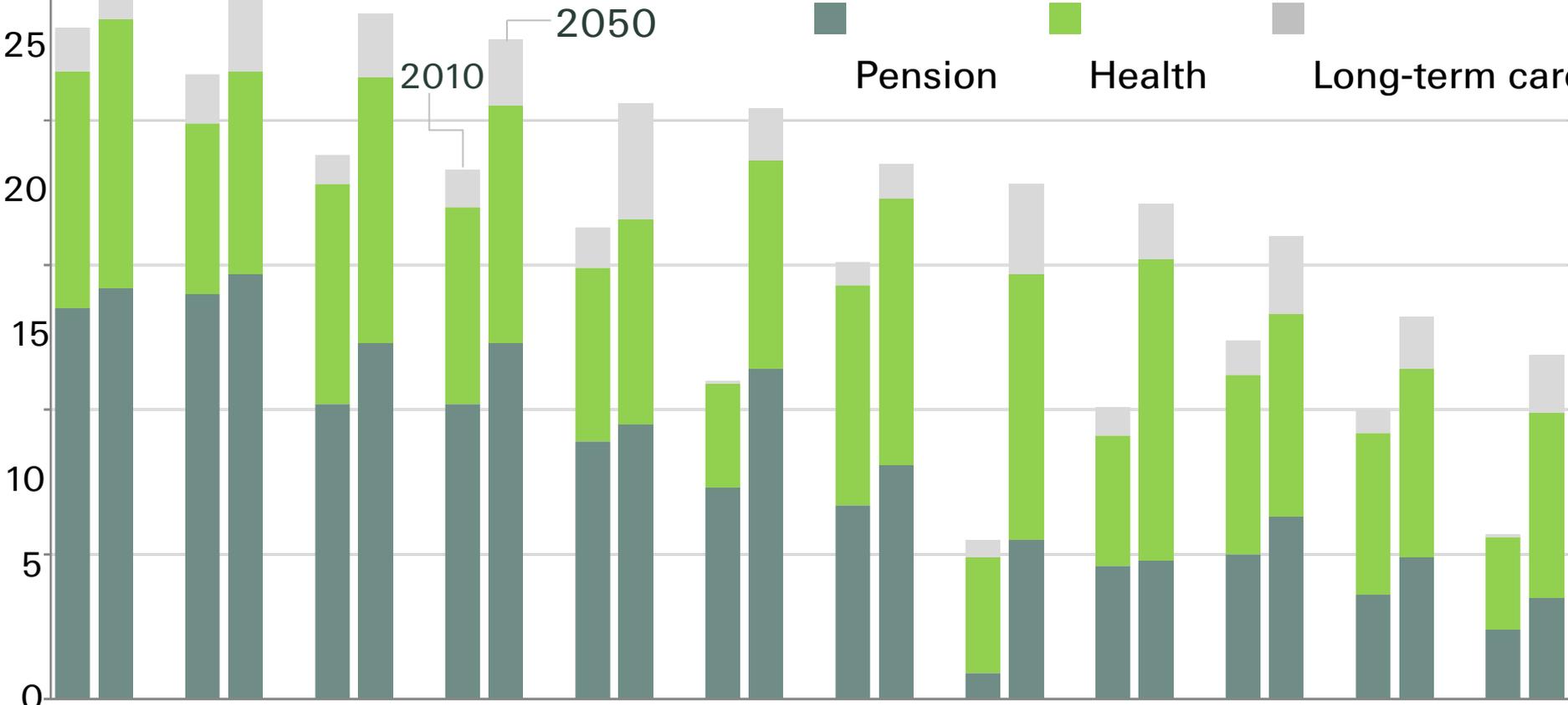


Pension

Health

Long-term care

2010 2050



France Italy Germany EU27 Japan Turkey United Kingdom Korea United States Canada Australia Mexico

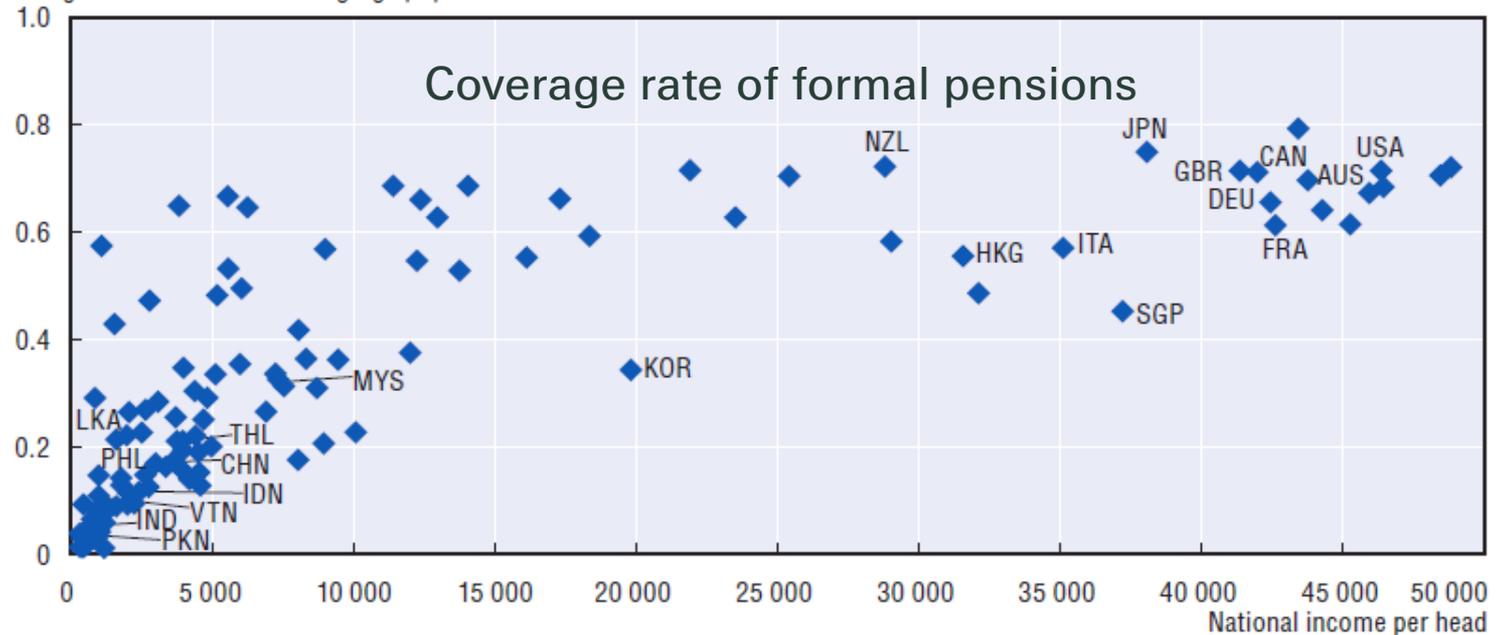


## Sustainability of current systems

- A recent OECD report says that many of Asia's retirement-income systems are ill prepared for the rapid population ageing that will occur over the next two decades. (Source:

[http://www.oecd.org/document/4/0,3746,en\\_21571361\\_44315115\\_49454212\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/4/0,3746,en_21571361_44315115_49454212_1_1_1_1,00.html))

Coverage rate relative to working-age population



Source: World Bank Pension Database.



# Higher health and medical cost for the elderly...

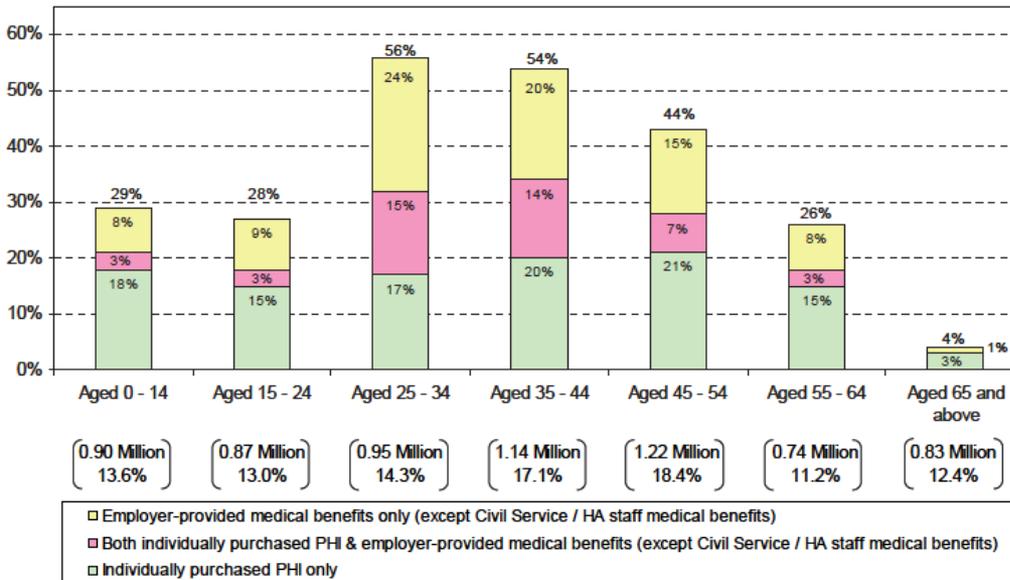
Hospital Admission Rate and Utilisation by Age Group and Insurance Status

The hospital admission rate for the aged (65+) are much higher.

Age Group	Insured with PHI			Uninsured			Overall		
	Overall Admission Rate	Public Share*	Private Share*	Overall Admission Rate	Public Share*	Private Share*	Overall Admission Rate	Public Share*	Private Share*
0-64	12%	37%	63%	15%	87%	13%	14%	70%	30%
65+	33%	38%	62%	57%	93%	7%	56%	92%	8%
Total	13%	37%	63%	23%	90%	10%	19%	78%	22%

Notes: (\*) Share in terms of hospital admissions  
 Figures are based on the Milliman Hong Kong Health Cost Guidelines, THS 2008, and the number of private and HA admissions

PHI Population Coverage by Age Group, 2008



Note: Figures in brackets refer to total number of people in specified age groups, and the corresponding shares in resident population (excluding foreign domestic helpers).

Not only the aged will incur a higher medical expense; they are also less insured, both by employer provided medical benefits and individually purchased Insurance



## Perceptions of Longevity

### ■ Swiss Re's Would You Risk It (WYRI) Survey

- 13,800 people aged 20 to 40 across major cities of 11 Asia-Pacific markets in April and May 2011 (at least 1,000 responses in each country)

<b>Markets</b>	<b>Official average life expectancy (A)</b>	<b>Average life expectancy perceived by respondents (B)</b>	<b>Underestimation (overestimation) of life expectancy (A-B)</b>
Malaysia	75	59	15
Japan	84	75	9
Singapore	82	75	7
Hong Kong	84	77	7
Taiwan	80	75	5
Australia	83	80	2
India	71	70	2
South Korea	81	81	0
Vietnam	75	78	(3)
China	76	82	(5)
Indonesia	72	81	(9)



## Are people just being pessimistic?

- We asked people WHY they estimated their own life expectancy the way that they did?

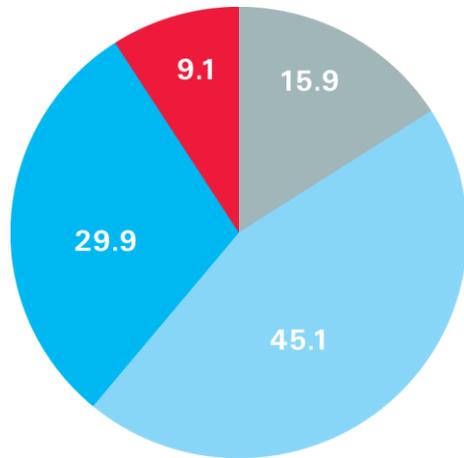
Reason	Hong Kong	Japan	Malaysia	Singapore	Taiwan
Family history	21.9	24.7	41.4	25.7	14.2
Personal health	50.0	38.8	40.7	45.6	44.4
Average life expectancy	51.7	44.5	47.6	56.5	50.5
Habits (e.g. exercise or smoking)	27.2	28.4	22.9	30.5	23.2
Positive attitude / Being optimistic	35.6	21.8	22.3	38.3	41.6
Negative attitude / Being pessimistic	7.3	8.6	4.8	5.0	5.9
Improving medical technique	45.7	23.1	21.3	37.3	49.2
Environmental issues (e.g. pollution, population density)	18.5	6.4	24.8	17.4	18.3

- Around 50% thought that they were in line with the average
- 20-40% thought that they were being optimistic!
- Bear in mind that survey respondents were urban lives, weighted towards high socio-economic groups, so should have *even higher* life expectancy than national averages

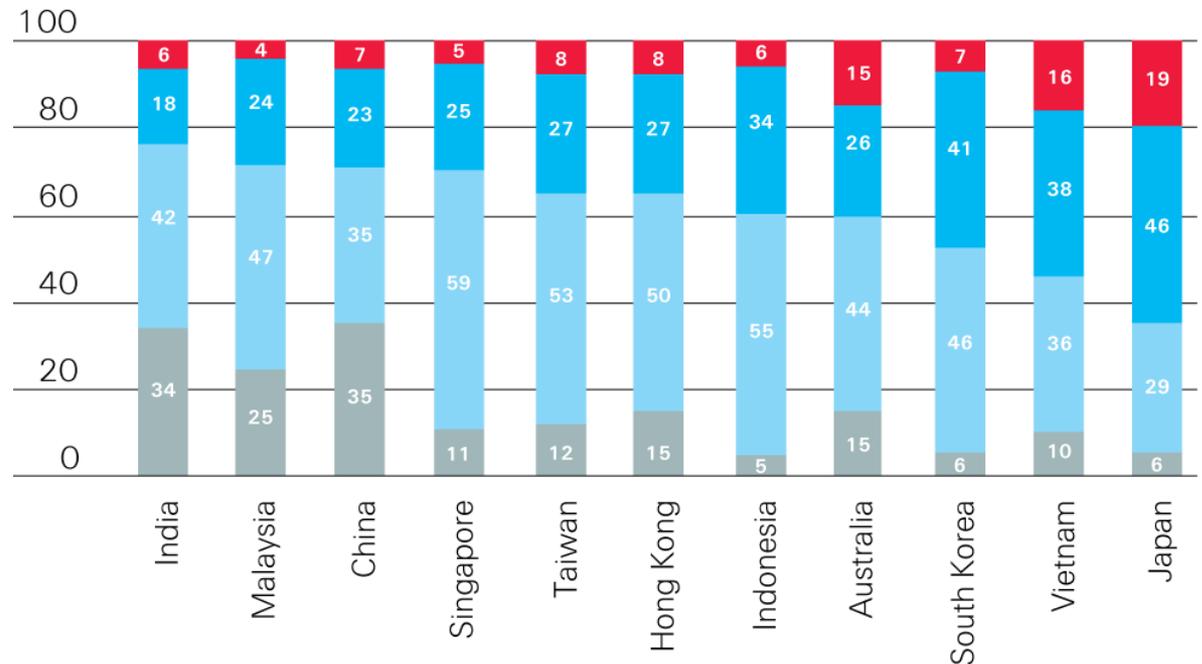
# Around 40% say their families would/might struggle financially in case of an adverse event

Response to household financial position if the respondent passes away, suffers from a long-term serious illness or disability (in %)

Regional total (in %)



Market specific (in %)



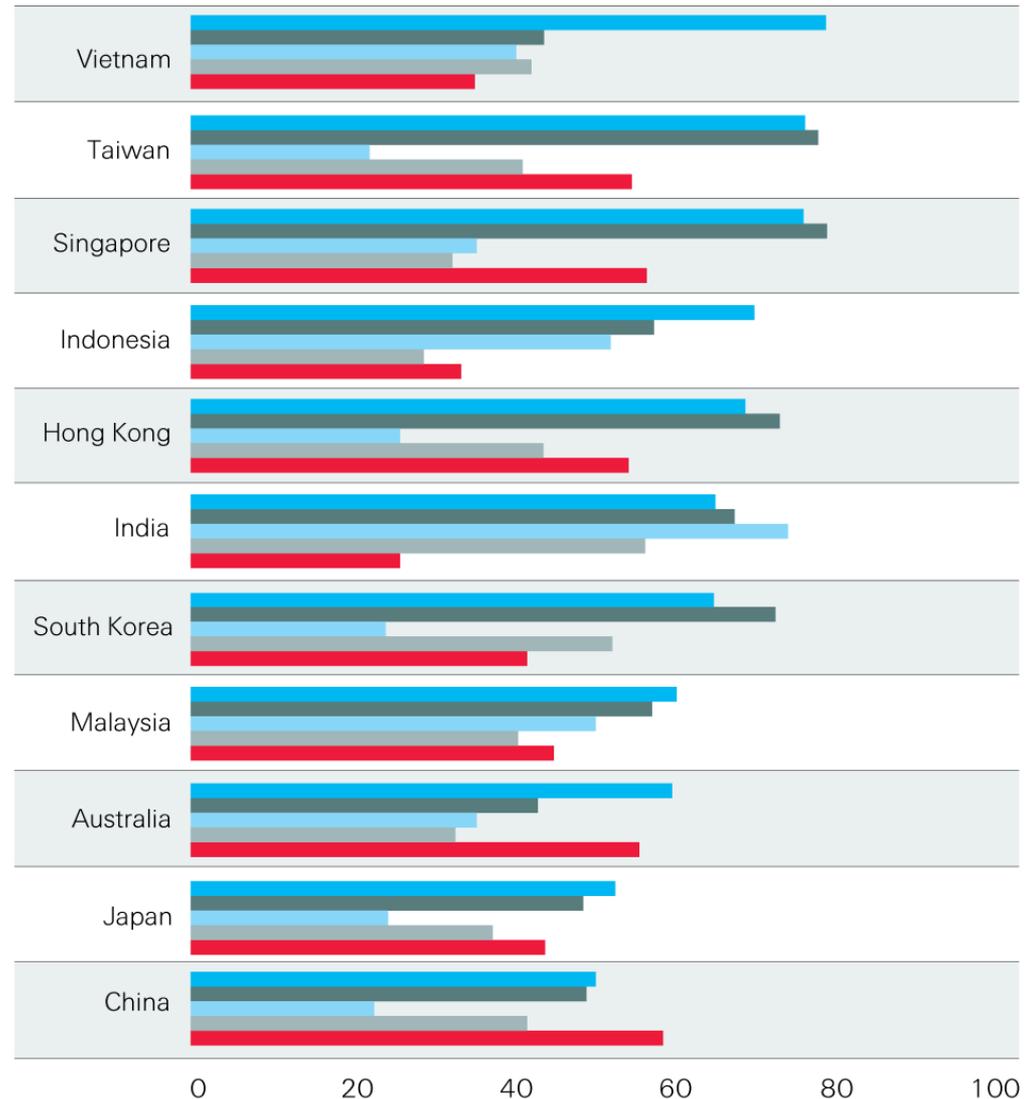
- Well positioned
- Reasonably well positioned
- Might struggle
- Would struggle



# Getting serious illness and inability to pay medical expenses are two biggest drivers for insurance purchases

Main worries/concerns for the future that might lead you to consider buying life/health insurance (in %)

- Getting a serious illness
- Unable to pay for long term medical expenses
- Early death
- Unable to maintain my living standard after retirement
- Supporting the family (e.g. elderly/children)

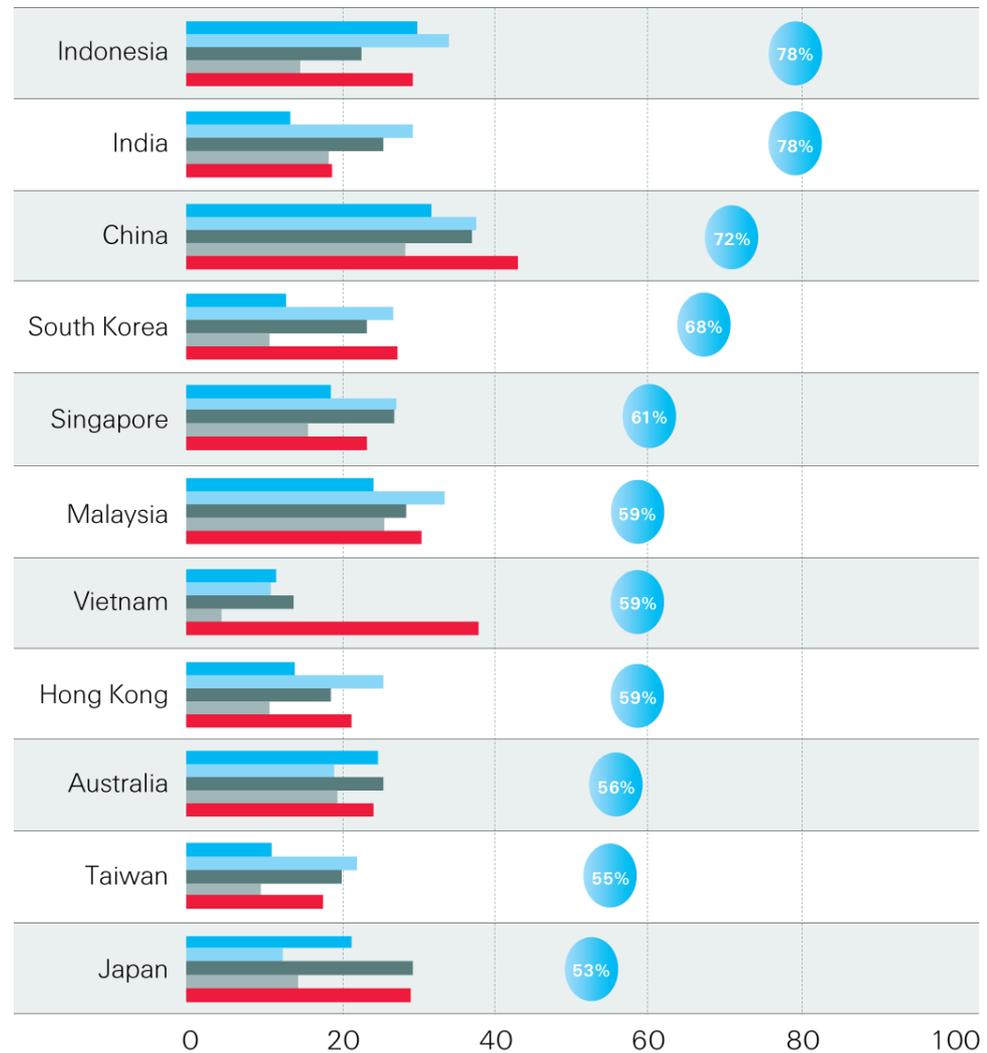




63% are planning to buy life/health insurance in next 12 months – higher ratios in some emerging markets

**Insurance products considered to purchase in next 12 months (in%)**

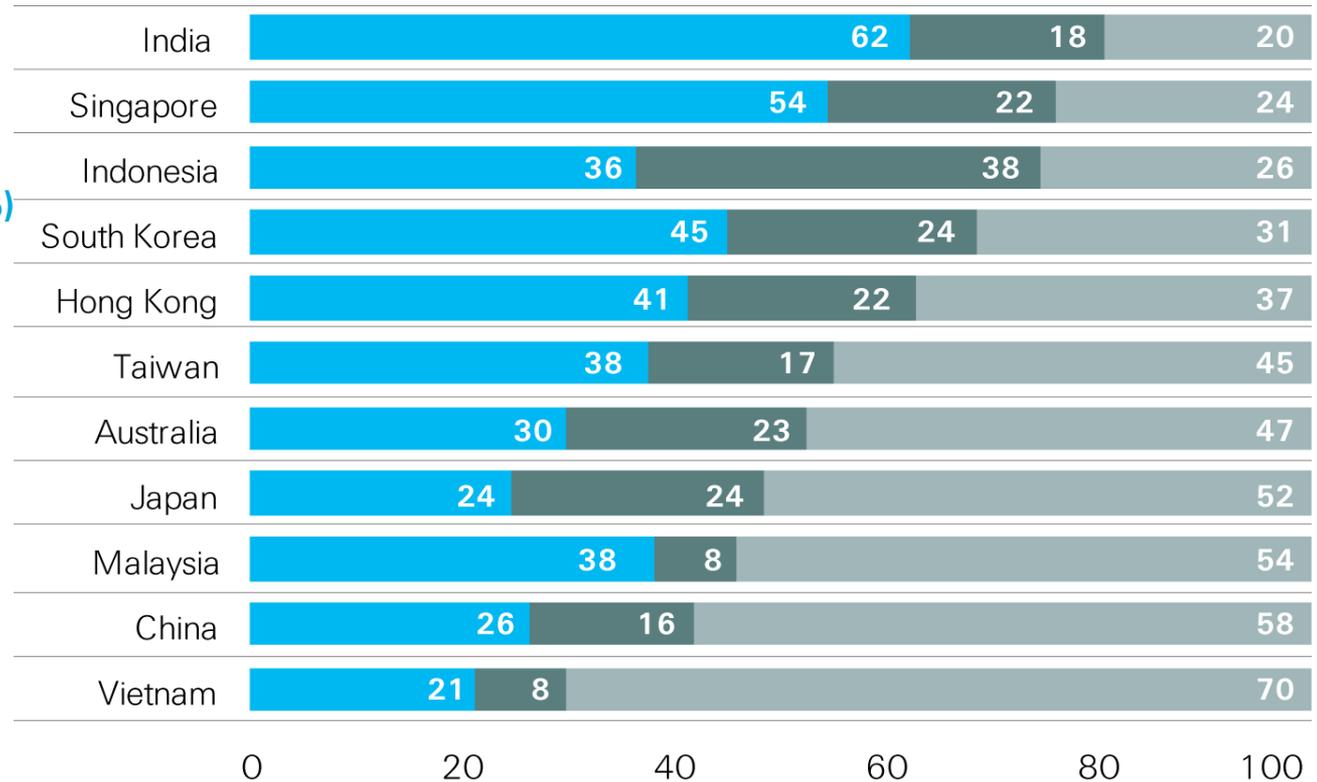
- A life insurance policy that would pay out in case of death
- A policy that combines investments (e.g. investment funds) and life insurance protection
- A policy that would pay me an amount if I contracted a serious illness (e.g. cancer)
- A policy that would pay me an amount if I became disabled (e.g. losing an arm)
- A policy that would cover hospitalisation expenditure
- Percentage of respondents planning to buy any of the above insurance





## Life insurance is affordable

Over half of respondents are willing to pay at or above the market price range for a term life insurance coverage (in %)



Notes:

Assumed coverage for developed markets: USD 100,000

Assumed coverage for emerging markets: USD 20,000 – 50,000

- % of respondents willing to pay "above" the market price range
- % of respondents willing to pay "at" the market price range
- % of respondents willing to pay "below" the market price range



## So what is the opportunity?

Finding	Implication / Opportunity for you
<p>People underestimate their life expectancy – longevity risk and protection gap exists</p>	<p>Consumer education + Products designed to meet much longer term needs and greater uncertainty</p>
<p>40% respondents believe their families will struggle if they suffer from a major event</p>	<p>Effective marketing and distribution</p>
<p>60% respondents are concerned about the affordability of future medical expenses, and this and morbidity risk are the 2 biggest driver for purchasing insurance products</p>	<p>Need for products which take away long term uncertainty. Product development should focus on these areas – pre and post retirement.</p>
<p>63% respondents are preparing to purchase insurance in the next 12 months</p>	<p>Demand and purchasing will are strong – time to capture the market!</p>
<p>Over 50% of respondents are willing to pay at or above the market price range for a term life insurance coverage (in %)</p>	<p>This is a profitable market to explore!</p>

A photograph of several glass vials in a row, with a syringe drawing liquid from one of them. The scene is lit with a cool blue light, creating a clinical and scientific atmosphere. The vials are arranged in a perspective that recedes into the background. The syringe is in the foreground, angled towards the right, with its needle inserted into the stopper of a vial. The background is softly blurred, emphasizing the foreground action.

# Implications on Product Development



# An Expanded Role of Insurers to Close the Gap and Manage the risk of Aging Society

## GOVERNMENT



- Regulatory Reform must be undertaken to create a more robust pension and health system



## (RE)INSURERS



- Insurer can play a key role in educating individuals about increasing challenges that they will face to sustain their living standard in long term
- (Re)insurers should proactively drive and support reforms on pension and health system

- 
- "Joint Risk Management" between insurers and government can strongly support the development of pension and health system



## Further Understand Customer Insights and Innovate with Products and Channels

De-averaging customer groups through segmentation, which could enable them to identify niche segments with distinct risk-pricing profiles.

For customers in each segment, insurer can also customize value propositions to differentiate their strategies.

Solutions to supplement national pension and health system and to evaluate opportunities to cover uncovered groups.

Integrate more "services" components into new products to address customer needs. Long term care products with services as benefits rather than fixed payments?

Innovative distribution channels: cooperate with HR consultants, delegated pension sales

## The way forward?

### ■ Where is the answer?

- probably a mix of public and private cover
- need to find a way of accessing significant rollover funds
- consumer attitudes to buying will need to change
- private sector and individuals need to be incentivised to participate
- may need to wait until younger generations become more aware of the risk?





# Significant implications of continuing with the current social security system

## The cost of not closing the gaps will be substantial



### Individuals

- Delayed retirement age
- Reduction of retiree benefits
- Health and long-term care resources falling short of actual needs

### Government

- Onerous pension-deficit burden
- Citizens lose faith of social security system
- Social insecurity

### Overall

- Hinder the construction of a harmonious society



## All stakeholders have an active role to play

### Government

- Reform the national pension system (Pillar I)
- Create a more favorable environment toward commercial insurance



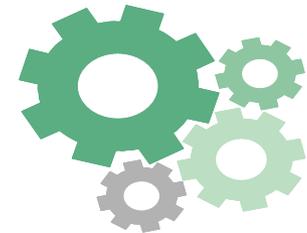
### Corporations

- Be more proactive in providing post-retirement benefits to employees



### Insurers

- Play a larger role in the aging issue
- To be explored in detail in next section





# Longevity



## Components of Longevity Risk

### ■ Volatility Risk

- Statistical fluctuations - risk that individuals die earlier or later than expected
- Diversifiable within a pool of individuals

### ■ Mortality Level Risk

- Risk that current levels of mortality are misestimated
- Partially diversifiable across different pools of individuals, across different ages, across different market segments, across different geographic areas, etc

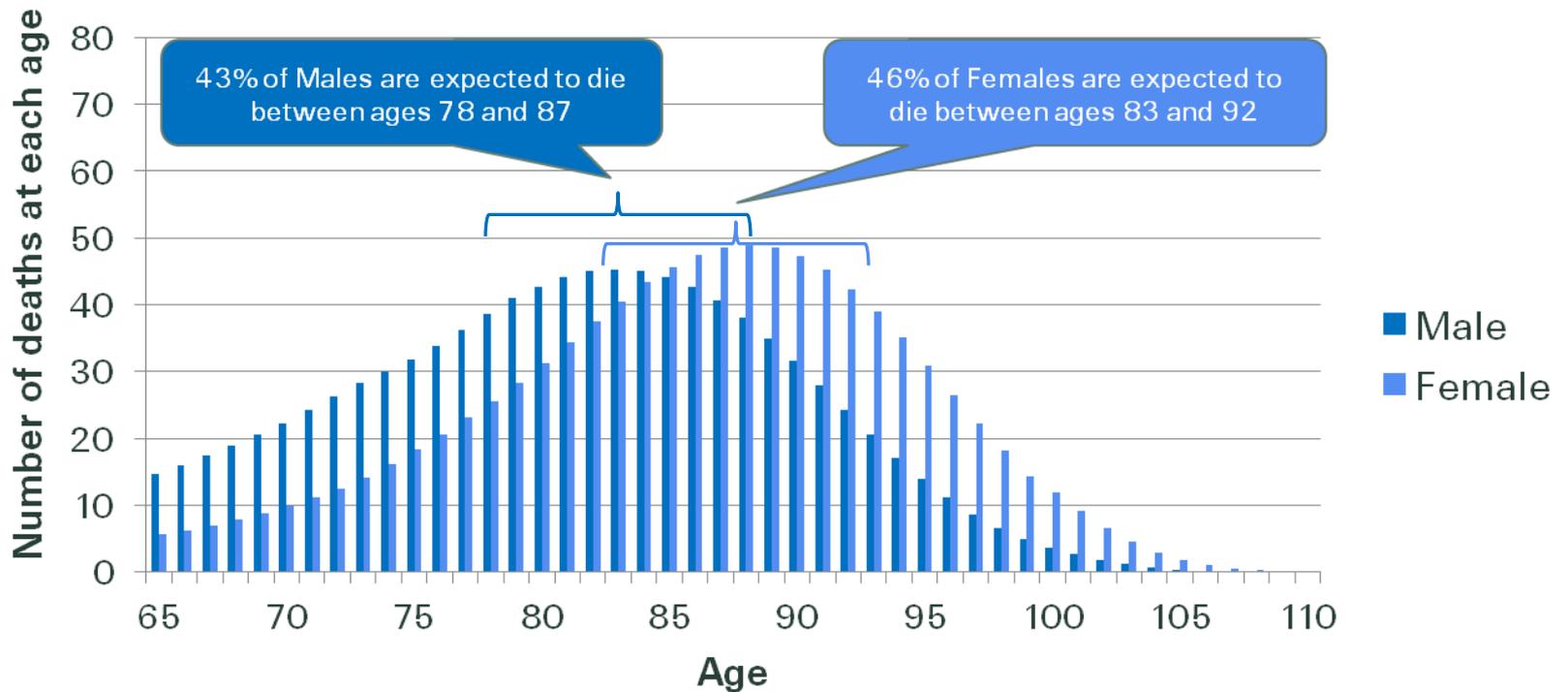
### ■ Mortality Trend Risk

- Risk that future trends in mortality are misestimated
- Slightly diversifiable to the extent that different factors drive differences in mortality trends across different pools of individuals
- Not diversifiable to the extent that mortality trends are driven by factors that are common across the globe



# You will not know if you got it right for some time

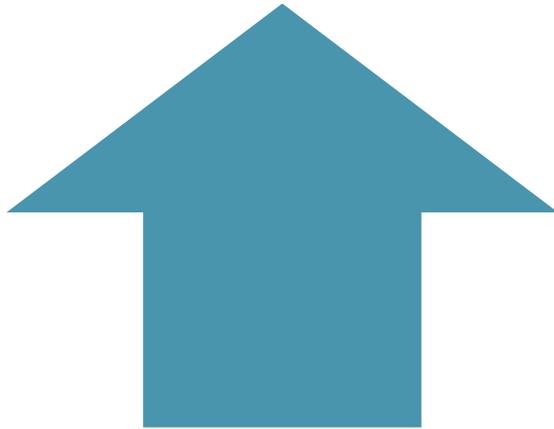
Out of 1,000 people aged 65, at what age will people die?



Source: 2009 Korea Life Table

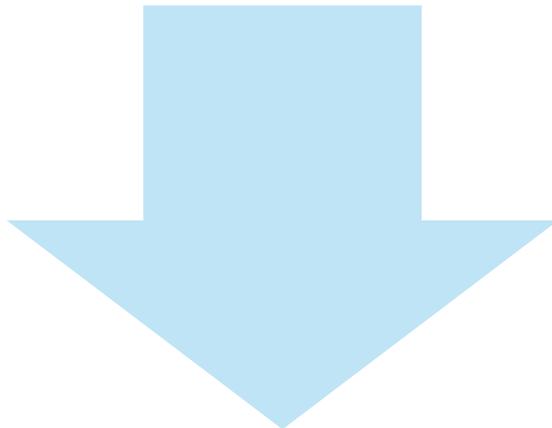


# Factors for a healthy annuity market



## Annuities sell well where

- It is mandatory to take some retirement savings in the form of an income stream
- there are significant incentives or for annuity purchase
- tax benefits
- subsidies
- interest rates are high, making annuities look like good value for money
- long term assets exist to match liabilities



## Annuities do not sell well

- Everywhere else



## Longevity Action in Asia

	Retirement Savings	Longevity
AUSTRALIA	<b>Superannuation</b>	<b>Old-Age Pension</b>
CHINA	<i>Enterprise Annuity</i>	<i>Social Insurance</i>
HONG KONG	<b>MPF</b>	NA
INDIA	<i>New Pension</i>	<i>Govt &amp; Private Pensions</i>
JAPAN	<i>Various Pensions</i>	<b>National Pensions</b>
KOREA	<i>Various Pensions</i>	<b>National Pensions</b>
MALAYSIA	<b>EPF</b>	NA
SINGAPORE	<b>CPF</b>	<i>CPF Life</i>
TAIWAN	<b>New Labour Pension</b>	<b>National Pensions</b>
THAILAND	<b>NPF</b>	<b>Old Age Pension</b>

**bold** = mandatory / near-universal, *italics* = voluntary / limited coverage

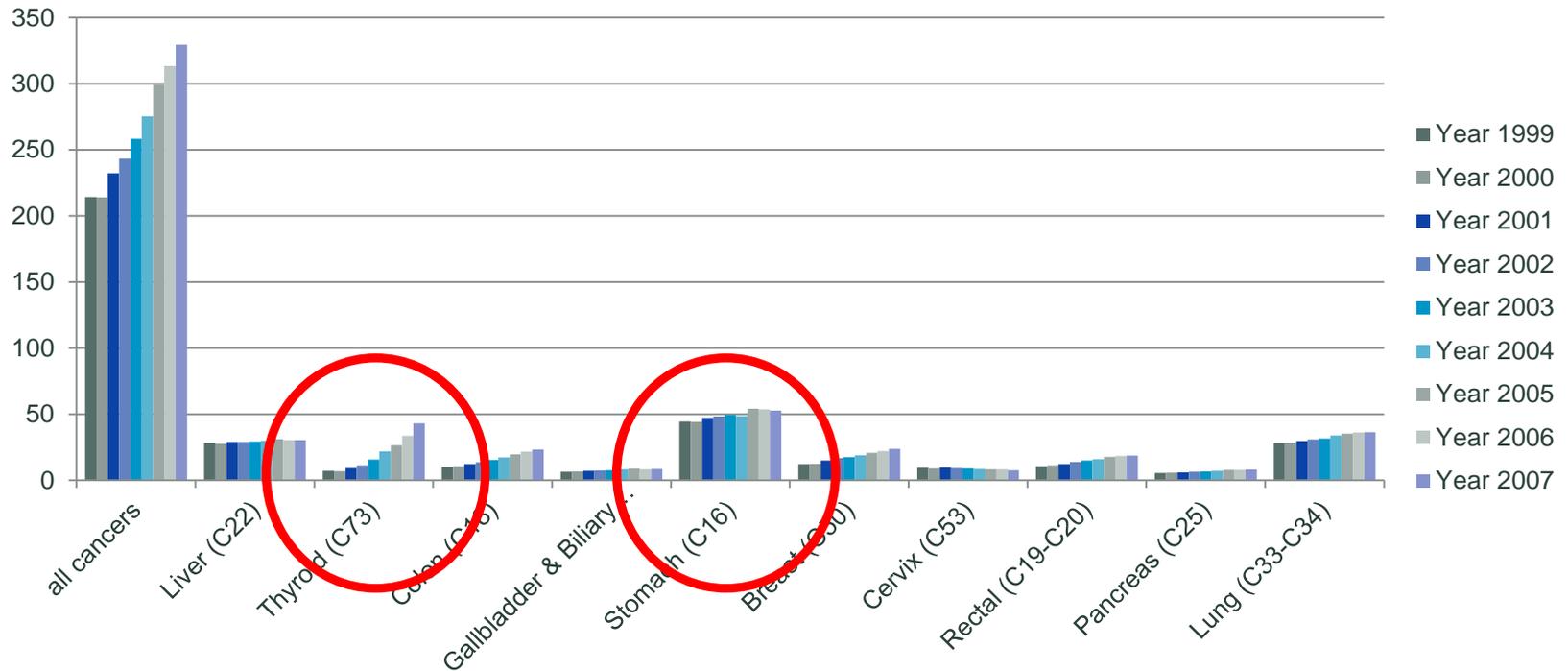


# Morbidity



# Lifestyle & screening Cancer Trend in Korea 99-07

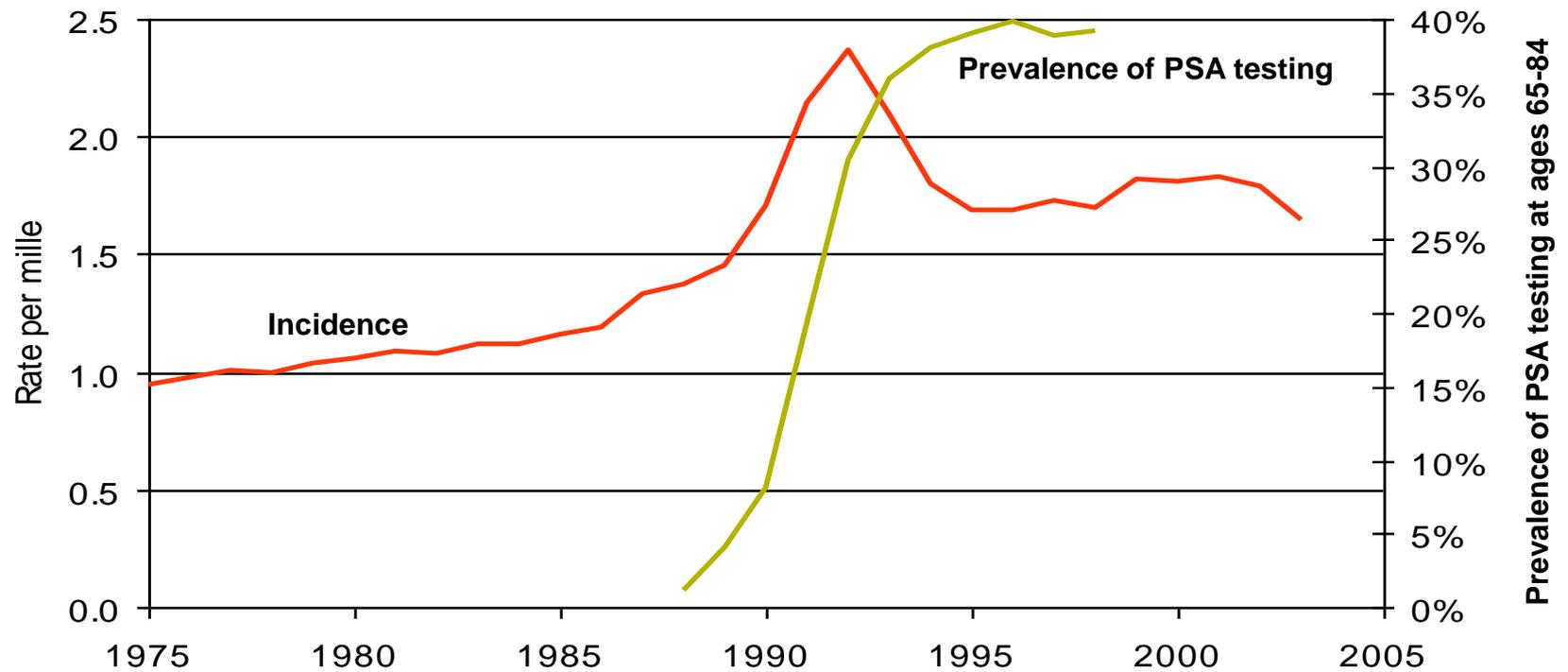
## Cancer Trend in Korea





# Screening Technology Effect

## ■ US Prostate Cancer incidence



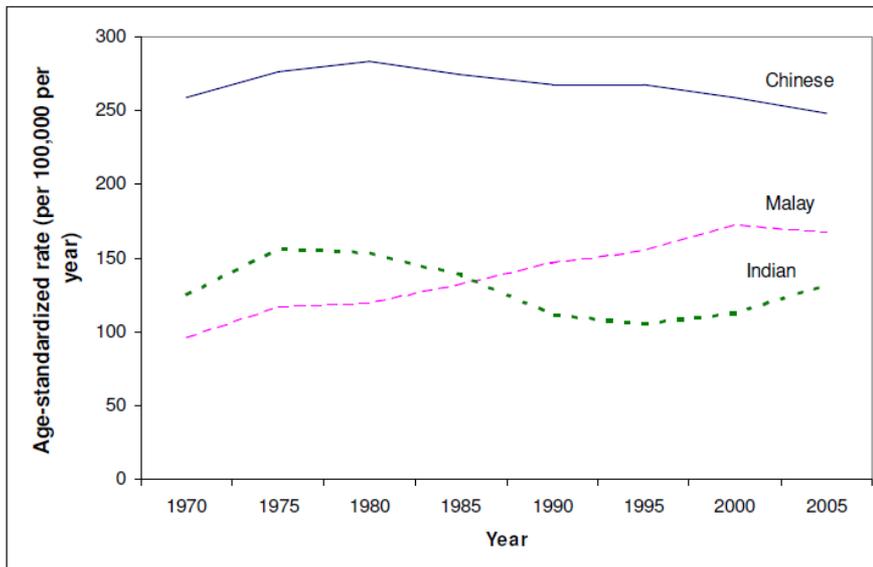


# Genetics

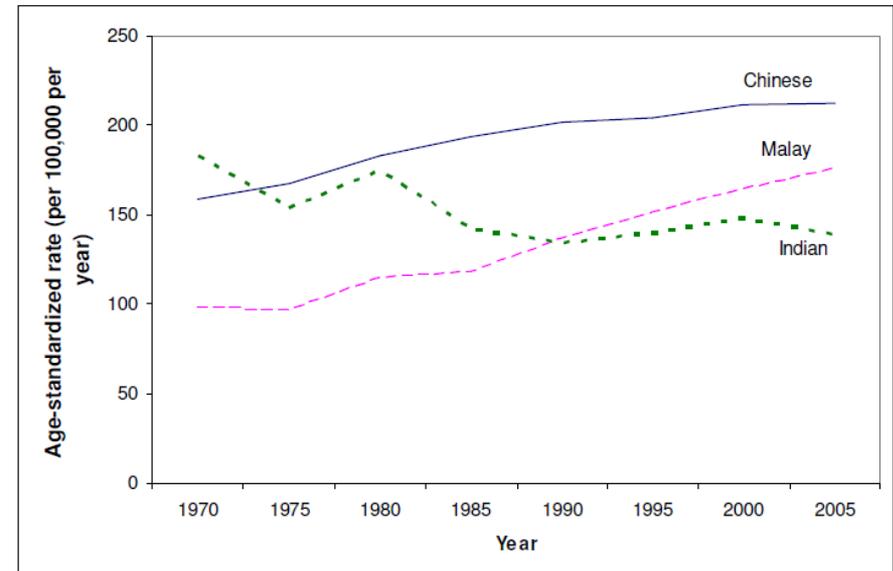
## Cancer Trend in Singapore

- Major cancer sites and incidence trends both differ by ethnic group
  - Lifestyle and genetic differences can play a part

### Male



### Female



Source:

Interim Report – Trends in Cancer Incidence in Singapore 2003-07, National Registry of Disease Office



## Morbidity – an equation!

longer life  
+  
age related illness  
=

The equation is displayed in a pink, semi-transparent box over a background image of an elderly person's face. The text is centered and reads: 'longer life', followed by a plus sign, 'age related illness', followed by an equals sign.

- need for morbidity products
- can be used to meet (some of) the cost of ageing
- preference for longer terms = guarantees
- BUT cost is unlikely to be self-fundable
- diagnosis + treatment needs



# Long-Term Care (LTC)



## Does anyone buy LTC Insurance?

- In markets without government incentives or support, sales of LTC insurance are close to zero
- LTC sales are better in markets with government incentives or support
- Reinsurers have been trying to build interest in LTC since the 1990s
- More effective growth strategy maybe to convince governments and stay aligned with government policy rather than marketing direct to consumers
- Alternative exposure to demographic drivers of LTC needed via investments in nursing homes, assisted living facilities, etc



## Potential LTC Products

### Supplemental to government LTC provision

- Japan, Korea, Singapore have government-sponsored LTC
- Supplemental LTC products in these markets viable from a sales perspective

### Death and LTC "Combo" products

- Markets where awareness of LTC is low
- LTC income benefit paid as acceleration of Death benefit
  - 2% per month for up to 50 months upon ADL failure / Cognitive Impairment
- Appeal to ageing population
- "Combo" structure to overcome concerns that benefits might never be needed



## The post retirement conundrum

- Most people are better at saving than providing protection for their families
- Most people will have a pension pot or savings pot accumulating for their use at retirement
- Many people are unsure about how long they will live, what their costs of living will be as well as what their medical expenses bills will be (particularly if they will suffer from cancer or need long term assistance and families may not be willing or able to provide)
- Is there an opportunity for us to design **new** post retirement products to access savings at retirement which remove or reduce the combined uncertainties individuals face?



# What is Swiss Re doing about aging?



Our focus must be on the future – BOTH THE GOOD



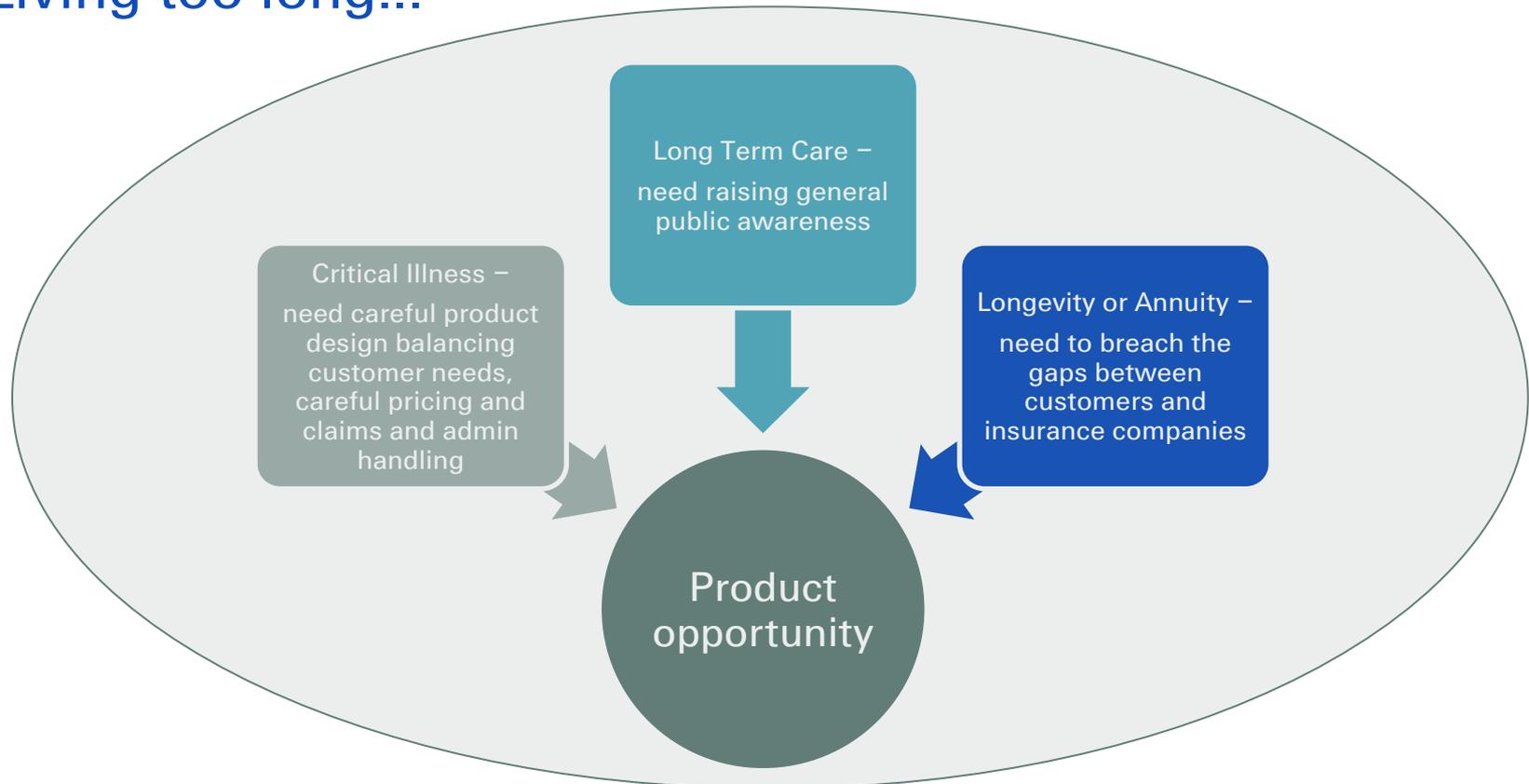


- AND THE BAD that will be with us for some time





## Living too long...



*In all cases the support from a forward thinking government and regulator is vital in the success of these products.*



# Q & A Session



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Thank you



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