Monday, October 8, 2018

Top 10 risk and compliance related news stories and world events that (for better or for worse) shaped the week's agenda, and what is next

Dear members and friends,

Commissioner Kara M. Stein (Securities and Exchange Commission), has said that our financial markets need two ingredients to function properly: *trust and information*.

William Shakespeare has said: “Love all, trust a few, do wrong to none.”

Solon believed that we must put more trust in nobility of character than in an oath.

To make things worse, Agatha Christie has said: “Where large sums of money are concerned, it is advisable to trust nobody.”

After the word trust, Kara M. Stein put another word - information. Without information, there is no trust.

But “information is not knowledge”, according to Albert Einstein.

“Intelligence is the wife, imagination is the mistress, memory is the servant”, according to Victor Hugo.

I liked the presentation of Kara M. Stein. She said: “This evening, I will speak to you about data—a topic as germane to the industry I help oversee—the financial industry—as it is to other professions, such as medicine, science, and engineering.”

“Our financial markets need two ingredients to function properly: trust and information. When either is constricted, the financial markets can seize up.

We have seen this many times before, from the Great Depression almost a century ago to the Great Recession a decade ago.

Scarce and unreliable information was one of the major problems that led to both of these major market disruptions. When investors did not know what they were actually invested in, or that rampant conflicts of interest existed, trust dried up."

I agree, but things are way more complex.

Where is all the knowledge we lost with information?
T. S. Eliot

Read more at Number 5 below. Welcome to the Top 10 list.

Best Regards,

George Lekatis

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Number 1 (Page 8)

Divergences widen in markets

BIS

Sentiment turned sharply in financial markets as 2018 moved into its second half.

A renewed US dollar rally and escalating trade tensions resulted in an uneven tightening of global financial conditions.

The Federal Reserve continued the gradual and predictable removal of monetary accommodation as the US economy gathered speed again, in part boosted by last year's fiscal stimulus.

Yet financial conditions in the United States, if anything, eased further.

Conditions tightened somewhat in the credit markets of some advanced economies (AEs). In contrast, financing tightened sharply in emerging market economies (EMEs), which saw their currencies depreciate and their access to borrowing wane, amid signs of market disarray in the most vulnerable economies.

US financial markets diverged from their peers. The US stock market sprinted ahead of those in both advanced and emerging economies, and its volatility edged lower.

Number 2 (Page 10)

Towards secure convergence of Cloud and IoT

enisa European Union Agency for Network and Information Security

During the last few years we have witnessed the burst of Internet of Things (IoT) products.

As the IoT market grows bigger year by year, billions of new devices are deployed online. Gartner forecasts that connected things will reach up to 20.4 billion by 2020.

Number 3 (Page 12)

GDPR three months in

National Cyber Security Centre
a part of GCHQ

The Information Commissioner's Office (ICO) recently provided the first update on the impact of the General Data Protection Regulation (GDPR) since it went live three months ago.

Over this period, the ICO, who are the regulator under GDPR, received an average of 500 calls a week to their breach reporting line.

Collected data has identified some important trends concerning the reporting of relevant incidents.

Number 4 (Page 13)

Financial stability and credit markets in Europe - opportunities and risks in the current setting

Dinner talk by Prof Claudia Buch, Vice-President of the Deutsche Bundesbank, at the second Süddeutsche Zeitung conference on the topic of "Private debt and direct lending", Frankfurt am Main.

It is nearly ten years ago to the day that the global financial crisis reached its initial peak. The global economic crisis that followed was the most severe since the Great Depression.

In the wake of the crisis, reforms to the financial markets were introduced with the aim of making financial markets more resilient, and many of these reforms have already been implemented.

After all, the stability of the financial system is a key prerequisite for an efficient and dynamic economy.

Number 5 (Page 15)

From the Data Rush to the Data Wars: A Data Revolution in Financial Markets

Commissioner Kara M. Stein, Securities and Exchange Commission (SEC), Georgia State University College of Law – Henry J. Miller Distinguished Lecture Series.

This evening, I will speak to you about data—a topic as germane to the industry I help oversee—the financial industry—as it is to other professions, such as medicine, science, and engineering. Before I jump into the deep end of the data pool, however, let me pause to say that I am speaking today as an individual Commissioner and not on behalf of the U.S. Securities and Exchange Commission.

Number 6 (Page 18)

Supporting fast payments for all

Lael Brainard, Member of the Board of Governors of the Federal Reserve System, at the Fed Payments Improvement Community Forum, sponsored by the Federal Reserve Bank of Chicago, Chicago, Illinois.

The confidence that payments will be timely and dependable is a cornerstone of America's dynamic and resilient economy.

Today, Americans take the reliability and safety of their payments for granted. But that was not always the case. The nation's first 150 years were frequently disrupted by panics in the financial system that extended into the payment system, which was highly fragmented and inefficient.

Number 7 (Page 20)

Cyber threat to university networks

The University of Edinburgh was a victim of a Denial of Service attack, which happened on the first day of freshers' week. It affected the university's websites, online services and Wi-Fi networks.

Following the attack, the website of Jisc, who provide digital solutions to UK education and research organisations, featured a blog post which explored how and when Denial of Service attacks impact universities.

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Cross recognition of national eID schemes in the EU: one-step forward

As from 29 September 2018, the eIDAS Regulation creates new impetus across EU Member States (MS) as the latter will be obliged to recognise national systems of other MS, which have been notified to the European Commission and comply with eIDAS.

Notification to the Commission is essential to ensure cross-recognition. The goal is to spearhead the use of cross border services in a range of relevant areas, like for instance, in banking, eGovernment, health care etc.

These application areas can all benefit from the cross border use of eIDs issued in the country of residence of an EU MS citizen while being used to consume services across borders.

Implicitly, the advent of notified eID systems is also likely to mitigate some cybercrime threats, especially those related to age limits to access particular services and protect vulnerable types of internet users such as underage persons.

Number 9 (Page 24)

Chan: Self-made life pension

Norman T L Chan, Chief Executive of the Hong Kong Monetary Authority, at the Philanthropy for Better Cities Forum, Hong Kong.

One of the biggest challenges in many societies in recent decades is how to ensure that the elderly have sufficient income or financial means to maintain a decent retirement life.

Many governments have introduced different forms of pay-as-you-go retirement support schemes, which unfortunately have now proved to be hard to sustain fiscally in the longer run if the population is ageing rapidly.

The Hong Kong population is also ageing. While we celebrate having the longest life expectancy in the world, with women reaching 87 and men 81, this also creates tremendous challenges for retirement protection.

Number 10 (Page 31)

DARPA Selects Teams to Explore Underground Domain in Subterranean Challenge

DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

The world beneath us leaves much to be discovered.

These uncharted environments pose immense challenges to military and emergency personnel as they respond to threats from adversaries or natural disasters.

DARPA has selected nine teams to compete in the Subterranean (SubT) Challenge – seven in the physical Systems track and two in the Virtual track – to develop new approaches to rapidly map, navigate, and search underground environments.

Number 1

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BIS

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The Federal Reserve continued the gradual and predictable removal of monetary accommodation as the US economy gathered speed again, in part boosted by last year's fiscal stimulus.

Yet financial conditions in the United States, if anything, eased further.

Conditions tightened somewhat in the credit markets of some advanced economies (AEs). In contrast, financing tightened sharply in emerging market economies (EMEs), which saw their currencies depreciate and their access to borrowing wane, amid signs of market disarray in the most vulnerable economies.

US financial markets diverged from their peers. The US stock market sprinted ahead of those in both advanced and emerging economies, and its volatility edged lower.

The steady accommodation provided by the ECB and the Bank of Japan (BoJ), together with a flight to safety from stressed EMEs, helped to keep a lid on long-term US government yields despite looming Treasury debt issuance.

As a result, the US yield curve flattened further, nearing inversion.

Overall, US financial conditions stayed looser than in the other main AEs.

For instance, while credit spreads of US corporate borrowers stayed relatively flat between June and mid-September, European corporates saw moderately wider spreads that built upon a previous round of widening in May.

These wider spreads were in part attributable to the higher borrowing costs faced by some European financial institutions, which reflected intra-euro area sovereign stress and the exposures of some banks to vulnerable EMEs.

The tighter financial conditions in EMEs built upon the pressure seen earlier in the year. Against the backdrop of a stronger US dollar, escalating trade tensions, and further signs of a slowdown in China, portfolio inflows remained limited.

Compounded by domestic vulnerabilities, some countries experienced portfolio outflows, with policy or political uncertainty contributing to market stress in a few jurisdictions.

Currency depreciation coincided with higher sovereign spreads, both for instruments denominated in US dollars and for those in local currency.

The cumulative damage to EME assets since global trade tensions escalated in late March was in some respects greater than that resulting from the fallout of the 2013 taper tantrum, or the devaluation of the renminbi in August 2015.

But sovereign spread levels at the current juncture stayed, by and large, below those of previous episodes and contagion from the most affected countries was limited.

Nevertheless, as of mid-September, investors remained uneasy about whether the financial stress in EMEs would increase and spread further.

To read more:
https://www.bis.org/publ/qtrpdf/r_qt1809a.pdf

Number 2

Towards secure convergence of Cloud and IoT

During the last few years we have witnessed the burst of Internet of Things (IoT) products.

As the IoT market grows bigger year by year, billions of new devices are deployed online.

Gartner forecasts that connected things will reach up to 20.4 billion by 2020.

These things (or devices), connect to the network to provide information they gather from the environment through sensors, or to allow other systems to reach out and act on the world through actuators.

ENISA defines IoT as "a cyber-physical ecosystem of interconnected sensors and actuators, which enable intelligent decision making".

Information lies at the heart of IoT, feeding into a continuous cycle of sensing, decision making, and actions.

IoT devices generate vast amount of data. The Cloud, as part of the IoT ecosystem, manages the flow, the process, the analysis and the storage of these data.

Especially in enterprise environments, IoT can be most rapidly and cost-effectively deployed when integrated with Cloud-based services.

With the prevalence of IoT, Cloud Computing evolved in such a way to accommodate the needs of the IoT ecosystem and provided many new features specific to aggregating, storing and processing data generated by IoT.

Among these features are device virtualisation, business intelligence tools, machine learning, command and control (C&C), processing to perform complex analytics, and Application Programming Interfaces (APIs).
While this convergence of Cloud Computing and IoT brings opportunities, it also raises new risks and challenges.

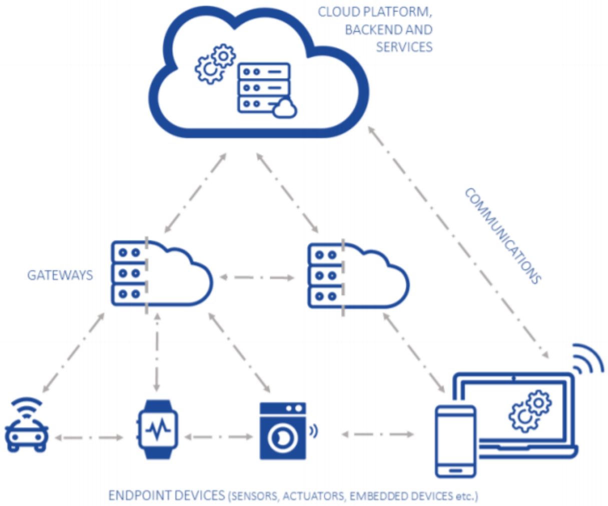


Figure 1. Architecture for IoT ecosystem with IoT Cloud

In short, this paper attempts to:

- identify and discuss security challenges coming from the convergence of IoT and Cloud;
- highlight the security issues through four representative attack scenarios;
- map the identified challenges to security takeaways.

The aim of this work is to provide a high-level overview on the security issues to the audience below:

- IoT developers and IoT integrators that make use of IoT Cloud Computing;
- Cloud service Providers (CSPs) of IoT Cloud offerings.

To read more:
https://www.enisa.europa.eu/publications/towards-secure-convergence-of-cloud-and-iot

Number 3

GDPR three months in

National Cyber Security Centre
a part of GCHQ

The Information Commissioner's Office (ICO) recently provided the first update on the impact of the General Data Protection Regulation (GDPR) since it went live three months ago.

Over this period, the ICO, who are the regulator under GDPR, received an average of 500 calls a week to their breach reporting line.

Collected data has identified some important trends concerning the reporting of relevant incidents.

The key lesson is that organisations need to get their incident reporting plans in place and to ensure that:

- Breaches are reported within the appropriate time period. Breaches are to be reported within 72 working hours of the organisation becoming aware of the incident.

- Breach reports are as complete as possible before reporting, where details are missing a rough timeline of when the ICO can expect further information should be provided.

- The person reporting the breach is authorised to discuss the problem in the required detail.

Of the cyber incidents that were reported, nearly half were the result of phishing. Malware (10%) and ransomware (6%) were also other notable causes of breaches reported.

The NCSC, in collaboration with the ICO, has published guidance on GDPR Security Outcomes at:
https://www.ncsc.gov.uk/guidance/gdpr-security-outcomes

Number 4

Financial stability and credit markets in Europe - opportunities and risks in the current setting

Dinner talk by Prof Claudia Buch, Vice-President of the Deutsche Bundesbank, at the second Süddeutsche Zeitung conference on the topic of "Private debt and direct lending", Frankfurt am Main.

It is nearly ten years ago to the day that the global financial crisis reached its initial peak. The global economic crisis that followed was the most severe since the Great Depression.

In the wake of the crisis, reforms to the financial markets were introduced with the aim of making financial markets more resilient, and many of these reforms have already been implemented.

After all, the stability of the financial system is a key prerequisite for an efficient and dynamic economy.

Just as preventive medical care and a good immune system help to limit the effects of disease, a prudent approach coupled with good defences helps the financial system to mitigate the effects of economic shocks.

The question today is how far the international financial system is better placed to deal with unexpected developments than it was just a decade ago.

The global economy is currently fraught with uncertainty on a number of fronts.

Geopolitical tensions have escalated, and trade disputes have erupted, some of which threaten to tip into a trade war.

In Europe it is unclear under what circumstances the United Kingdom will leave the European Union.

Germany's economy may be booming right now, but every period of growth, no matter how long it lasts, ultimately gives way to an economic downturn.

How well prepared is the German financial system to face a potential economic slump?

What happens if risks materialise?

To read more:
https://www.bis.org/review/r180926c.pdf

Number 5

From the Data Rush to the Data Wars: A Data Revolution in Financial Markets

Commissioner Kara M. Stein, Securities and Exchange Commission (SEC), Georgia State University College of Law – Henry J. Miller Distinguished Lecture Series.

Thank you Dean [Wendy] Hensel for that kind introduction. It is an honor to be chosen to give the 62nd Henry J. Miller Distinguished Lecture at Georgia State University College of Law.

It is a testament to Henry Miller himself that his legacy continues to advance a public dialogue on so many important topics and I'm pleased to be part of that discussion.

I would also like to thank a few of my colleagues for being here tonight—Bill [Dixon], Aaron [Lipson], and Richard [Best], who work in the Securities and Exchange Commission's Atlanta Regional Office.

This evening, I will speak to you about data—a topic as germane to the industry I help oversee—the financial industry—as it is to other professions, such as medicine, science, and engineering. Before I jump into the deep end of the data pool, however, let me pause to say that I am speaking today as an individual Commissioner and not on behalf of the U.S. Securities and Exchange Commission.

Our financial markets need two ingredients to function properly: trust and information. When either is constricted, the financial markets can seize up. We have seen this many times before, from the Great Depression almost a century ago to the Great Recession a decade ago.

Scarce and unreliable information was one of the major problems that led to both of these major market disruptions. When investors did not know what they were actually invested in, or that rampant conflicts of interest existed, trust dried up.

In response to the 1929 stock market crash and subsequent market turmoil, Congress passed the "Truth in Securities Act"—also known as the Securities Act of 1933.

This landmark legislation required companies to disclose certain types of information when investment contracts or securities were being sold. It also prohibited fraud and misrepresentation in the presentation of that information. In effect, it improved the quality of information, or data, in the market—and it fostered trust.

The Securities Exchange Act of 1934 followed. It specifically stated that the new law was necessary to "insure the maintenance of fair and honest markets . . . ."

The legislation that followed the Great Recession was the Dodd-Frank Wall Street Reform and Consumer Protection Act. Like its predecessors in the 1930s, this seminal legislation shined light where there once was darkness by increasing transparency in the derivatives and other markets.

The increased transparency that resulted from these pieces of legislation was one of the great transformations in the securities markets. It allowed investors to trust the markets.

This trust, in turn, allowed financial services companies to thrive and seek new and novel ways to remain competitive. Countries around the world have used our regulatory system as a model for the regulation of their own financial markets.

Fast forward to today, and the prolific availability of data and information has disrupted and transformed the capital markets. Financial services companies look nothing like they did in the '20s and '30s.

Stock exchanges, securities brokers and dealers, investment advisers, and other key participants in the securities markets now look and act more like technology companies.

In fact, today's investors may only interact with a software program or smartphone app when making investment decisions or executing transactions.

As financial services companies have transformed into FinTech companies, technology companies are also beginning to enter the financial services space. Some call them "TechFins," because they were technology companies first.

These changes have only accelerated in the last decade. Financial services companies are harnessing the data that exists—from client preferences to idiosyncrasies in market trends—in order to continue to grow.

Many of these data points have existed for decades. But companies, governments, and even individuals, have radically enhanced their ability to extract, use, and manipulate data in new and increasingly value-added ways.

In other words, financial services companies and others are mining and capitalizing on both their own data, and the data of others.

It makes sense that these transformative changes are provoking new and complicated questions about data ownership, use, availability, and protection.

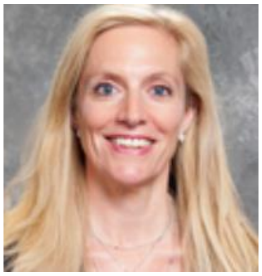
In order to oversee the financial markets with insight and intelligence, the Commission I am a member of, the U.S. Securities and Exchange Commission needs to start grappling with some of the potential answers to these questions. We need to be able to adapt with our own RegTech.

To read more:
https://www.sec.gov/news/speech/speech-stein-092718

Number 6

Supporting fast payments for all

Lael Brainard, Member of the Board of Governors of the Federal Reserve System, at the Fed Payments Improvement Community Forum, sponsored by the Federal Reserve Bank of Chicago, Chicago, Illinois.



The Role of the Federal Reserve in Ensuring Safe and Reliable Payments

It is a pleasure to be here in Chicago today to talk about payments. The confidence that payments will be timely and dependable is a cornerstone of America's dynamic and resilient economy.

Today, Americans take the reliability and safety of their payments for granted. But that was not always the case.

The nation's first 150 years were frequently disrupted by panics in the financial system that extended into the payment system, which was highly fragmented and inefficient.

Before the Federal Reserve took on a role in the payment system, a check recipient could not count on receiving the full value written on the check and faced long and unpredictable delays in getting access to the funds.

As a result of banks' efforts to avoid excessive clearance fees, it could take days, weeks, or more to clear checks.

The Federal Reserve's second Chairman, William P.G. Harding, described the circuitous, opaque, and costly route one payment made: "...a bank in Rochester, N.Y., sent a check drawn on a Birmingham, Ala., account to a correspondent bank in New York, which sent it along to a bank in Jacksonville, Fla. From there, it traveled to Philadelphia, Baltimore and Cincinnati before it finally reached the originating bank in Birmingham."

The fragmentation of the payment system imposed costs on American merchants, households, community banks, and, ultimately, on the overall U.S. economy.

Ensuring a reliable nationwide payment infrastructure was one of the motivations that led the Congress to create the Federal Reserve after the severe financial panic of 1907.

Fostering a safe, efficient, and widely accessible payment infrastructure has been a crucial aspect of the Fed's mission from its founding in 1913.

By creating a new core infrastructure for clearing and settling checks, the Fed was able to boost confidence in banks and America's payment system, ensure Americans received the full value of their checks, and speed up payments.

That was the first, but not the last, time that the Fed played a central role in transforming America's retail payment system.

By the 1970s, the payment system was staggering under the weight of paper checks.

In 1973, Governor Jeffrey Bucher of the Federal Reserve Board described the exponential growth in check volume and the time-consuming and expensive process to clear paper checks as a "time bomb."

The Federal Reserve and payment system stakeholders faced a choice: continue making incremental changes to manage the growing avalanche of checks, or look to technology to facilitate transformational change.

To read more:
https://www.bis.org/review/r181004a.pdf

Number 7

Cyber threat to university networks

National Cyber Security Centre
a part of GCHQ

The University of Edinburgh was a victim of a Denial of Service attack, which happened on the first day of freshers' week. It affected the university's websites, online services and Wi-Fi networks.

Following the attack, the website of Jisc, who provide digital solutions to UK education and research organisations, featured a blog post which explored how and when Denial of Service attacks impact universities.

The post observed that Denial of Service attacks were most frequent between 0800 and 1500, and dramatically less frequent during university holidays.

The author noted that the timing could be indicative that staff and students were the key initiators of the attacks, while recognising that there was little benefit in disrupting an organisation during its quietest periods.

The annual slow-down in attacks, which occurs as universities enter their summer break began earlier this year. The author noted that this may have been due to law enforcement activity.

In April, the National Crime Agency (NCA) and Dutch partners took down webstresser.org as part of Operation Power OFF. The website had been a leading provider of Denial of Service attacks, with upwards of 4 million attacks being orchestrated through the site, for fees as low as £11.

While disruptive attacks cause the most visible difficulties for staff and students, intrusion and theft by state-sponsored groups and cyber criminals remain key threats to the sector.

In August, Dell Secureworks reported on a global campaign which targeted 76 universities in 14 countries.

The campaign saw victims directed to spoofed versions of their university's website, where their credentials could be stolen.
Stolen credentials can enable theft of sensitive information, can be used to influence or deceive others, and are themselves a saleable commodity.
The report attributed the campaign to a state-sponsored Iranian group.

The NCSC has previously published guidance to help organisations understand and mitigate against DoS attacks.

You may visit:
https://www.ncsc.gov.uk/guidance/denial-service-dos-guidance-collection

Number 8

Cross recognition of national eID schemes in the EU: one-step forward

As from 29 September 2018, the eIDAS Regulation creates new impetus across EU Member States (MS) as the latter will be obliged to recognise national systems of other MS, which have been notified to the European Commission and comply with eIDAS.

Notification to the Commission is essential to ensure cross-recognition. The goal is to spearhead the use of cross border services in a range of relevant areas, like for instance, in banking, eGovernment, health care etc.

These application areas can all benefit from the cross border use of eIDs issued in the country of residence of an EU MS citizen while being used to consume services across borders.

Implicitly, the advent of notified eID systems is also likely to mitigate some cybercrime threats, especially those related to age limits to access particular services and protect vulnerable types of internet users such as underage persons.

In an effort to render the Digital Single Market (DSM) meaningful, the upcoming transition marks a waypoint to better services in the internal market for business and citizens alike.

As technical compatibility across various eID systems is key, the Commission has been working hard on a set of principles and guidelines on eID interoperability at:
https://ec.europa.eu/futurium/en/eidas-observatory/rolling-out-eidas-final-draft-principles-and-guidance-eid-interoperability-online

ENISA is looking forward to the likely new competence in the policy area of eID as it stems from the draft Cybersecurity Act that is currently under legislative scrutiny.

This new competence will complement the role that ENISA has assumed in the area of Trust services. ENISA has been active to support the implementation of eIDAS in Trust services in a uniform manner across the MS by providing technical guidance on standards and trust services in the

EU, including the reports on annual security incidents under Article 19 of the eIDAS Regulation.

ENISA also seeks to stimulate discussion by means of an annual conference Trust service forum, the 4th edition of which is due in Berlin on 23 October 2018.

Additionally, particular tenets of the set of principles and guidelines on eID interoperability, point to areas such as security by design and security measures for the protection of personal data (art 32. of the GDPR), that have been part and parcel of the work of ENISA in the past few years.

The ENISA Executive Director Prof. Udo Helmbrecht, underscored that [...] "much like it has done throughout its 14-year long lifespan, ENISA is prepared to make available its advice and support to the EU MS and the Commission alike in the compelling policy area of eID".

For more information: www.enisa.europa.eu/topics/trust-services

Number 9

Chan: Self-made life pension

Norman T L Chan, Chief Executive of the Hong Kong Monetary Authority, at the Philanthropy for Better Cities Forum, Hong Kong.

Distinguished guests, ladies and gentlemen

One of the biggest challenges in many societies in recent decades is how to ensure that the elderly have sufficient income or financial means to maintain a decent retirement life.

Many governments have introduced different forms of pay-as-you-go retirement support schemes, which unfortunately have now proved to be hard to sustain fiscally in the longer run if the population is ageing rapidly.

The Hong Kong population is also ageing. While we celebrate having the longest life expectancy in the world, with women reaching 87 and men 81, this also creates tremendous challenges for retirement protection.

In the context of retirement protection, I can divide the population into three groups:

(i) high income people who have accumulated significant amount of savings and wealth during their working life. They have the financial means to take good care of themselves during retirement and we need not worry about them;

(ii) the underprivileged, working poor or lifelong poor. This group of people depends crucially on the social safety net provided by the Government as they don't have the ability or financial means to look after themselves.

In Hong Kong, the Government support mainly takes the form of Comprehensive Social Security Assistance, highly subsidized housing, health care and education.

As for the elderly, the Government provides a non-contributory means tested Old Age Living Allowance for those aged 65 or above; and

(iii) people that do not fall within either of the first two groups. Typically this group of citizens are those who have worked hard for their whole life, used up the bulk of their earnings in raising their children, and may be owning a small apartment.

Most of them, by the time they retire, do not enjoy any pension or other forms of voluntary retirement benefits. They do have some accumulated savings in their Mandatory Provident Fund accounts, but it is unlikely that, for various reasons, the amount, on its own, would be large enough to support a decent retirement life.

It is the retirement protection of this third group of citizens that I wish to address today. In Hong Kong, about 70% of the 1.7 million privately owned residential housing units, including subsidized home ownership flats, are owner-occupied.

Around 65% of the owner-occupiers have fully paid down the mortgage loans, if any, of their properties. For those owner occupiers who have already paid off their mortgages, many of them don't have a lot of other savings or assets at their disposal.

Even for those with some savings, they are having a tough time in managing their money if they don't have the expertise or the appetite in active investment.

This is understandable because, under the prolonged period of quantitative easing by the major central banks in the advanced economies, bank deposits and bonds offer rather low and unattractive interest income. As for the stock market, the volatility in share prices will expose the retirees to significant market risks.

As a result, there can be a fairly large group of retirees who find them not having enough cash flows to support a decent retirement life, despite the fact that the properties they own and occupy are worth quite a lot. At the same time, their cash savings are basically left idle, yielding very little, if any, cash flow income.

Many old folks would feel apprehensive to dip into the principals of their bank savings to meet daily expenses, as this would expose them to the uncertain but rather scary longevity risk.

This situation is not unique in Hong Kong as there are many places that have similar problems. So it may be useful if I share with you the Hong Kong experiment in helping this group of retirees through some market based and financially sustainable solutions.

HKMC and Market-based Financial Solutions for Retirees

These market based retirement protection solutions are developed and operated by the Hong Kong Mortgage Corporation (HKMC), which was set up in 1997 and is fully owned by the Government through the Exchange Fund managed by the Hong Kong Monetary Authority (HKMA).

The HKMC runs on commercial principles and its main role is to offer financial products that would facilitate market development as well as achieve desirable social objectives.

The core products offered by the HKMC include the purchase of mortgage loans from banks for securitization, the Mortgage Insurance Programme to help eligible homebuyers with their down payments, and the SME Financing Guarantee Scheme that supports SME financing by banks.

In addition, two HKMC products, the first one launched in 2011 and the second one a few months ago, are of particular relevance to the financial wellbeing of the retirees.

Reverse Mortgage

The first retirement protection product is the Reverse Mortgage Programme, which enables homeowners to convert or monetize the equity in their self-occupied homes into guaranteed monthly payouts over 10, 15, 20 years or for life, while still enjoying the use of the properties.

For example, a married couple at the age of 65 with a property value of $5 million would get a guaranteed payment of $11,000 per month for life and be able to live in the property for life.

There is no need for them to worry about repayment at all. Their monthly payouts are guaranteed for life even if the value of the property falls in subsequent years, or the interest rates rise significantly, or the couple enjoys very long life.

When the couple passes away, and if their children choose not to redeem the property, the bank will recover the outstanding loan with accrued interests by selling the property in the open market.

Any surplus will be returned to the children of the borrowers or their designated estate. If there is any shortfall, the HKMC will take care of the difference because the borrowers, when taking out the Reverse Mortgage, have already bought insurance from the HKMC to cover the shortfall risk.

This scheme would not have been commercially viable for the banks without the insurance provided by the HKMC to cover the potential shortfall risk due to either falling property prices, rising interest rates or increasing longevity of the borrowers.

So far, over 2,500 households have joined the Reverse Mortgage Programme.

The initial take-up rate was not fast but is picking up steadily. It has taken some time for Hong Kong people to get to understand and appreciate this new product.

Also, it is quite common amongst Chinese parents wishing to pass their properties to their children without encumbrances, which will not be the case if they have joined the Reverse Mortgage Programme.

However, there is increasing awareness amongst retirees that they do need to take care of themselves rather than suffering from a steady drop in living standards due to insufficient recurrent cash flows.

Life Annuity Scheme

The second retirement protection product, which has just been launched by the HKMC through its subsidiary, is the Life Annuity Scheme (LAS).

The Scheme aims to provide a financial solution to retirees who prefer to convert their lump sum savings into a steady stream of cash flows that are not affected by the fluctuations of the financial markets or how long they live.

In other words, they prefer something like the old fashioned pension through which the employees would receive guaranteed monthly payments for life. As we know, people now live longer due to improvement in healthcare, diet and exercise etc.

At the same time, most if not all employers have withdrawn from offering life-long pension benefits because of the huge costs involved.

Moreover, the current low yield environment coupled with high volatility of the financial markets have also made it hard for any defined contribution pension plans to guarantee anything other than a rather low rate of return.

What the HKMC is doing is to offer a life annuity product to those aged 65 and above. The HKMC will guarantee an immediate fixed amount of monthly payout for each annuity policyholder.

For a person at 65, with a HK$1 million premium, the monthly payment guaranteed for life is HK$5,800 for male and HK$5,300 for female, equivalent to an annuity rate of about 7% for men and 6.4% for women.

The reason that the HKMC can offer rather high annuity rates is because it will place the entire annuity premium received from policyholders with the HKMA.

The HKMA will then invest the money alongside with the Exchange Fund portfolios, half in the public markets (bonds and listed equities) and half in private markets (private equity and real estate).

As the HKMA already has the investment capability and infrastructure for managing a portfolio as large as around HK$4 trillion, it would be easy to take on the additional investment generated by the HKMC's annuity premium.

The HKMC has now received around 10,000 applications amounting to $5 billion in subscription. We are processing the applications and the exercise is expected to be completed soon. By end-October or early November this year, the first annuitants will be receiving their first monthly annuity payments.

Let me do some quick maths here by using a married couple at the age of 65 who has joined both the Reverse Mortgage Programme and the Life Annuity Scheme.

If the property they own is worth HK$5 million, (which is the average value of the properties under the Programme), then they would get a monthly payment of $11,000 plus the right of lifelong occupancy under the Reverse Mortgage Programme.

If they each subscribe for HK$1 million Life Annuity, then they will get another HK$11,100 ($5,800 + $5,300) per month.

So they will receive HK$22,100 per month. When the couple reaches the age of 70, they are entitled to a non-means tested Old Age Allowance of $2,690 ($1,345 x 2) provided by the Government.

So this couple will be receiving up to HK$24,800 (or US$3,180) per month or around HK$300,000 (or US$38,000) per year, and have the benefit of being able to stay in their own property, for life.

Compared with the median income of two-person households in Hong Kong of HK$20,000 (or US$2,560) per month,1 this guaranteed monthly payout of HK$24,800 would really help support a decent retirement life and protect the retirees from highly volatile market risks and from increasingly high longevity risk.

Conclusion

I would like to conclude by making the following observations:

(a) The Reverse Mortgage Programme and the Life Annuity Scheme, when combined, will create an economic outcome similar to a life pension.

This self-made pension is a market based solution to provide steady cash flows for life by liquefying the fixed and financial assets accumulated by the retirees during their working life.

The schemes are commercially and financially viable and will therefore not involve Government subsidies;

(b) The launch of the Life Annuity Scheme has helped promote the annuity market in Hong Kong, which has up till now been rather underdeveloped. In 2016, the annuity business only accounted for less than 2% of all long-term insurance business of private insurers in Hong Kong.

However, once we announced the launch of the HKMC Life Annuity Scheme in 2017, there has been marked increase in the awareness and interest in annuity products.

Many insurance companies have seen sharp increase in the volume of business in underwriting other forms of annuity products to customers;

(c) The HKMC solutions, when implemented more fully, will not only help those who have retired but also provide a strong incentive for the middle income citizens to save.

With the Life Annuity Scheme, they can see the prospects that their hard earned savings accumulated over their working life could be entrusted to a reliable manager to produce reasonable, hassle-free and guaranteed cash flows that support their retirement.

This is particularly helpful to those who feel that the small amounts that they save today would not add up to support their retirement, hence find it tempting to spend more now and save less, relying instead on the social security net provided by the government when they retire.

Ladies and gentlemen, it may be a bit too early to assess the success or otherwise of the Hong Kong experiment.

However, I am very excited by the prospects of the two HKMC schemes in helping retirees in Hong Kong to create self-made life pension.

The model that we are pursuing in Hong Kong is not only highly innovative, it also serves as a pilot that, if proved to be successful, would provide a good model for many countries in the world as an additional retirement support option that is financially viable and thus sustainable over the long run.

Thank you very much.

Number 10

DARPA Selects Teams to Explore Underground Domain in Subterranean Challenge

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

The world beneath us leaves much to be discovered.

These uncharted environments pose immense challenges to military and emergency personnel as they respond to threats from adversaries or natural disasters.

DARPA has selected nine teams to compete in the Subterranean (SubT) Challenge – seven in the physical Systems track and two in the Virtual track – to develop new approaches to rapidly map, navigate, and search underground environments.

The competition seeks to better equip warfighters and first responders to explore human-made tunnel systems, urban underground, and natural cave networks that are too dangerous, dark, or deep to risk human lives.

The SubT Challenge physical Systems and software-focused Virtual competitions aim to create a community of multi-disciplinary teams from distinct fields to foster breakthrough technologies in autonomy, perception, networking, and mobility for underground environments.

Teams in the Systems competition will develop and demonstrate physical systems in real-world environments. DARPA has selected seven teams to compete in the funded track of the Systems competition:

- Carnegie Mellon University
- Commonwealth Scientific and Industrial Research Organisation, Australia
- iRobot Defense Holdings, Inc. dba Endeavor Robotics
- Jet Propulsion Laboratory, California Institute of Technology
- University of Colorado, Boulder
- University of Nevada, Reno
- University of Pennsylvania

Teams in the Virtual competition will use simulation models and physics-based environments focusing on software-driven advances.

The following organizations have received a contract to compete in the DARPA-funded track of the Virtual competition:

- Michigan Technological University
- Scientific Systems Company, Inc.

Teams participating in the challenge will be tasked with designing and developing novel solutions that address the challenges of subterranean environments in circuits for each of the subdomains to include tunnel systems, urban underground, and natural cave networks, culminating with a final event encompassing elements from all three environments.

DARPA also is seeking self-funded competitors for both the Systems and Virtual competitions. Self-funded teams will compete for prizes in each of the subdomain circuits. DARPA-funded and self-funded teams will vie for a $2 million prize in the Systems track, while the winner of the Virtual track will earn a $750,000 prize.

For additional information on the DARPA Subterranean Challenge, you may visit www.subtchallenge.com

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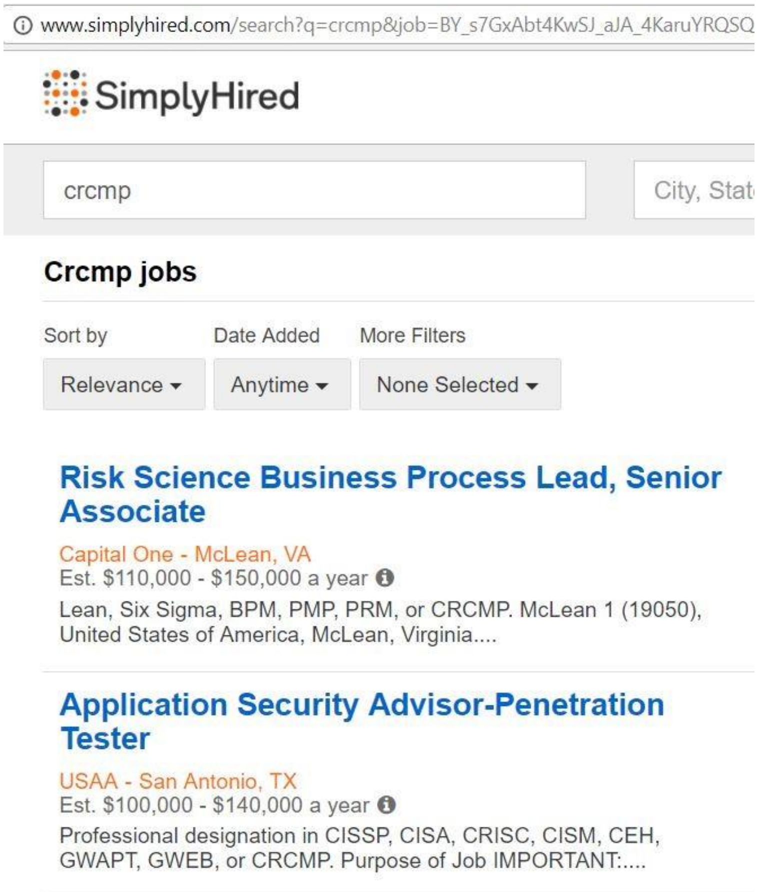

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