

Singapore's Experience on Digital Life Insurance

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How do we look at future opportunities and threats?

3 key driving forces of **Trade, Tribe and Technology** (3 "T"s)



Trade

- Economy
- Financial markets
- Implications on investments and type of insurance products



Tribe

- Demographics changes
- New social behavioural norms
- Implications on buying behaviours of insurance and types of products



Technology

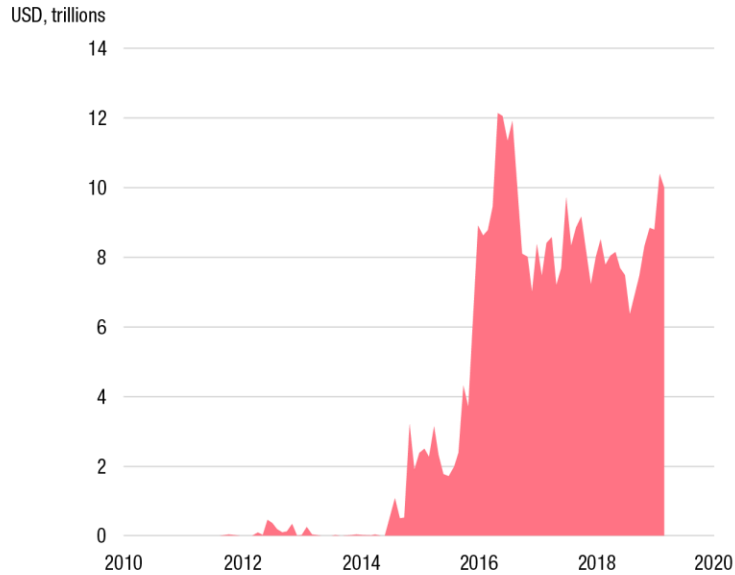
- Digital revolution – “Achieving Warp Speed”
- Health technology – “Living Longer, but at what cost?”
- Implications of technology on insurance



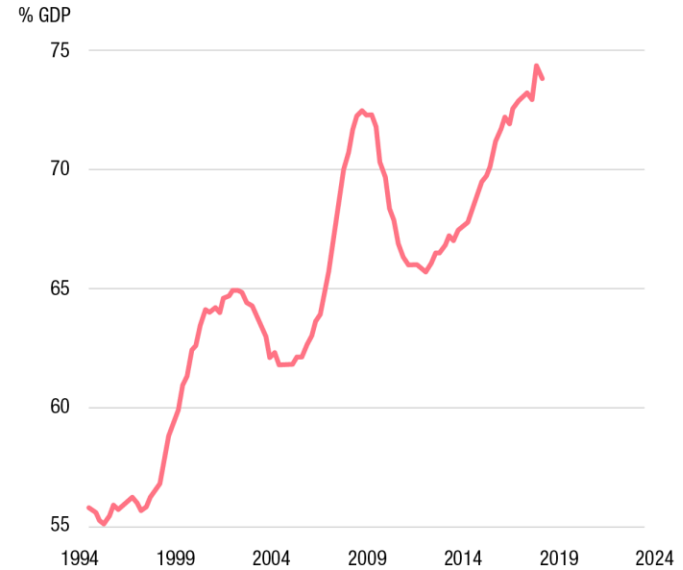
Trade: Financial Markets

Global Bonds with **negative yield and build-up** in credit market

Global bonds trading at a negative yield



U.S. credit to the non-financial sector



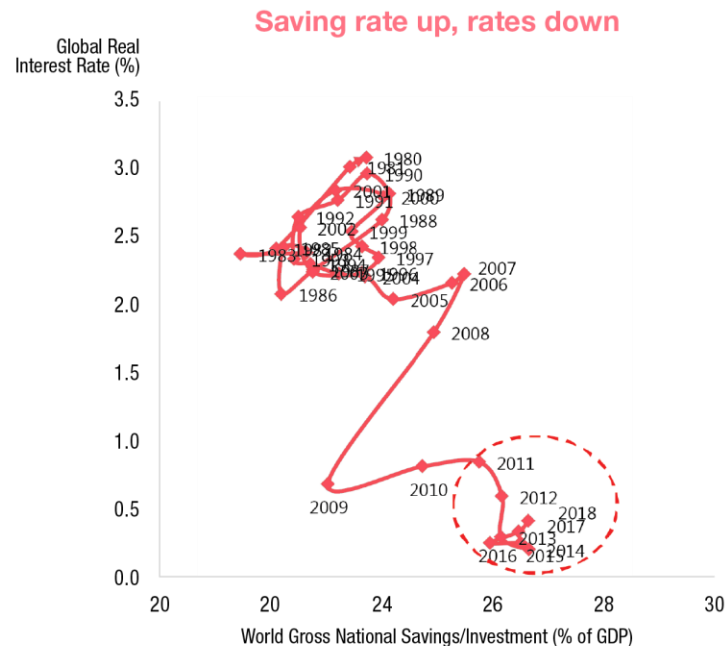
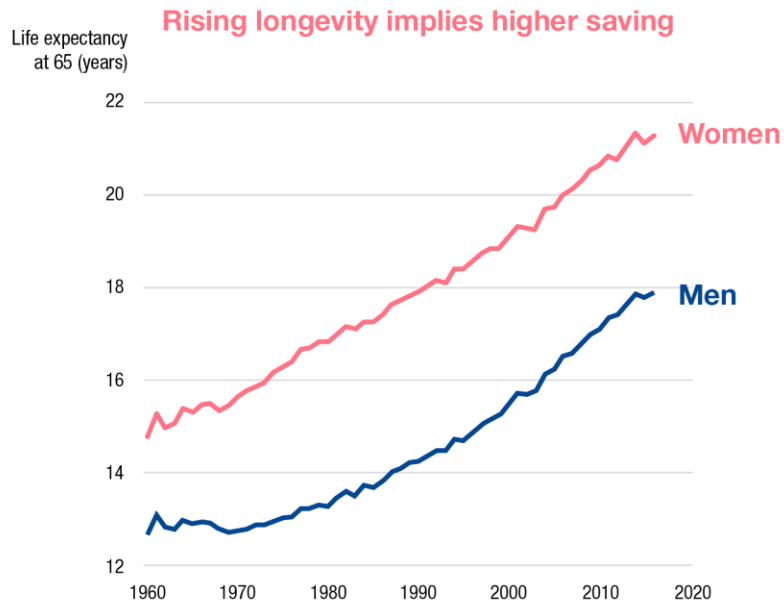
As of May 2019. Source: BIS, Bloomberg, PIMCO calculations. Left chart includes all securities in the Bloomberg Barclays Global Aggregate Index.

Implications on investments and type of insurance products



Tribe: Demographic changes

Trajectory of interest rates **not meeting** future consumer demands



As of May 2019. Source: World Bank, Haver, PIMCO Calculations. Right chart: The global real interest rate is the GDP-weighted(PPP) average of the natural rate of interest (Holston-Laubach-Williams) of the US, UK, and Euro area. World gross national savings/ investments is taken from the IMF. Sources: Federal Reserve Bank of New York, IMF.



Tribe: New Social Behavioral Norms

An entire class of technologies e.g mobile, internet of things, etc. is seeking to **remake the fundamentals of our everyday lives.**

Implications on buying behaviours of insurance and type of products



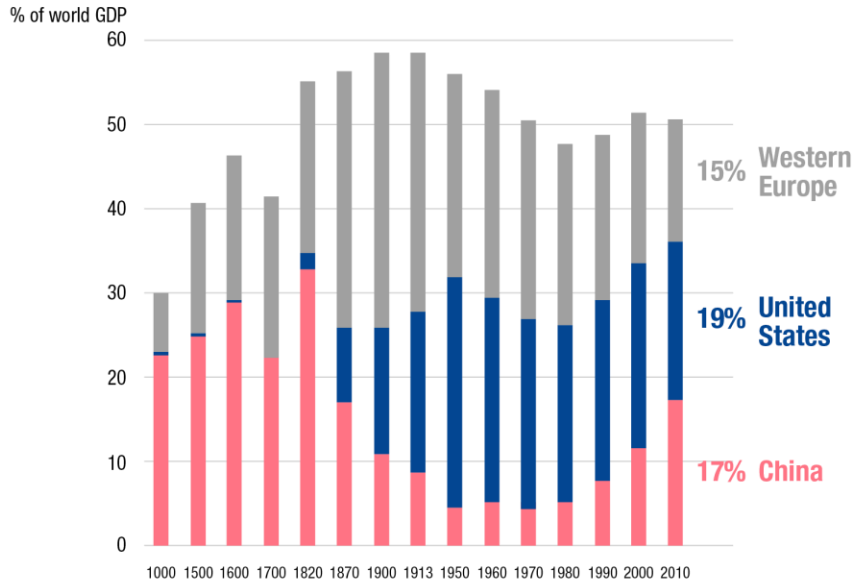
Source: "Technology is threatening our basic social norms. Here's how"; World Economic Forum; June 2017;
<https://www.weforum.org/agenda/2017/06/heres-how-smart-devices-are-reprogramming-your-life>
Image: REUTERS/SuzaOnne Plunkett



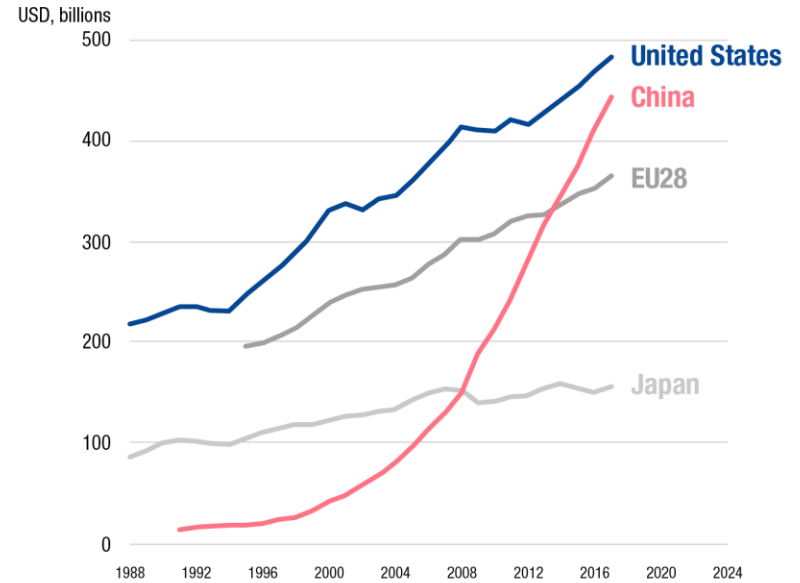
Technology

Increase in R&D spending **has correlation with** GDP growth

Share of world GDP growth



Research and development spending



As of May 2019. Source: OEC, Maddison Project Database, PIMCO calculations.



Technology: Digital Revolution - Achieving Warp Speed

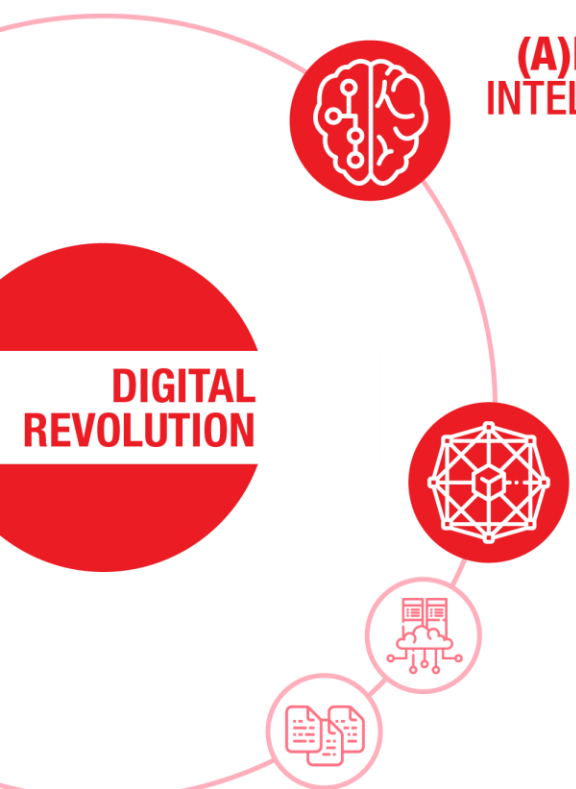
“ We tend to **over-estimate** the effect of technology in the short run and **under-estimate** the effect in the long term. ”

- AMARA'S LAW



Technology: Digital Revolution - Achieving Warp Speed

The ABC's of Digital Revolution



(A)RTIFICIAL INTELLIGENCE

- **Customization & Customer Experience:** Artificial Intelligence to enable a seamless automated buying experience, personalized interactions, and product customization based on customers' geographic and social data
- **Market conduct:** Use of speech analytics to detect customer claims fraud and agency market conduct issues
- **Faster, Customized Claims Settlement:** Online interfaces and virtual claims adjusters will make it more efficient to settle and pay claims while simultaneously decreasing the likelihood of fraud e.g. **motor claims, non-disclosures**, etc.

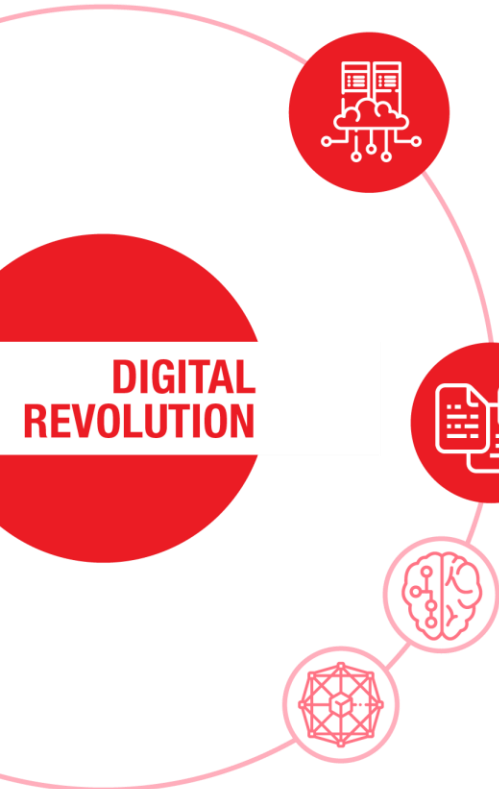


- **Decentralized validation:** Validation of transactions is performed by network nodes without the need of intermediaries; hence **increase** operational efficiency
- **Trust:** Cryptography ensures trust between parties; a transaction that has been validated via user credentials cannot be repudiated; hence **prevent** fraud



Technology: Digital Revolution - Achieving Warp Speed

The ABC's of **Digital Revolution**



(C)LOUD

Cloud technology, in conjunction with other technologies, drives two fundamental changes:

- Offering **new services** beyond the old insurance model, and build **new networks** of customers and partners through “**platform-as-a service**”
- Creating of **direct, omni-channel** relationships with customers, through value exchange (in the form of services and lower rates) for real-time customer data

(D)ATA (BIG)

- **Individual Policy Pricing:** Internet-of-things (IOT) sensors and big data aggregate customer data for insurers to assess risk from individuals and macro trends, thereby enabling **predictive underwriting**
- **Customer Insights:** Data powers connectivity with customers and generates insights into **customer behavior**, to enable individual **risk pricing** and **personalised** customer engagement



Technology: Health Technology

Living longer, but at **what cost?**



Connectivity and digital shifting value from devices to software and services



Cardiology



Oncology



Respiratory



Fertility, pregnancy and parenting



Consumers increasingly engaged in their health



Shift to **value-based healthcare** will reduce waste, increase access and improve outcomes



Care shifting to **lower cost settings** and homes

Source: Philips Innovation



Technology: Health Technology

Availability of **new treatment** for diseases

Better Disease Outcomes

Diseases Gene Therapy Could Cure

There are 1,536 Gene Therapy types in the production pipeline

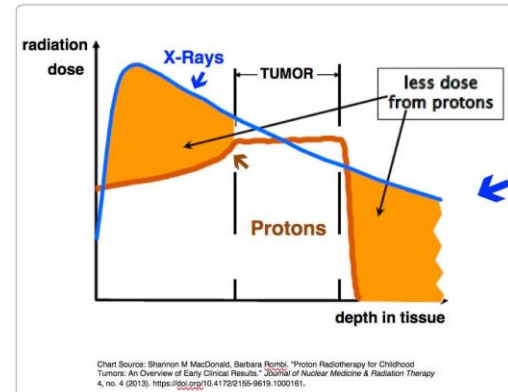
1. Cancer
2. Blood Disorders
3. Blindness
4. AIDS
5. Cystic fibrosis
6. Muscular dystrophy
7. Neurological Disease

More expensive treatments

Proton Beam Therapy

Targets tumors and cancer cells with precision and reduces side effects on surrounding tissues.

Proton therapy costs about US\$30,000 to US\$120,000 as compared with traditional radiosurgery costs (which costs about US\$8,000 to US\$12,000)



Protons

X-Rays Do Not

Excess radiation to healthy tissue results in costly side effects and secondary tumors



Implications of Technology on Insurance

3 Major Shifts

Protection to Prevention

- Smart devices and IOTs are new platforms to engage customers frequently
- Availability of real-time customer data
- Enable insurers to move from paying claims to helping customers pursue healthier lifestyles – GetGreat

Exclusion to Inclusion

- Pre-existing conditions and exclusions in traditional medical underwriting result in under-served or uninsured customers
- Insights from real-time customer data enable customised premiums, thereby providing insurance to “uninsurable”
- Patterns from various data source enable actuaries to detect new variables for underwriting and pricing

Product to Service

- Digital insurance “as a service”
- No longer a product that is bought and enjoyed during claims
- Products designed with engagement in mind

End of Deck