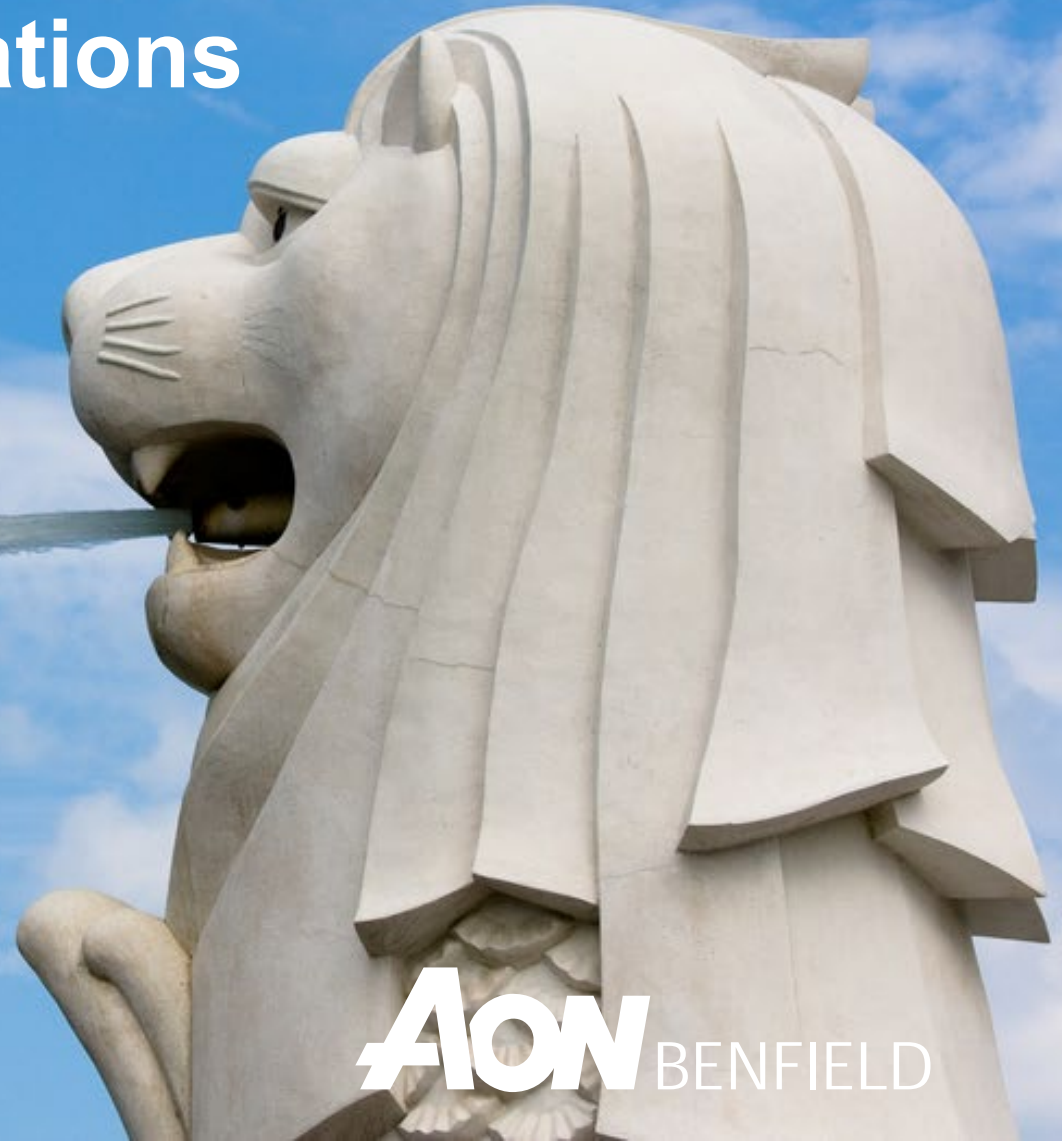


Global Trends and Their Insurance Implications

Aon Benfield Research
Conference

Stephen J. Mildenhall

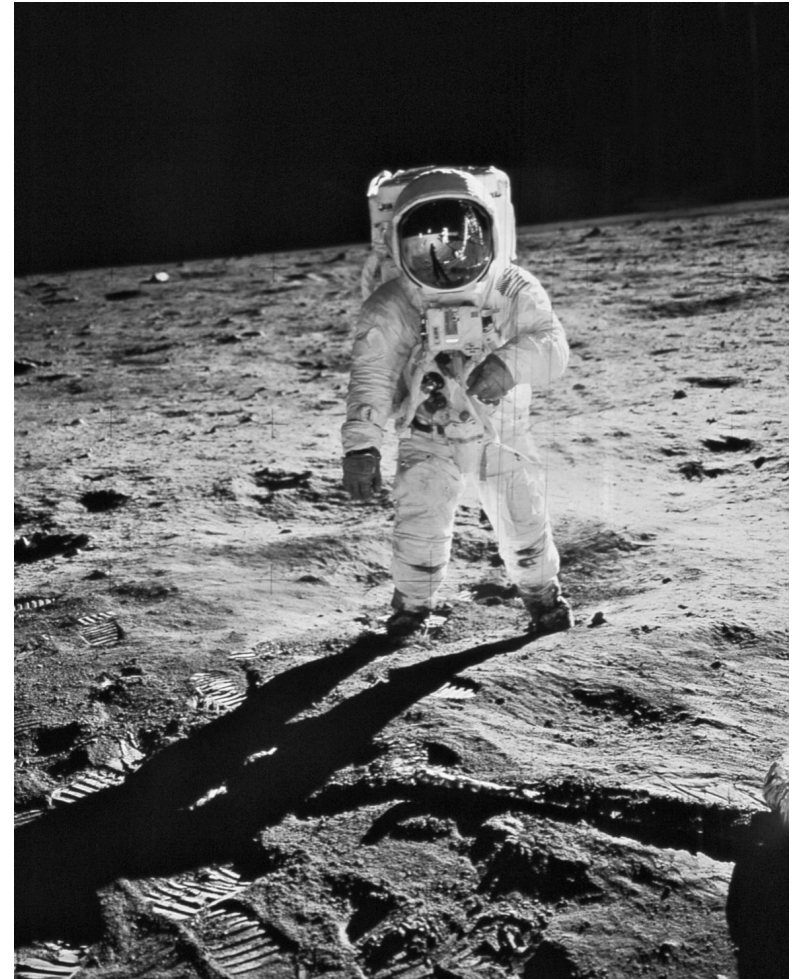
18 July 2013



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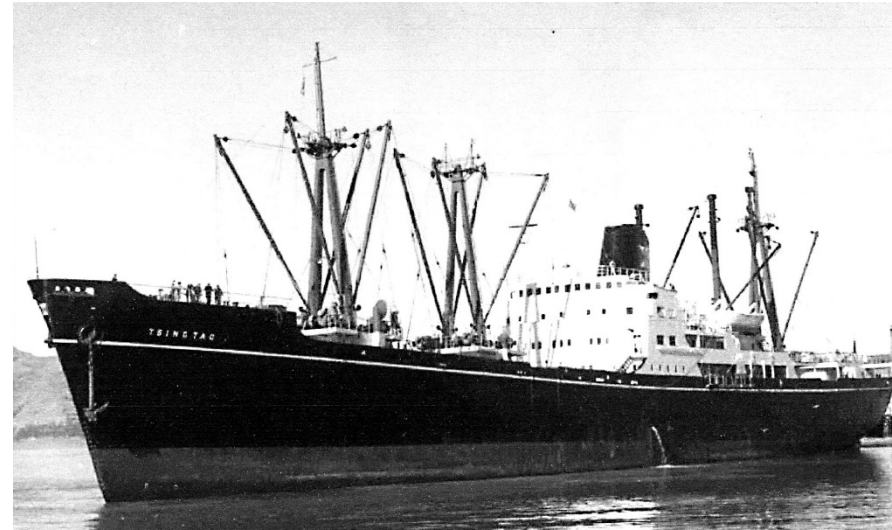
What has changed since 1970?

Change	Then
Space travel	Men on the moon
Car of future	Flying
Energy	Running out



What has changed since 1970?

Change	Then
Navigation	Maps
Information	Yellow pages
Communications	~\$3 / minute
Containers (1966)	1% of countries



What has changed since 1970?

Change	Then
Income level	Sing \$2K, US \$5K
Life expectancy (US)	71
Pensions	Company provided
Dread disease	Cancer
Healthcare	Company provided



Singapore, 1970

What has changed since 1970?

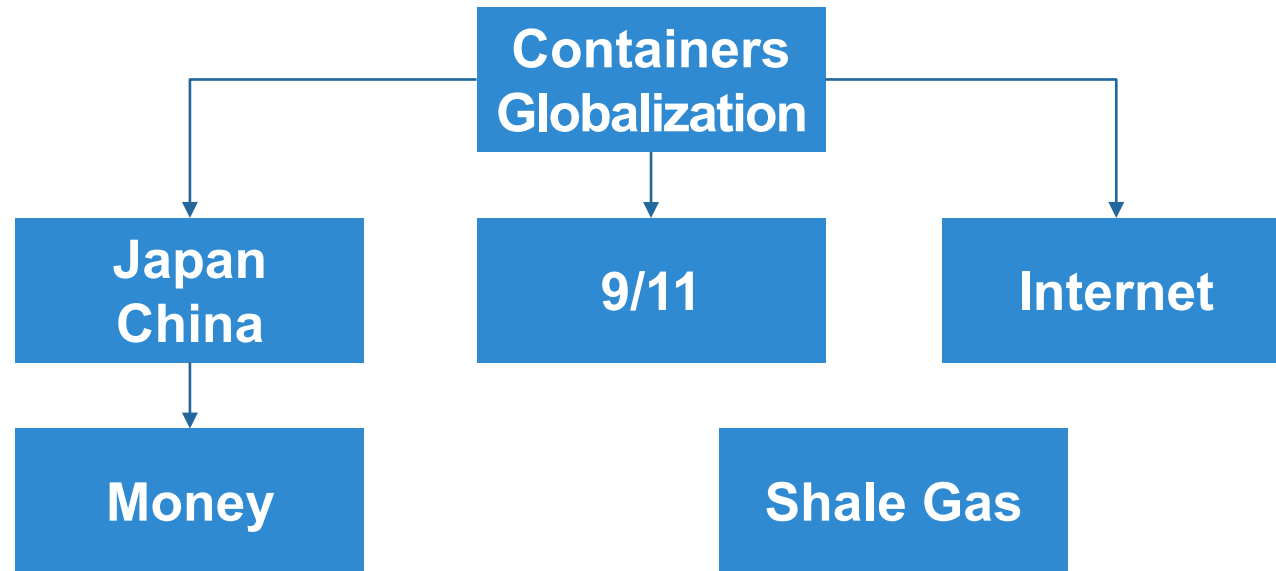
Change	Then	Now
Space travel	Men on the moon	Private space travel
Car of future	Flying	Terrestrial, self-driving
Energy	Running out	Shale gas
Navigation	Maps	GPS
Information	Yellow pages	Internet
Communications	~\$3 / minute	~6 cents / minute
Containers (1966)	1% of countries	90% of countries
Income level	Sing \$2K, US \$5K	Sing \$51K, US \$46K
Life expectancy (US)	71	79 (1 year every 5)
Pensions	Company provided	State & self-directed
Dread diseases	Cancer	Cancer, AIDS, TB
Healthcare	Company provided	State & self-directed



What has changed since 1970?

Change	Now	Implications
Space travel	Private space travel	Inhospitable environment
Car of future	Self-driving	Decline in personal auto insurance
Energy	Shale gas	Inspires faith in technology
Navigation	GPS	Data; e.g. cat modeling
Information	Internet	Profound: distribution, competition
Communications	~6 cents / minute	Global manufacturing
Containers (1966)	90% of countries	80% lower ins. costs, efficiencies
Income level	Sing \$51K, US \$46K	Growth inspired future promises
Life expectancy (US)	79	Elder care, dependency ratios
Pensions	State & self-directed	Insurance opportunities, education
Dread diseases	Cancer, AIDS, TB	Cost of care, genetics, discrimination
Healthcare	State & self-directed	Insurance, allocation of resources

Six defining trends and events since 1970



- Long-term trends, not defining trends
 - Urbanization
 - Longevity
 - Health care costs
- Changed less than expected
 - Cars
 - Air travel, e.g. 747s
 - Space exploration
- Better than expected
 - Crime rates
 - Pollution
 - Natural resources
 - Innovation

Containers = Globalization

Implications

Neutered labor, contained inflation

Increased income inequality & lowered extreme poverty

Logistical challenges

Global connectedness

Currency imbalances

Insurance Implications

Modeling inter-connections and managing supply-chain risk

Currency risk

Political risk, risk of politics, reputational risk

Marine and aviation insurance

Products liability

The experiences of Japan and China

Implications

Japan success
1945-90

Japan stagnation
1991-2013

Zombie banks

China growth,
demographic challenges

Labor, trade and currency
imbalances

Insurance Implications

Massive concentrations
exposed to wind, quake
and flood

Massive opportunity: low
insurance penetration in
China

Insurance dominated by
domestic carriers

Challenging regulation

The changing nature of money

Implications

August 15, 1971
US stops gold convertibility

Decoupling of financial
world from real world,
derivatives explosion

Unregulated shadow
banking

US reserve currency
Euro currency crisis

Too big to fail and
country-level regulation of
multinationals

Insurance Implications

Solvency threatening
financial risk

Low yields pressure
accumulation products

Liquidity funding low-cost
catastrophe risk capital

9/11 and the threat of large scale terrorism

Implications

Threat to global security:
potential for large-scale
devastation & catastrophe

Expense of precautions

Military response
Military spending

Blurred definition of war,
extension of state power,
drone strikes

Berlin Wall, fall of
communism

Insurance Implications

Uninsurable exposures
NCBR

Accumulation monitoring
and underwriting

Severity modeling

Frequency modeling

Response planning

Internet

Implications

Conception of knowledge

Education, MOOCs

Retail

Entertainment

Social media
Image, reviews
Protest

Insurance Implications

Distribution

Easy price comparison
increasing competition

Business efficiencies

Service expectations, on-
line capabilities

Cyber-crime and cyber-
liability

Shale Gas

Implications

Redraws energy power-map

Assures immediate-future energy security

Fracking and ecology
Climate / CO₂

Decreases pressure to develop alternative energy sources

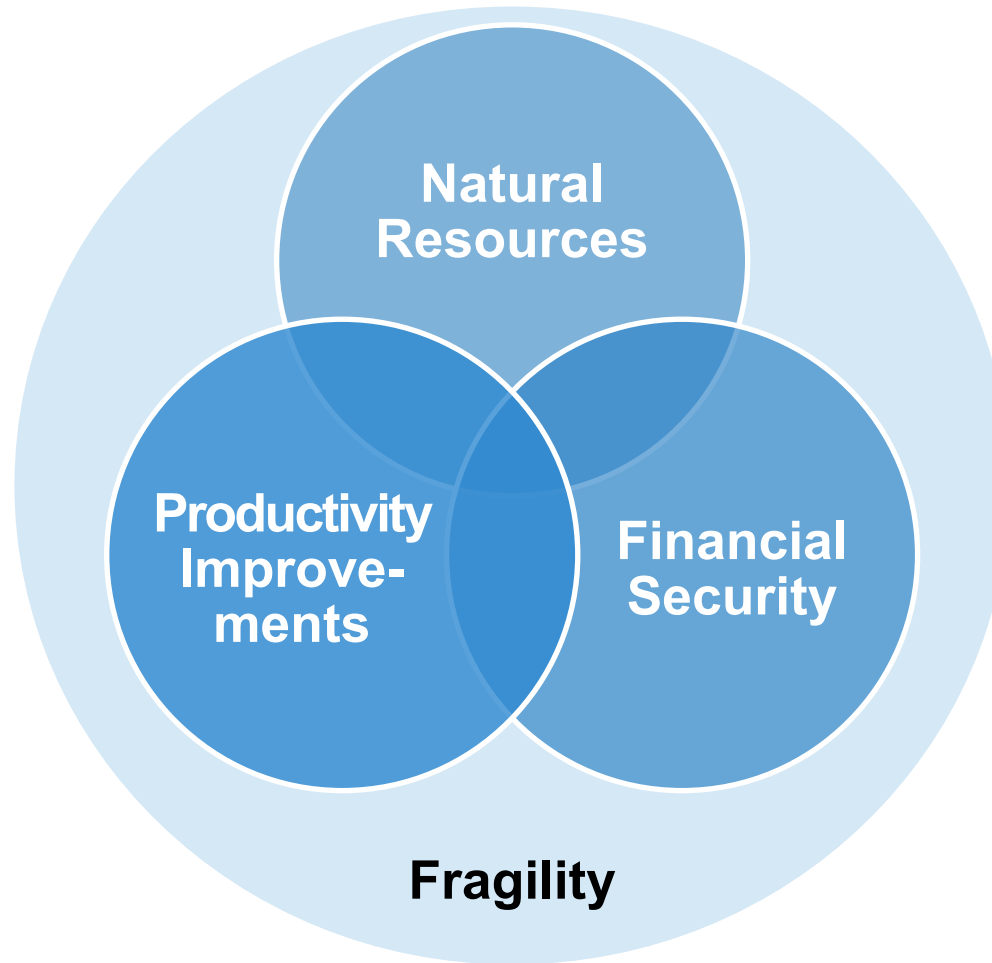
Insurance Implications

Energy insurance, now in easier jurisdictions

Pollution

New technology, fracking
“earthquakes”

Four defining trends for the next 40 years



“Prediction is very difficult –
especially if it is about the future.”

Niels Bohr

Natural Resources

Concerns

Food

Water

Metals and minerals

Oil and gas

Insurance Implications

Crop

Products liability, GM seeds

Social unrest: riot, civil commotion, war

Everything
depends on con-
tinued productivity
improvements

but they are not guaranteed

Productivity Improvements

Concerns

Paying for pension promises

Paying for health care promises

Achieving further global poverty reduction

Political stability

Ensuring energy and food resources – what is “fracking for food”

Insurance Implications

Achieving returns to support accumulation products

Capital strains from asset return shortfalls

Adverse regulatory activity from political scape-goating

Fewer government subsidies

...go well beyond insurance

Financial Security

Concerns

Employment and income security

Retirement income

Healthcare

Debtors vs. creditors

Generational conflict

Insurance Implications

Full or supplemental private pensions

Full or supplemental health insurance

Elder care

Supplemental unemployment insurances

Fragility

Concerns

Tendency for rare, but catastrophic failure with improved “small risk” safety

Geomagnetic storm

Pandemic

Black Swan

Insurance Implications

Decreasing demand for standard insurance lines

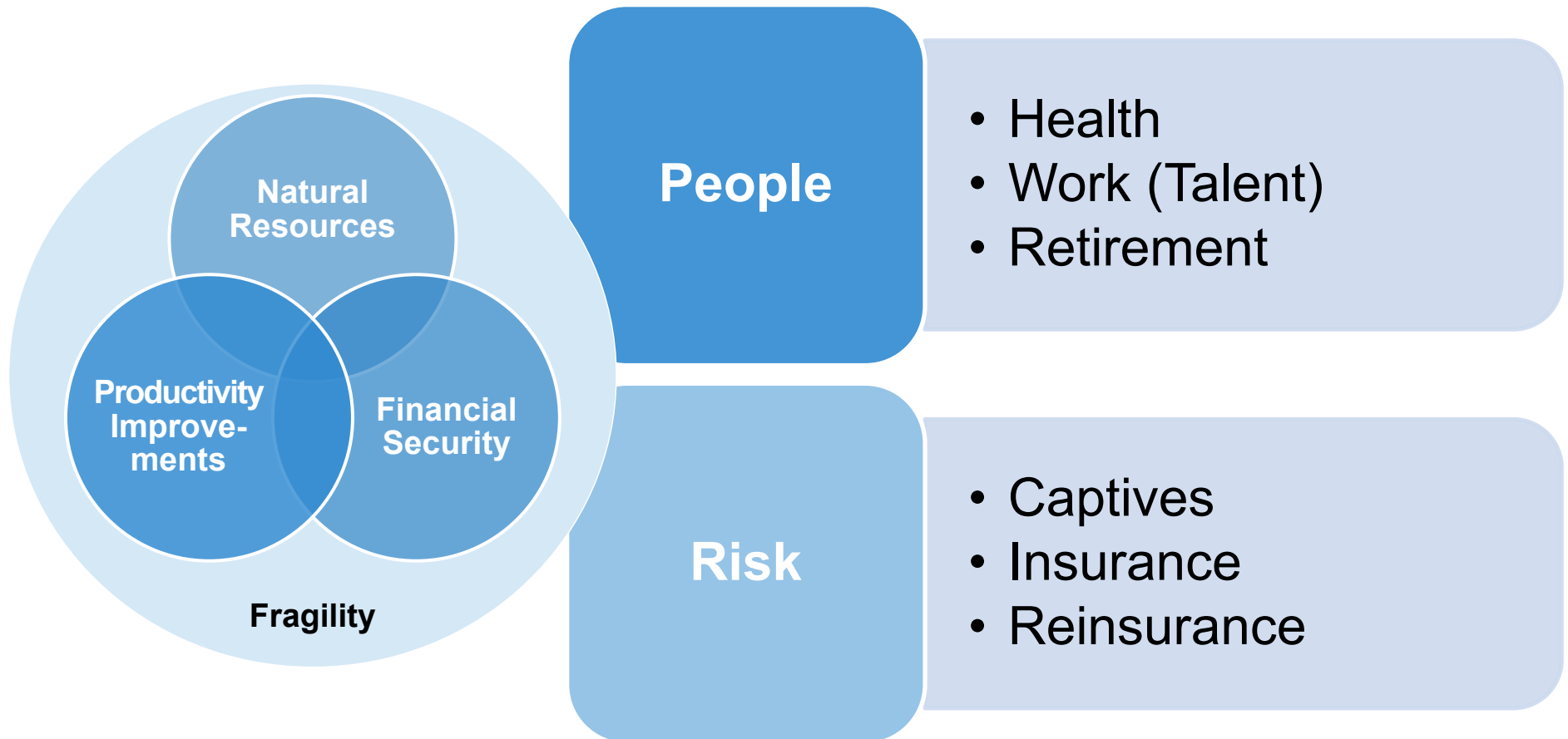
Increased need for capacity products

Product design and product relevance hard to maintain

Increased operational risk, e.g. Thailand flood

More surprises drive higher capital requirement and lower ROE

Aon focused on risks in financial security and fragility



Contact Information

Stephen J. Mildenhall

Global CEO of Analytics for Aon

Aon Singapore Center for Innovation and Analytics

+65.6231.6481 (office)

+65.9233.0670 (cell)

stephen.mildenhall@aon.com

What has changed since 1970?

Change	Then	Now	Implications
Space travel	Men on the moon	Private space travel	Terrestrial interests
Car of future	Flying	Self-driving	Personal auto ins.
Energy	Running out	Shale gas	Faith in technology
Navigation	Maps	GPS	Data; cat modeling
Information	Yellow pages	Internet	Profound
Communications	~\$10 / minute	~6 cents / minute	Global manufacturing
Containers (1966)	1% of countries	90% of countries	80% lower ins. costs
Income level	Sing \$2K, US \$5K	Sing \$51K, US \$46K	Future promises
Life expectancy (US)	71	79	Elder care
Pensions	Company provided	State & self-directed	Insurance, education
Dread diseases	Cancer	Cancer, AIDS, TB	Cost of care, genetics
Healthcare	Company provided	State & self-directed	Insurance, allocation