



國立政治大學商學院  
**金融科技研究中心**  
FinTech Research Center  
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# Insurance Technology and Longevity Risk

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# The Impact of InsurTech

- WEF FinTech report in 2015 state that “The most imminent effect of disruption will be felt in the banking sector, **but the greatest impact in the insurance sector .**”
- The trends of “InsurTech” have accelerated the pace of change and appear to continue....





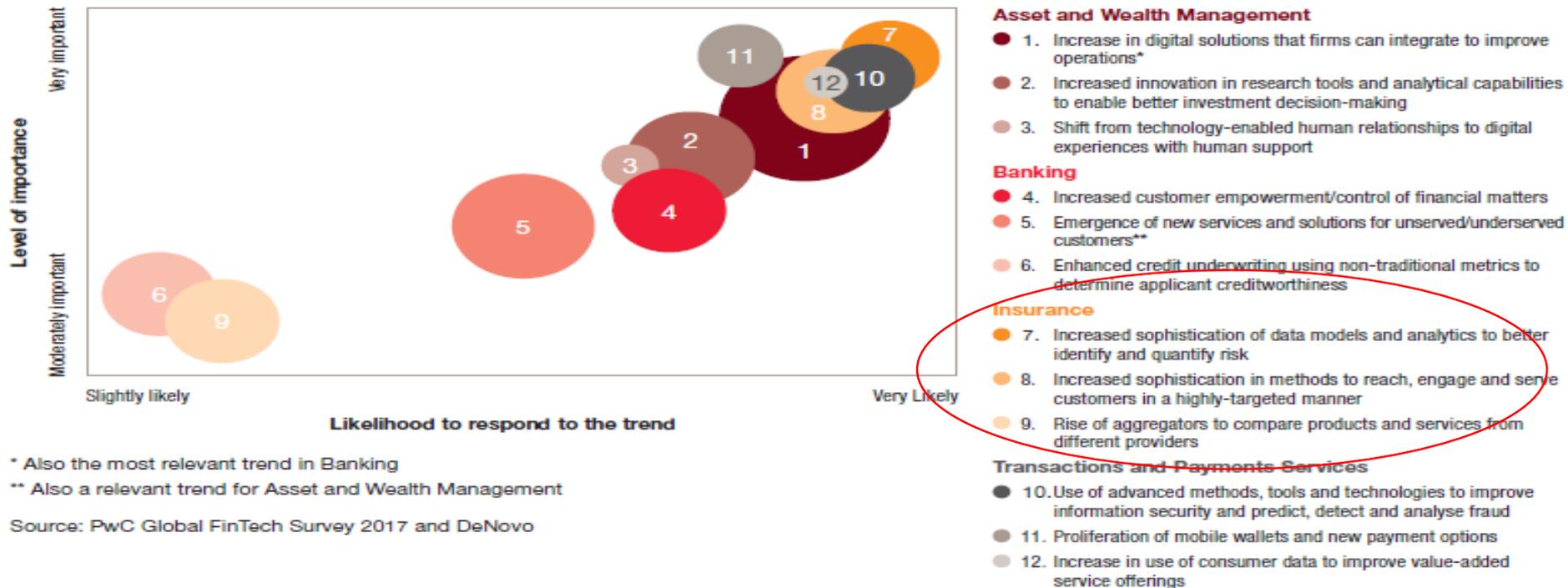
# The Importance of InsurTech

## Innovative trends under an industry spotlight

To help industry players navigate the market, we have identified the main trends in the Asset and Wealth Management, Banking, Insurance, and Transactions and Payments Services industries that will be most significant over the next five years.

**Figure 10: Trends in FS ranked by importance and likelihood to respond**

The size of the bubbles is proportional to the number of related FinTech companies as assessed by the DeNovo platform





# The Impact of InsurTech

- PwC indicates that Investment in the insurtech in 2015 reached \$2.65 billion, a trifold increase over 2014. The investments in insurtech have accumulated over USD\$3.4b billion in 2016.
- KPMG sees investments in insurtech start-up to rise 100% in 2013-2016.





# The Impact of InsurTech

- According to Gartner research, 64 % of the world's 25 largest insurance companies have already invested directly or indirectly via their venture capital arms in insurtech startups.
- Gartner predicts that 80 % of life and P&C insurers worldwide will partner with or acquire insurtechs to secure their competitive positions by the end of 2018.





# Top Five InsurTech Trends

- Redefine insurance distribution channel
- Using Big Data and AI to provide better decision making
- Innovative products to meet customer needs
- Use IoT to offer value-added services
- Use Block chain to simplify insurance operation and reduce cost and frauds.





# Fintech and Longevity Risk

- **New Innovative Service and Products**
  - **Data Analytics Will become Increasingly Important.**
  - **Connected devices empowering innovative carriers to leverage more detailed customer data to create personalized policies (UBI/BDI insurance) for health management.**
  - **Big Data and AI will continue to be adopted to provide better decision making for retirement.**





# Fintech and Longevity Risk

- **New Innovative Service and Products**
  - As the IoT-driven data revolution progresses, the emphasis will shift from risk transfer to risk management.(more focus on risk prevention)
  - Use Block Chain to simplify insurance operation to decrease cost and insurance fraud; and provide fast and better service.





# Fintech and Longevity Risk

1. Use robo-advisor to help retirement planning and pension investment.
2. Use Artificial Intelligence and Big Data to improve health care management.





# Fintech and Longevity Risk

- **What Robo-Advice Will Do**

- In developing a financial plan, they can assimilate multiple goals, including college savings, planned home purchases, **retirement, protection needs, estate planning and the need for health care and/ or long term care coverage.**





# Fintech and Longevity Risk

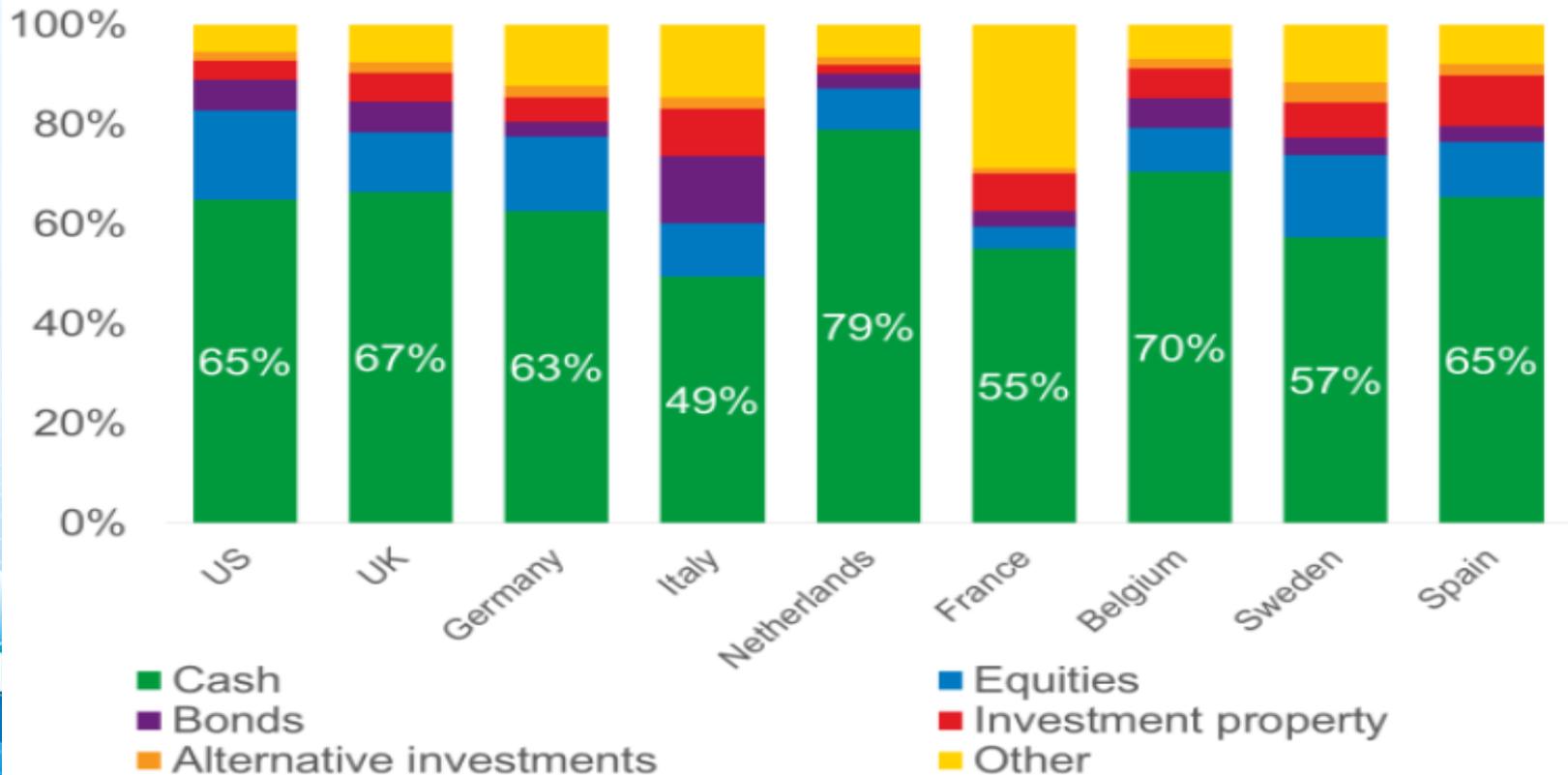
## • Financial Advice and Recent Trends

- Current need for retirement financial advice is greater than ever
- as we observe several key challenges to individuals' financial security around the world:
  - 1) high levels of cash,
  - 2) increasing longevity,
  - 3) retirement income gap
  - 4) lack of engagement, financial literacy, and access to advice.





## Exhibit 1: AVERAGE ASSET ALLOCATIONS AS A PERCENTAGE OF TOTAL SAVINGS AND INVESTMENTS





# Fintech and Longevity Risk

- **Robo-Advisers for Retirees**
  - Simplified approach that offers easy accessibility
  - Efficient investing
  - Instant diversification for risk management
  - Tax-loss harvesting
  - Access to low cost investments, a fee of 0.25% or less
  - Unbiased investment advice without commission fee





# Fintech and Longevity Risk

- **Robo-advisor help pension investment**
  - Digital advisors provide a variety of advisory services to consumers via internet-based platforms using algorithmic portfolio management strategies.
  - Digital advice models have the ability to help human advisors more effectively provide advice and automate routine processes.
  - Survey shows using AI Robo-advisor did help to increase retirement saving, especially for low educated and low income people.





# Fintech and Longevity Risk

- **Robo-advisor help pension investment**
  - According to the TUC, GDP could receive a 10% boost from productivity gains linked to artificial intelligence by 2030, which could relieve the pressure on workers to stay in employment into their late 60s.
  - Frances O'Grady, the TUC general secretary, said: "Robots and AI could let us produce more for less, boosting national prosperity."





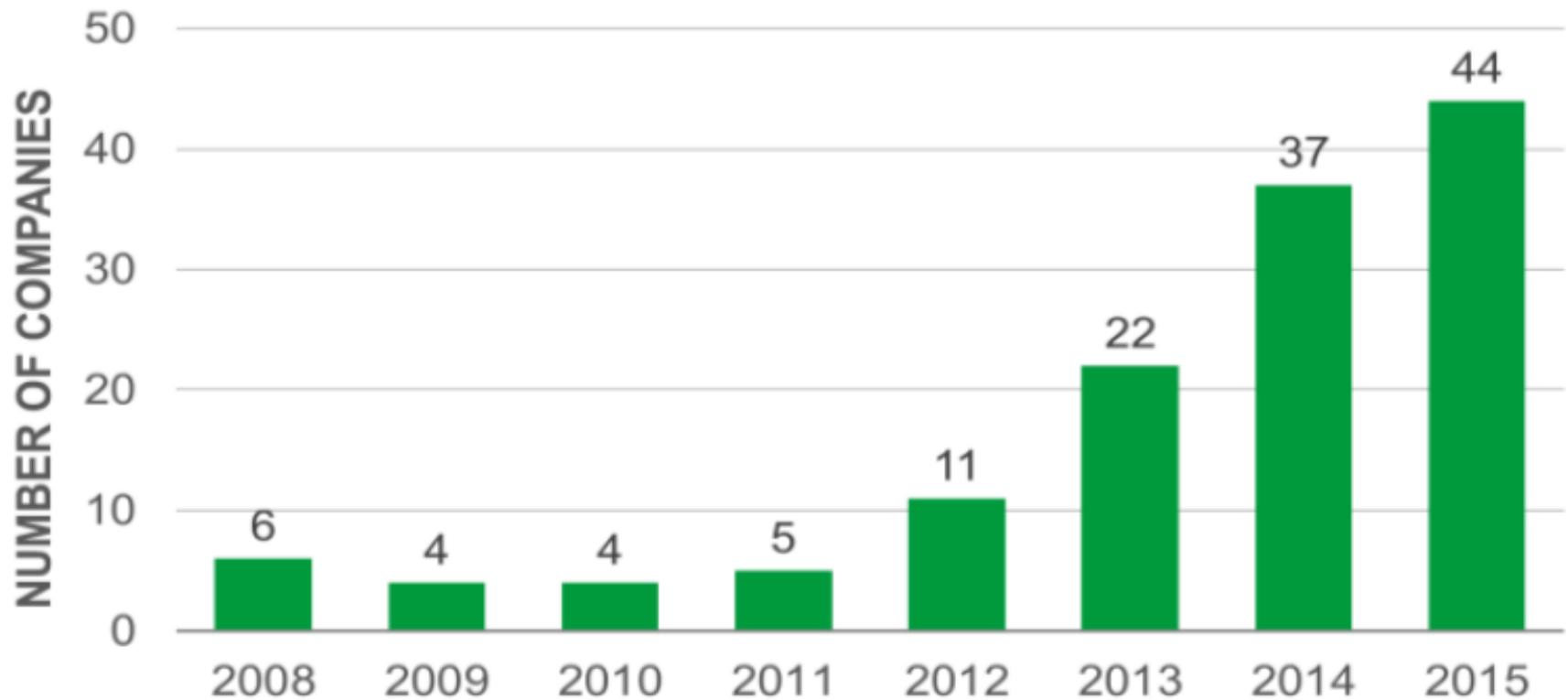
# Fintech and Longevity Risk

- **The Potential Industry Impact of Robo-Advice**
  - According to Accenture, Robo-advice has already had a significant impact on the wealth management industry
  - Several wealth managers have already launched a robo-advice option; others have an option in development or are reviewing strategic alternatives





## Exhibit 4: DIGITAL ADVISORY FIRM LAUNCHES IN THE US

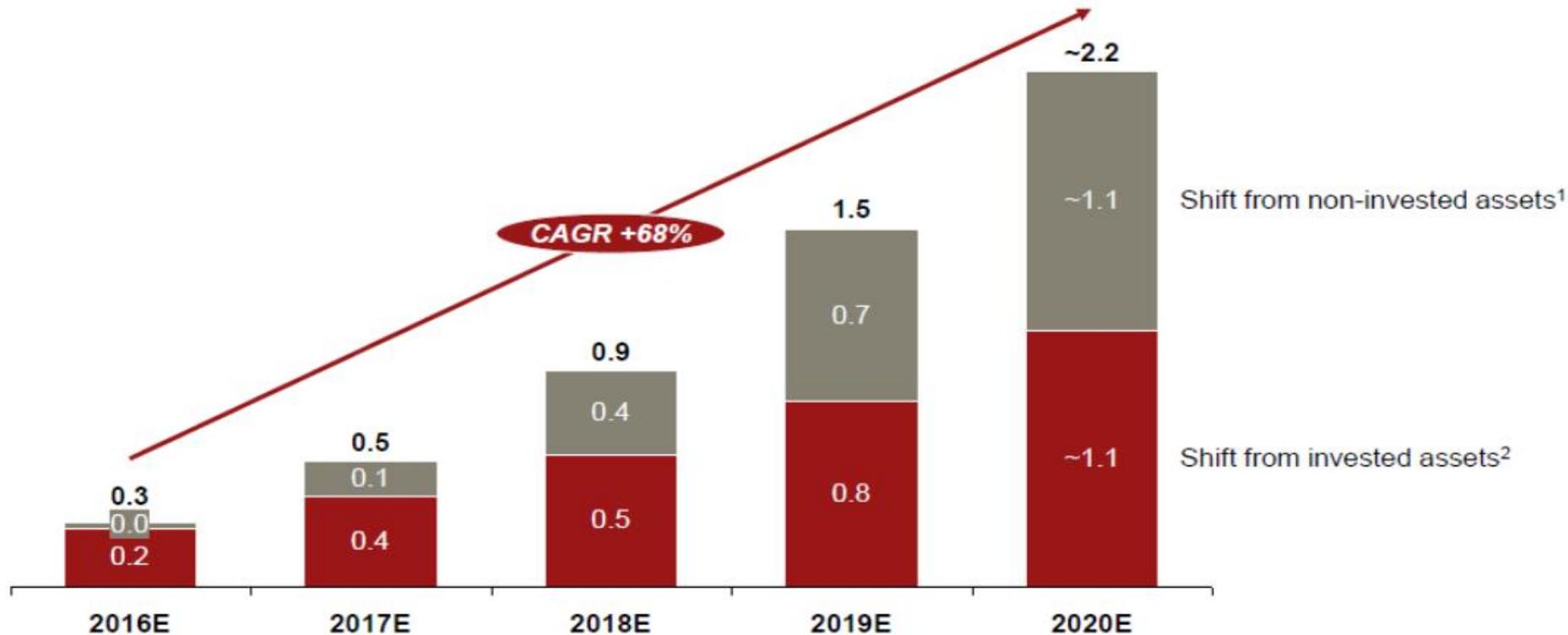


Source: Tracxn Report: Robo Advisors (Feb. 2016).



# Robo-advisors AUM by 2020

Estimated U.S. robo-advisors assets under management  
In trillions of dollars



1. Non-invested assets include liquid funds (e.g., cash and cash equivalent deposits)  
2. Invested assets include credit market instruments, corporate equities, mutual funds, IRAs and 401(k)  
Source: A.T. Kearney simulation model



# Fintech and Longevity Risk

- **Artificial Intelligence in Health Care**
  - AI-based applications could improve health outcomes and quality of life for millions of people in the coming years.
  - Recent successes, such as mining social media to infer possible health risks, machine learning to predict patients at risk, and robotics to support surgery, have expanded a sense of possibility for AI in healthcare.





# Fintech and Longevity Risk

- **Artificial Intelligence in Health Care**
  - **Internet of Things (IoT)**
    - Wearable human-interactive devices are advanced technologies that will improve the comfort, convenience, and security of humans, and have a wide range of applications from robotics to clinical health monitoring.
    - Home robot, the sensor networks, could interpret movement data and contact relatives or support staff when a person is at risk, from the guardian





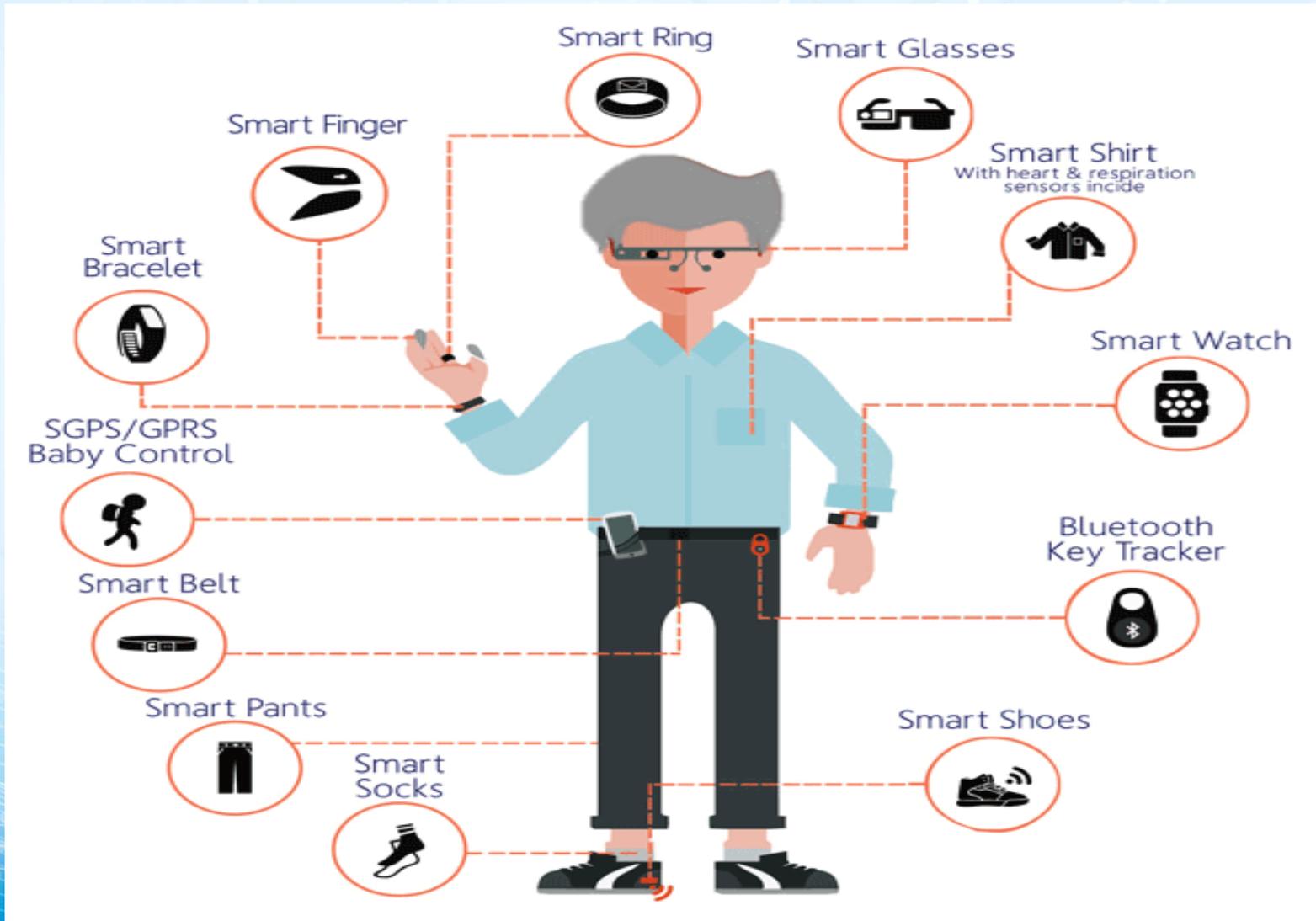
# Fintech and Longevity Risk

- **Smart wearable device in Health Care**
  - We could solve the caring problem of the people via smart watches, smartphones, smart sockers or other devices.
  - Consumer wearables can provide patients with personalized health data, which could assist with self-diagnosis and behavior change interventions
  - Based on Remote Long-Term Care System, we can build health monitoring database to sense the user's heartbeat, body, temperature, and body motion to assist the doctors in deciding the curing method.





# Smart wearable device





# Fintech and Longevity Risk

- **Smart Treatments and Devices in Health Care**
  - Better hearing aids and visual assistive devices will mitigate the effects of hearing and vision loss, improving safety and social connection.
  - Personalized rehabilitation and in-home therapy will reduce the need for hospital or care facility stays.
  - Physical assistive devices (intelligent walkers, wheel chairs, and exoskeletons) will extend the range of activities of an infirm individual.





# In-kind-benefit LTC Insurance Products



Health management and medical services



Nursing and long-term care services



Elderly nursing services



Funeral services





# Fintech and Longevity Risk

- **Artificial Intelligence in Health Care**
  - **UBI link insurance policies**
    - First introduced to Taiwan in 2016, UBI health care management insurance policy link medical service to insurance products
    - If the health conditions of insurers improve, the insurance premium will be decreased.
    - With a lower rate as an incentive, people are willing to make changes to their lifestyle.





# Fintech and Longevity Risk

- **Wearable Tech of Health Insurance Is Plugging Into Taiwan**
  - This year, Fubon, Taiwanlife, Cathay, Chinalife, Shin Kong Life, are approved to sell the wearable tech insurance policy
  - The devices such as smart ring should become more widespread over the next decade
  - An explosion of sensors can monitor everything from steps to breathing to heart rate can help better health management.





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# NCCU Fintech Research Center

- NCCU FinTech Research Center was established in November 2016.
- We worked with four famous accounting firms and international leading university to build a platform for industry-academia cooperation to pursue innovation in financial technology.



**Deloitte.**

**EY**

**KPMG**

**pwc**



UNIVERSITY OF  
CAMBRIDGE  
Judge Business School



**Stanford**  
University





# Current Research of FTRC

- **Government project on FinTech application for aging society solution.**
- **Joint research projects with many leading financial companies in Taiwan to work out the solutions of FinTech innovation.**
  1. **AI robo-advice for retirement saving**
  2. **UBI/BDI insurance for health management (work with Yangming University Aging and Health Research Center)**





# Conclusion

- **Build useful databank: including motility, health, investment behavior and financial market data.**
- **Use FinTech to create easy-understanding retirement planning platform to decrease financial illiteracy.**
- **Use FinTech to improve investment efficiency and risk management for financial companies.**
- **Use FinTech to decrease longevity risk by more innovative health management and long-term care UBI policies.**
- **Connect another related industries to create FinTech ecosystem and help economic growth.**

