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

Dear Member,

Malvertising (malicious advertising) is a delivery method for malware.

A simple form of malicious advertising: You see the ad, it is interesting, you click on that, you are redirected to websites that will infect you with malware or install some other software.

Malvertising is such a dangerous threat because it can be easily spread across many legitimate websites without directly compromising those websites.

Users running out-of-date operating systems and browsers are more vulnerable to this and other forms of malware infection.

More sophisticated forms of malicious advertising: Malware-infected ads can be inserted into popular, legitimate websites, and often do not require user action to be effective - simply visiting an infected site can be enough to get infected.

Internet users make a dangerous assumption: If we do not click on a URL or an ad, nothing is going to happen.

There is pre-click malware embedded in main scripts of a web page.

Malware can auto-run, as in the case of auto redirects, where the user is automatically taken to a different site, which is malicious.

A post-click malvertisement works really well. Users expect a redirection to happen when clicking on an advertisement. A redirection only needs to be co-opted to lead to infection of a computer.

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

Best Regards,

George Lekatis

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Number 1 (Page 8)

Banking regulation and supervision after the crisis - where are we now, and what lies ahead?

Speech by Mr Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the CIRSF Annual International Conference, Lisbon.

"This spirit of cooperation is essential to the development and implementation of sound global prudential standards, and these will be the focus of my remarks today.

This conference is taking place at an interesting juncture for the global financial system."

Number 2 (Page 18)

Digital Single Market: Commission calls for swift adoption of key proposals and maps out challenges ahead

Having reached the middle of its mandate, the European Commission has published the mid-term review of its Digital Single Market strategy.

It takes stock of the progress made, calls on co-legislators to swiftly act on all proposals already presented, and outlines further actions on online platforms, data economy and cybersecurity.
The mid-term review is accompanied by the European Digital Progress Report which gives an in-depth assessment of how the EU and Member States are progressing in their digital development and identifies potential steps to help improve national performance in digital.

Number 3 (Page 20)

Attitudes towards the impact of digitisation and automation on daily life

The European Commission has published a Eurobarometer survey presenting European citizens' opinions on the impact of digitisation and automation on daily life.

European citizens see digitisation and automation primarily as an opportunity but call for investment for better and faster internet services as well as effective public policy to accompany changes, in particular in areas such as employment, privacy and personal health.

The results also show that the more people are informed or use technologies the more they are likely to have a positive opinion on them and to trust them.

Number 4 (Page 24)

Android app malware

According to IT security company Check Point, as many as 36 million Android devices may have been infected with ad-click malware.

The malware, dubbed Judy, is reported to have been present in approximately 50 apps in Google's play store, but the total number of infections cannot be accurately determined as it is not known for how long the apps have been malicious.

Those responsible generate money through ad-clicks – in this instance Judy silently imitated a browser and clicked on banners from Google's ad infrastructure to generate revenue for the malware author.

Number 5 (Page 26)

RoughTed Malvertising Campaign

"Criminal use of malvertising as a vector for malware delivery has been an increasing trend since it was first observed in approximately 2007 with the exploitation of a vulnerability in Adobe Flash.

In 2015 Google disabled more than 780 million ads that violated their policies, some of which carried malware, up from 524 million in 2014.

RoughTed is notable for its prolific distribution, with associated domains accumulating in excess of half a billion visits in a three month period."

Number 6 (Page 27)

Financial institution regulatory agencies issue advisory on appraiser availability

Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, National Credit Union Administration
Office of the Comptroller of the Currency

Responding to concerns over the limited availability of state-certified and -licensed appraisers, particularly in rural areas, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the National Credit Union Administration, and the Office of the Comptroller of the Currency issued an advisory that highlights two options to help insured depository institutions and bank holding companies facilitate the timely consideration of loan applications.

Number 7 (Page 29)

ENISA works together with European semiconductor industry on key cybersecurity areas

The uptake of connected devices and services demands baseline requirements for security and privacy and the efficient application of EU standards.

The EU Agency for Network and Information security – ENISA – together with industry recently reached a common position on cybersecurity, that reflects the concerns of industry and provides a set of suggestions for policy makers.

Number 8 (Page 32)

Monetary policy - lessons learned and challenges ahead

Opening remarks by Mr Haruhiko Kuroda, Governor of the Bank of Japan, at the 2017 BOJ-IMES conference, hosted by the Institute for Monetary and Economic Studies, Bank of Japan, Tokyo.

This year's conference is titled "Monetary Policy: Lessons Learned and Challenges Ahead." After my remarks, Mr. Ben Bernanke, former U.S. Fed Chair, will deliver the Mayekawa Lecture based on his experience as an academic researcher and a monetary policy maker. In the afternoon, Professor Mark Gertler, our Honorary Adviser to IMES, will give the keynote speech.

Number 9 (Page 37)

Bank of England

Complete FX Global Code published

A global code of conduct for the foreign exchange (FX) markets has been launched.

The FX Global Code (Code) establishes a common set of guidelines for good practice in the FX market.

FX markets are a vital part of the global financial system, with a turnover of more than $5 trillion a day.

Number 10 (Page 39)

Teaching Robots "Manners": Digitally Capturing and Conveying Human Norms

Researchers develop methods to help machines display appropriate social behavior in interactions with humans

Advances in artificial intelligence (AI) are making virtual and robotic assistants increasingly capable in performing complex tasks. For these "smart" machines to be considered safe and trustworthy collaborators with human partners, however, robots must be able to quickly assess a given situation and apply human social norms.

Number I

Banking regulation and supervision after the crisis - where are we now, and what lies ahead?

Speech by Mr Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the CIRSF Annual International Conference, Lisbon.

Introduction

I would like to begin by thanking the Research Center on Regulation and Supervision of the Financial Sector (CIRSF) and especially Professor Silva Morais, its founder and Chair, for the kind invitation to address this distinguished and diverse audience. It is a pleasure to participate in this conference.

While I am not as familiar as I would like to be with the work of the Center, I understand that it brings together various stakeholders in the financial services sector - ranging from regulators and practitioners to lawyers, consultants and academics, all of whom are represented here today - with a view to enhancing the regulatory framework, supervisory practices, corporate governance and risk management.

This spirit of cooperation is essential to the development and implementation of sound global prudential standards, and these will be the focus of my remarks today.

This conference is taking place at an interesting juncture for the global financial system.

We will soon mark the 10th anniversary of the subprime mortgage crisis that triggered the global financial crisis, one of the longest and most severe economic episodes ever experienced.

And while economic activity and employment have gradually recovered in most economies, reaching pre-crisis levels in many of them, much more time will pass before the resulting output gap is closed.

The Basel Committee on Banking Supervision (BCBS) estimates that its member countries alone lost output worth more than $76 trillion as a result of the crisis, up to the end of 2015.

We must also be mindful of the large social costs that the crisis inflicted and the heavy burden on public finances that will affect future generations in many advanced economies.

While the subprime crisis was the trigger, the financial crisis was rooted in the imperfect functioning of the global financial system. Banks were not following sufficiently sound risk management strategies and lacked adequate loss absorption capacity.

Moreover, the global system was highly vulnerable to adverse shocks because of the role played by large and interconnected financial groups that were considered too big to fail. And there were significant shortcomings both in the prudential standards for banks and in how they had been implemented.

Given the financial nature of the crisis, authorities worldwide were clearly obliged to deliver a package of regulatory reforms that would substantially lessen the probability of a similar event in the future and mitigate its impact on the real economy if it should occur.

I think it's fair to say that the international regulatory community has largely delivered on this obligation, thanks to unprecedented cooperation among national authorities. But it is also true that the job is not yet complete.

The ultimate goal of enhanced financial stability requires continued work in specific areas and the ongoing vigilance of regulators and supervisors, accompanied by renewed emphasis on international cooperation given the strong interlinkages among national financial systems.

I would like to take advantage of this opportunity to take stock of what has been accomplished and, more importantly, comment on the remaining pieces of the post-crisis regulatory reform package and the main supervisory challenges as we move forward.

The achievements

As everyone in this room knows, the crisis had no single cause. It resulted from a complex combination of economic and financial developments linked to unsound behaviour by private agents that was aided and abetted by policy mistakes.

But one thing is now abundantly clear to even the most casual observer, which is that imperfections in regulatory and supervisory frameworks at the turn of the century contributed to the severity of the crisis.

In particular, the prudential rules at the time did not suffice to ensure the resilience of banks whose failure could generate systemic instability. Further, the authorities lacked the means to manage the crisis effectively without the direct involvement of governments, whose finances were in some cases already stretched.

As I have noted, the regulatory community has responded. In particular, prudential standards have been substantially reformed under the leadership of the Basel Committee. Time won't permit me to cover the full range of reforms, but I would like to highlight a few of them.

On the capital front, we now have a tighter definition of what constitutes regulatory capital, higher risk-weighted minimum requirements, a new minimum leverage ratio and a capital conservation buffer.

The market risk framework has been largely overhauled, with improvements that include increased granularity and the introduction of the "expected shortfall" concept in the Standardised Approach, and more comprehensive risk capture and a more granular model approval process in the Internal Models Approach.

The Basel III package also incorporates a new macroprudential overlay comprising a countercyclical capital buffer and frameworks for both global and domestic systemically important banks. And the Basel framework now includes the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), standards aimed at ensuring banks' resilience to liquidity stress.

In the crisis management domain, the Financial Stability Board (FSB) has put in place a comprehensive set of principles to help ensure the orderly resolution of systemically important banks (SIBs) along with minimum loss

absorption requirements for global SIBs. Together, they represent considerable progress in mitigating the too-big-to-fail problem.

The adoption of the new standards has already contributed to marked improvements in the underlying solvency and liquidity positions of banks worldwide. For example, according to the Basel Committee's latest Basel III monitoring report, total Common Equity Tier 1 (CET1), the highest-quality form of capital, increased by more than 70% (about €1.5 trillion) in a sample of 89 of the largest internationally active banks in the five-year period to mid-2016.

At the end of that period, every one of these banks met the minimum and target CET1 ratios of 4.5% and 7%, respectively, on a fully phased-in basis. Similar improvements can also be seen in banks' liquidity profiles. As of mid-2016, 88% of all banks that participated in the monitoring exercise already met or exceeded the final LCR requirement of 100%, which isn't mandatory until 2019. Some 84% of those banks already met or exceeded the 100% NSFR requirement, which doesn't become a minimum standard until next year.

The remaining steps in the regulatory reform journey

It is clear, then, that the post-crisis reforms have already accomplished several elements at the core of the Basel Committee's objective to strengthen the global financial system. However, there are a few remaining issues on the agenda of the Basel Committee which it hopes to complete soon.

As you know, the Committee has made considerable progress in developing a revised standardised approach for credit risk, which will substantially increase its granularity and improve its risk sensitivity. It has also consulted on a revised standardised approach for operational risk and the introduction of a leverage ratio surcharge for G-SIBs.

As importantly, the Committee has been exploring options to limit the variability in risk-weighted assets for banks that use the internal ratings-based (IRB) approach for credit risk.

The options include tighter restrictions on the parameters used in internal models (input floors) and on the extent to which risk-weighted assets calculated by the model can be lower than they would be if the standardised approach were used (an output floor).

In finalising these reforms, the Committee has made it clear that it will not be significantly increasing overall capital requirements - but this does not mean avoiding any increase for any bank. Indeed, some of the remaining reforms may well have a non-negligible impact on some banks.

The Committee and its governing body, the Group of Central Bank Governors and Heads of Supervision (GHOS), are now in the process of calibrating the final parameters and determining appropriate transitional arrangements that are capable of achieving a broad consensus.

Once these final details of the Basel III reforms are finalised, the Committee's regulatory work will focus on completing a few existing policy initiatives.

Key among them is its review of the regulatory treatment of sovereign exposures.

Such a review is a worthwhile endeavour in a world in which a bank's exposures to sovereigns are arguably not riskless. At the same time, before any changes in the related global standards are considered, all the implications will need to be weighed, not only for banks but also for national economies and the functioning of capital markets.

The Committee is also considering the longer-term regulatory treatment of loan loss provisions following the adoption of an expected loss approach by accounting standard setters. The expected loss approach will soon replace the incurred loss approach in the current accounting standards.

In the Basel framework, the treatment of provisions is different depending on whether a bank follows an IRB or the standardised approach for credit risk.

The main difference is that IRB banks must first estimate expected losses in accordance with the requirements of the Basel framework, and then deduct from CET1 any shortfall in those estimated expected losses relative to accounting provisions.

For those banks, therefore, the role of regulatory capital is to cover unexpected losses. While this is also true for non-IRB banks, the same mechanism does not exist for deducting any possible provisioning shortfall from regulatory capital.

While the longer-term approach is still under review, the Committee has confirmed that the current regulatory treatment of provisions entailing different requirements for IRB and non-IRB Banks, will be retained as an interim measure.

Arguably, this is pragmatic given the limited time before the effective date of the new international accounting standard and the potentially significant impact of the change for some banks. It also avoids introducing new changes at a time when both banks and supervisors are fully occupied with other regulatory reforms.

In any case, given the importance of provisioning practices for a meaningful assessment of solvency, regulators should retain, and where possible, enhance their ability to monitor provisions and require adjustments to a bank's CET1 when appropriate.

Conceptually, at least, there is no compelling reason to confine this supervisory intervention to more sophisticated banks on the IRB approach. Indeed, in a number of jurisdictions - most notably in Asia - national rules go beyond the minimum requirements of the Basel framework and contemplate deductions from CET1 when provisions do not cover expected losses in the case of standardised banks, as well as IRB banks.

So, notwithstanding these and a few other policy-related initiatives currently being addressed by the Basel Committee, it is clear that the so-called post-crisis regulatory reforms are approaching completion. The general consensus within both the private and official sectors is that it is now time to allow the new standards become embedded in day-to-day practices and provide for a period of stability in the regulatory framework.

This presents a good opportunity to evaluate the combined effect of all reforms. Although the standard-setting work incorporated a careful process of public consultation and extensive studies to assess the quantitative impact of the proposals, there is scope to conduct a more comprehensive analysis of the interactions between the various regulatory pieces introduced in both the prudential and resolution domains.

The task of developing a framework for the post-implementation assessment of the reforms broadly is being addressed by the FSB in close collaboration with the standard-setting bodies. The framework will help identify whether any regulatory gaps remain and point to possible unintended consequences of the reforms. However, it is important to stress that the first priority of this work is to see whether the reforms have actually

met their overall objectives in terms of crisis prevention and management. Therefore, this work should not mislead stakeholders into expecting any significant backtracking from the substantial progress that has been made.

The new priority: policy implementation

The completion of the regulatory reform package also allows the international regulatory community to focus its attention more closely on ensuring the timely and effective implementation of the reforms and, more generally, facilitating the generalised adoption of sound supervisory practices.

So far, the progress made in adopting the Basel standards in Basel Committee member jurisdictions has been reassuring. The Committee's latest report on the adoption of the Basel regulatory framework shows that, as of end-March 2017, all 27 member jurisdictions have final risk-based capital rules, LCR regulations and capital conservation buffers in force.

Also, almost all have issued final rules for the countercyclical capital buffers and final or draft rules for D-SIB frameworks. With regard to the G-SIB framework, all members that are home jurisdictions to G-SIBs have final rules in force.

As for non-Basel Committee member jurisdictions, surveys conducted by the FSI show that a significant number of these jurisdictions have already brought key elements of Basel III into force or are in the process of doing so.

For instance, our survey results indicate that, while only six non-member jurisdictions had adopted final rules relating to the new definition of regulatory capital in 2012, 63 of them intended to have issued final rules relating to both the new definition of regulatory capital and the LCR framework by the end of 2016.

Moreover, around 70 non-member jurisdictions were expecting to have implemented these key elements of the Basel III framework by 2018, at the latest.

But compliance with the Basel framework requires only that the standards be applied to internationally active banking groups, the definition of which is left largely to national discretion.

At present, the scope of banks subject to national rules based on the Basel standards varies significantly across jurisdictions. Examples of the extremes include the European Union, where the same Basel-inspired regulations are applied to essentially all banks, and the United States and Japan, where the full Basel rules are only enforced for the relatively few banks considered to be internationally active.

Given the additional complexity that Basel III introduces in the prudential standards, a debate is under way in several jurisdictions whether and how to adjust the requirements for a subset of smaller, non-internationally active banks in order to mitigate the compliance burden. This is generally referred to as the application of the proportionality principle in banking regulation.

The debate is legitimate to the extent that the new standards have been designed, at least in part, to mitigate the systemic risk generated by institutions with complex business models and balance sheets.

Although Basel already embeds a certain degree of proportionality, it could be argued that a direct and general application of some of the new standards (for example, those relating to liquidity risk, market risk, disclosure and large exposures) may sometimes generate excessive compliance and reporting costs for smaller and less complex banks without providing substantive prudential advantages.

At the same time, applying a proportional approach is likely to materially affect the competitive environment and, if not properly designed, could reduce the risk sensitivity of capital requirements, thereby creating incentives for unsound behaviour.

Consequently, authorities should seek to reduce these distortions by ensuring, at a minimum, that the (simpler) rules applied to smaller institutions in an effort to reduce compliance costs do not imply an effective relaxation of solvency requirements.

It is also clear that a rigorous application of the new prudential standards will achieve little if it is not accompanied by sound supervisory practices to tackle the important challenges that the banking industry and authorities currently face.

Such issues as the banking industry's low profitability and potential overcapacity, the level of non-performing loans in some advanced economies, the increasingly relevant cyber-security risks, the challenges

posed by fintech and the need to reinforce corporate governance and culture can only be addressed by determined policy and supervisory action, whether or not those actions are derived directly from international standards.

International cooperation is also essential in these areas in order to benefit from shared experience and expand the catalogue of best practices that is such a powerful tool for national supervisors.

Concluding remarks

In conclusion, I would like to briefly return to the efforts currently under way to finalise the post-crisis regulatory reforms, of which Basel III is a significant component.

This is certainly not the first time the Basel Committee has gone through difficult negotiations to reach an agreement, and I'm sure it won't be the last. But I am confident that the Committee will once again achieve a successful outcome.

Indeed, having recently experienced an extremely costly financial crisis and the attendant disturbances in the functioning of the international financial system, the need for robust international regulatory standards is more evident now than ever before.

In a world in which internationally active financial groups transmit risks seamlessly across borders, there should be a shared interest across all jurisdictions that such groups meet sufficiently stringent standards of solvency and liquidity.

Moreover, to the extent that an integrated global financial system contributes to effective risk-sharing across jurisdictions and regions and amplifies investment and funding opportunities for firms and households wherever they are located, it is vital that we do what we can to facilitate the operations of international players and promote a level playing field through the harmonisation of both prudential requirements and, ideally, supervisory practices.

As I mentioned before, however, globally harmonised standards and practices need not be applied to all banks in all jurisdictions. It may be appropriate to apply simpler rules and less intrusive practices in the case of smaller, less sophisticated banks, as is the case now in many jurisdictions.

But at the same time, we need to keep in mind that the application of the proportionality principle should not compromise the stringency of the prudential requirements. It should also carefully weigh potential distortions in the normal functioning of market forces.

In any event, notwithstanding the current emphasis on finalising the last few pieces in the post-crisis reforms, I anticipate that the focus of the international regulatory community will soon shift from standard setting to policy implementation matters.

For its part, the Basel Committee signalled this shift in its recently published 2017-18 workplan, which has the Committee paying greater attention to supervisory matters. And let me just mention that, through its various activities, the Financial Stability Institute will support authorities' renewed focus on implementation. I would be happy to provide more information about our work in this area in the discussion that follows, or on the sidelines of the meeting.

Thank you for your kind attention.

Number 2

Digital Single Market: Commission calls for swift adoption of key proposals and maps out challenges ahead

Having reached the middle of its mandate, the European Commission has published the mid-term review of its Digital Single Market strategy.

It takes stock of the progress made, calls on co-legislators to swiftly act on all proposals already presented, and outlines further actions on online platforms, data economy and cybersecurity.

The mid-term review is accompanied by the European Digital Progress Report which gives an in-depth assessment of how the EU and Member States are progressing in their digital development and identifies potential steps to help improve national performance in digital.

A concept paper on "Digitisation, employability and inclusiveness – the role of Europe", looks at the impact of digitisation on the labour market. Digitisation is not a choice but a necessity for European businesses and economies as a whole.

It brings plenty of opportunities, but also repercussions, and above all change: some jobs will be replaced, new jobs will be created, and many jobs will be transformed.

Thus it is important to accompany citizens in this transition.

A selection of case studies accompanies the concept paper. Several fact sheets and videos illustrate how businesses in the various areas of the Digital Single Market manage the transition and thrive thanks to EU digital policies and targeted support - from eHealth to eCommerce, from digital skills to the digitsation of industries, from smart cities to the shared economy.

A special Eurobarometer looks into "attitudes towards the impact of digitisation and automation on daily life".

27,901 EU citizens were interviewed in March 2017.

While, for example 75% of Europeans think that digitisation has a positive effect on the economy and and 64% say on the society, at the same time 74% think that digitisation replaces more jobs than it creates, and 44% of respondents currently working think their job could at least partly be done by a robot or artificial intelligence.

To read more:
http://europa.eu/rapid/press-release_IP-17-1232_en.htm

http://europa.eu/rapid/press-release_MEMO-17-1233_en.htm

Number 3

Attitudes towards the impact of digitisation and automation on daily life

The European Commission has published a Eurobarometer survey presenting European citizens' opinions on the impact of digitisation and automation on daily life.

European citizens see digitisation and automation primarily as an opportunity but call for investment for better and faster internet services as well as effective public policy to accompany changes, in particular in areas such as employment, privacy and personal health.

The results also show that the more people are informed or use technologies the more they are likely to have a positive opinion on them and to trust them.

Positive impact of digital technologies on society, economy and quality of life

75% of respondents think the most recent digital technologies have a positive impact on the economy, 67% - on their quality of life, 64% - on the society.

76% who use Internet every day say the impact of these technologies on their quality of life has been positive, compared to 38% who never use the Internet.

Two thirds of respondents (69%) answered that a faster and more reliable Internet connection would encourage them to make more use of the innovative digital technologies.

63% would use these technologies more if the online services would be secure and 57% if more public services were online.

41% think that the EU is best placed to take effective action to address the impact of the most recent digital technologies.

47% think that companies or national public authorities have a role to play.

Many Europeans believe their digital skills are sufficient

When questioned about their digital skills, 35% of respondents fully agreed that their skills were sufficient for their daily lives whilst 36% tended to agree and 25% disagreed.

Amongst respondents who are employed, 44% fully agreed that they were sufficiently skilled in the use of digital technologies to do their work whilst 36% tended to agree and 17% disagreed.

However, large differences in perceptions are visible across countries, and between people of different age groups and educational backgrounds.

In particular, younger people and people with a higher level of education are generally more confident in their skills.

Online social networks: trust is weak and related to reliable sources

Only 7% of respondents consider that stories published on social networks are generally trustworthy.

The main criterion to trust a story on social media is a reliable source (36%). (e.g. media, brand or organisation) followed by good references 19%.

61% in the Netherlands, 52% in Sweden and 51% in Denmark trust a story on social media if it comes from a reliable source; but only 18% of respondents in Croatia and 23% in Slovakia and Romania.

Nevertheless, 32% of respondents answered that generally they do not trust stories published on online social networks.

About half of social network users (49%) have never used a fact checking website to verify a story on an online social network or even say they did not know about the existence of such websites (13%).

Nevertheless, more than one third (36%) have used them at least once.

Robots and artificial intelligence: people who know something about them tend to be more positive about them

Attitudes to robots and artificial intelligence are generally positive (61%). More than eight in ten respondents agree robots are necessary as they can do jobs that are too hard or too dangerous for people (84%), while 68% agree robots and artificial intelligence are a good thing for society because they help people do their jobs or carry out daily tasks at home.

In general, positive views are higher amongst respondents who have heard, read or seen something about artificial intelligence in the last 12 months than who have not (75% vs. 49%).

Respondents are concerned about the impact of robots and artificial intelligence on employment: 74% of respondents expect that due to the use of robots and artificial intelligence, more jobs will disappear than new jobs will be created. 72% of respondents believe robots steal peoples' jobs.

44% of respondents who are currently working think their current job could at least partly be done by a robot or artificial intelligence.

Although a large majority of respondents have not used a robot at home or at work (85%), more than one third of the respondents say they would be comfortable having a robot assist them at work (35%) and receiving goods delivered by a drone or a robot (35%).

Just over one quarter of respondents are comfortable with having a robot to provide them services and companionship when infirm or elderly (26%) or with having a medical operation performed on them by a robot (26%). 22% would be comfortable being driven in a driverless car in traffic.

Overall, 88% of respondents agree robots and artificial intelligence are technologies that require careful management.

Digital health and care: more than half of EU citizens want online access to their medical records

In the last 12 months, less than one in five respondents have used health and care services provided online (18%).

52% of all respondents would like online access to their medical and health records.

Respondents are much more willing to share their health and wellbeing data with doctors and healthcare professionals (65%) than with companies (14%) or with public authorities even if anonymised and for research purposes (21%).

Cyber-security: privacy and security concerns push Internet users to action

Most Internet users have taken at least some action to increase their security and privacy online. 45% installed or changed antivirus software, 35% are opening emails only from known sources.

At the same time 61% admit that security and privacy features play a role when purchasing an IT device, but only 27% are willing to pay more for them.

Opinions across Member States differ substantially with 75% of respondents in Germany compared to only 47% in Romania saying that security and privacy features play some role in their choice of IT product.

Number 4

Android app malware

According to IT security company Check Point, as many as 36 million Android devices may have been infected with ad-click malware.

The malware, dubbed Judy, is reported to have been present in approximately 50 apps in Google's play store, but the total number of infections cannot be accurately determined as it is not known for how long the apps have been malicious.

Those responsible generate money through ad-clicks – in this instance Judy silently imitated a browser and clicked on banners from Google's ad infrastructure to generate revenue for the malware author.

The malware has had little real impact upon the end user, though it does equate to an illegitimate use of a device, and could potentially be exploited for more sophisticated attacks, including: gaining control of devices for additional malware download, conducting DDoS attacks or gaining access to private networks.

Google's protection system did not immediately identify the problem because the apps themselves did not contain any malicious code.

Rather, once downloaded from the play store, the affected apps are designed to call out to a remote server which then delivers malicious ad-click software to devices.

This type of two-stage delivery is increasingly common. Last month, FalseGuide malware was discovered hidden inside apps and games on the play store.

Following download, these compromised apps allow malicious actors to install additional malicious software.

App stores may come under increased pressure to enhance their scrutiny of apps before permitting them to feature, particularly if the number of instances of adware infections increases.

The NCSC recommends that users only install apps from the official application store for your device.

Malicious apps in official stores are more likely to be discovered, and subsequently removed from the store and the device.

Number 5

RoughTed Malvertising Campaign

Threat researchers at internet security firm Malwarebytes have recently highlighted a significant malvertising campaign, called RoughTed, which has been running for over a year.

Malvertising (or 'malicious advertising') uses online advertising as a delivery method for malware.

Malware-infected ads can be inserted into popular, legitimate websites, and often do not require user action to be effective: simply visiting an infected site can be enough to get infected.

Criminal use of malvertising as a vector for malware delivery has been an increasing trend since it was first observed in approximately 2007 with the exploitation of a vulnerability in Adobe Flash.

In 2015 Google disabled more than 780 million ads that violated their policies, some of which carried malware, up from 524 million in 2014.

RoughTed is notable for its prolific distribution, with associated domains accumulating in excess of half a billion visits in a three month period.

According to researchers, traffic diverted to RoughTed-related domains comes from thousands of different websites, some of which ranked in the electronic personal assistant, Alexa's, top 500 websites.

RoughTed can reportedly target a wide array of users according to their operating system, browser and geolocation before delivering a variety of payloads, including exploit kits and malware.

Moreover, RoughTed has been circumventing adblockers, broadening the pool of potential victims.

Number 6

Financial institution regulatory agencies issue advisory on appraiser availability

Board of Governors of the Federal Reserve System
Federal Deposit Insurance Corporation
National Credit Union Administration
Office of the Comptroller of the Currency

Responding to concerns over the limited availability of state-certified and -licensed appraisers, particularly in rural areas, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, the National Credit Union Administration, and the Office of the Comptroller of the Currency issued an advisory that highlights two options to help insured depository institutions and bank holding companies facilitate the timely consideration of loan applications.

Financial industry representatives, during the Economic Growth and Regulatory Paperwork Reduction Act (EGRPRA) review process, raised concerns regarding the timeliness of appraisals, which they attributed to shortfalls in the availability of state-certified and -licensed appraisers, particularly in rural areas.

Title XI of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) requires appraisals for federally related transactions to be performed by individuals who meet certain state-certification or -licensing requirements. Today's advisory points to alternatives that may help in areas facing a shortage of appraisers:

The first option highlighted in the advisory, temporary practice permits, allows appraisers credentialed in one state to provide their services on a temporary basis in another state experiencing a shortage of appraisers,

subject to state law. The advisory also discusses reciprocity, in which one state allows appraisers that are certified or licensed in another state to obtain certification or licensing without having to meet all of the state's certification or licensing standards.

The second option, temporary waivers, sets aside requirements relating to the certification or licensing of individuals to perform appraisals under Title XI of FIRREA in states or geographic political subdivisions where certain conditions are met. Temporary waivers may be granted when it is determined that there is a scarcity of state-certified or -licensed appraisers leading to significant delays in obtaining an appraisal.

To read more:
https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20170531b1.pdf

Number 7

ENISA works together with European semiconductor industry on key cybersecurity areas

The uptake of connected devices and services demands baseline requirements for security and privacy and the efficient application of EU standards.

The EU Agency for Network and Information security – ENISA – together with industry recently reached a common position on cybersecurity, that reflects the concerns of industry and provides a set of suggestions for policy makers.

The paper focuses on four main areas actively debated at the EU level: standardisation and certification, security processes and services, security requirements and implementation, and the economic dimensions.

The paper identifies key challenges and recommendations identified for the European Commission to:

- define a policy framework for ensuring minimal security requirements for connected devices. The development of European security standards needs to become more efficient and/or adapted to new circumstances related to Internet of Things (IoT). Based on those requirements, a European scheme for certification and the development of an associated trust label should be evaluated.

- ensure that reliable security processes and services are being developed to support industry in implementing security features in their products (e.g. through providing information and training about state-of-the art security solutions).

- encourage the development of mandatory staged requirements for security and privacy in the IoT, including some minimal requirements. These common principles should be considered in future revisions and new legislative initiatives.

- create a level playing field for cybersecurity and look into incentives similar to the Digital Security Bonus in order to reward the use of good security practices.

ENISA's Executive Director Udo Helmbrecht said: "Trusted solutions and a common defined level for the security and privacy of connected and smart devices is both recommended and needed, to allow Europe to reap the benefits of soon to become ubiquitous technologies.

As such, standardisation and certification have been identified as a priority, to accelerate the level playing field for the entire industry and reflect the trust of citizens, consumers and businesses in the connected environment".

"Pervasive connectivity over the Internet of Things means that security is becoming an important issue for just about all citizens – whether they be using a computing device, TV or washing machine.

The European policy framework is set to define easy-to-use measures that will give industry the guidance it requires and consumers the transparency they need," said Dr. Stefan Hofschen, Division President Chip Card & Security at Infineon Technologies.

"On the product side, security solutions based on certified, hardware security trust anchors are already available today to serve the increasing security requirements."

"The growth in IoT and connected devices creates a tremendous amount of opportunity for businesses and consumers. How the industry comes together, agrees on common principles to address complex concerns like security, can break down the barriers of adoption and is key to fostering this market," said Rüdiger Stroh, Executive Vice President & General Manager of Security and Connectivity at NXP® Semiconductors.

"Security and privacy by design, a proven approach that grew business streams for mobile phones, cars and wearable manufacturers, help build trust between businesses and consumers. Our vision is to help grow the IoT market and bring this quality of security to other IoT applications."

"This initiative will increase the much-needed awareness for security in IoT devices and organize a collective effort to establish important standards to help deliver it, which will ultimately bring big benefits to consumers and businesses," said Marie-France Florentin Group Vice President & General Manager of Secure Microcontroller Division at STMicroelectronics.

"With its long history and valuable expertise in embedded security, ST is in a strong position to make vital contributions to this key framework."

The common position was developed by Infineon, NXP, and STMicroelectronics, supported by ENISA. The Agency aims at working further with industry and seeks the support of more actors in the semi-conductor and chip-product manufacturer field, application and service providers.

Furthermore, ENISA is working alongside the Commission and cooperates with the recently formed cPPP (contractual Public-Private Partnership) in order to define a roadmap on NIS Certification, and looks forward to supporting the Commission in the NIS Certification policy area.

To read more:
https://www.enisa.europa.eu/publications/enisa-position-papers-and-opinions/infineon-nxp-st-enisa-position-on-cybersecurity

Number 8

Monetary policy - lessons learned and challenges ahead

Opening remarks by Mr Haruhiko Kuroda, Governor of the Bank of Japan, at the 2017 BOJ-IMES conference, hosted by the Institute for Monetary and Economic Studies, Bank of Japan, Tokyo.

I. Introduction

Good morning. I am honored to welcome such distinguished guests to the 23rd BOJ-IMES Conference. On behalf of the conference organizers, I thank all the guests in this room, in particular those who travelled a long distance to participate in this one-and-a-half-day conference in Tokyo.

This year's conference is titled "Monetary Policy: Lessons Learned and Challenges Ahead." After my remarks, Mr. Ben Bernanke, former U.S. Fed Chair, will deliver the Mayekawa Lecture based on his experience as an academic researcher and a monetary policy maker. In the afternoon, Professor Mark Gertler, our Honorary Adviser to IMES, will give the keynote speech.

Tomorrow, a policy panel session will conclude the program with three panelists, Mr. Charles Evans from the Chicago Fed, Mr. Frank Smets from the European Central Bank, and my colleague at the Bank of Japan, Hiroshi Nakaso.

The panel session will be moderated by Professor Marvin Goodfriend, the other Honorary Adviser to IMES.

In addition, I am pleased to have three leading economists to present their papers, addressing timely and important issues at the frontier of monetary economics and monetary policy making. I am confident that we will all learn a lot during the conference.

II. Three Research Questions at the Top of the Agenda

In my opening remarks, I would just like to deliver a sneak peek of this year's conference by pointing out three major research topics on our agenda.

A. Inflation and Its Expectations Dynamics

Since the introduction of "Quantitative and Qualitative Monetary Easing (QQE)" in April 2013, raising inflation expectations to anchor them at the price stability target of 2 percent has been a crucial element of the Bank of Japan's monetary policy management.

In September 2016, the Bank published a comprehensive assessment of the policy effects of QQE and other policy measures, including the negative interest rate policy.

As companion papers of the comprehensive assessment, the Bank of Japan also published several empirical studies exploring the characteristics of inflation expectations in Japan and comparing them with those in other advanced economies.

Those studies included an analytical framework developed by Mr. Jeffrey Fuhrer from the Boston Fed, one of today's paper presenters, to assess inflation dynamics with a special focus on the role of survey-based expectations.

I am sure that we have learned a lot about inflation expectations in the past few years, but there still remain many research questions on this issue yet to be addressed.

For example, there seems to be a consensus that inflation expectations exhibit a certain degree of inertia or persistence, which is difficult to be explained in a full information rational expectations (FIRE) framework even with the classic assumption of nominal (price) rigidity.

However, little consensus has been formed regarding the micro-foundations for such seemingly persistent inflation expectations dynamics.

Against this backdrop, recent studies have increasingly focused on information rigidity, and I would like to encourage researchers to move on further along with this research agenda.

B. The Natural Rate of Interest

The second item on our research agenda is an old and new topic, that is, the natural rate of interest, or, in slightly more technical parlance, the equilibrium real interest rate. The natural rate of interest has long been discussed in macroeconomics and related time series analyses.

If we say "our monetary policy stance remains accommodative," this means that actual real interest rates are kept at a level below the equilibrium real interest rate. This quite naturally gives rise to the question that how we can know the level of the equilibrium real interest rate.

This question is more difficult than it appears. The natural rate of interest would have a clear interpretation in a solid dynamic general equilibrium model.

Nevertheless, the determinants of the natural rate of interest vary, depending on how the model is specified. It is well known that, in some specific cases, the natural rate of interest coincides with the potential growth rate of the economy, but this is not always the case.

Further, when trying to estimate the natural rate of interest, econometricians face a long list of technical challenges. For example, data on the risk-free interest rate with a fixed maturity are not readily available, since there is no absolutely "risk-free" asset in actual financial markets.

Also, consumers' time preferences are hard to estimate, and, moreover, whose time preference we should estimate still remains an unresolved question.

With the difficulties just mentioned in mind, central bankers have long made careful policy decisions using some kinds of estimates of the natural rate of interest. The stakes have become even higher in recent years when central banks try to estimate the natural rate of interest.

As seen in the debate on the Secular Stagnation hypothesis proposed by Professor Lawrence Summers of Harvard University, uncertainty regarding the natural rate of interest makes it much more difficult for central banks to steer a clear course in terms of policy decisions.

While I am not going into the details of his hypothesis, many of us can agree that the natural rate of interest has declined in recent years and because of this decline, combined with the effective lower bound on nominal interest

rates, many central banks in advanced economies developed new unconventional monetary policy tools and have embarked on carefully crafted but bold actions. In this regard, I would argue that we still face old challenges.

C. Heterogeneous Agent Macroeconomics and Distributional Effects of Monetary Policy

The third issue is related to monetary policy and inequality. The order I picked the topics does not necessarily correspond to their importance; it is simply that the first two topics are closely related to the real interest rate, while the third topic deals with a very different issue.

As a caveat, I would like to clearly state that monetary policy is by no means a policy tool for distributional purposes. With this proviso in mind, let me borrow a phrase delivered by U.S. Fed Chair Janet Yellen: She said, "it is important for policymakers to understand and monitor the effects of macroeconomic developments on different groups within society," and I completely agree with her on this point.

In the aftermath of the global financial crisis, a number of pundits argued that macroeconomics and monetary economics are totally useless. One of the misconceptions of such critics is that they believe that modern macroeconomics relies only on representative agent models and ignores important implications arising from various heterogeneities in the economy, such as debtors and creditors, the financial sector and the non-financial sector, importers and exporters, and more controversially, haves and have-nots. Heterogeneous agent models were developed in the 1990s, and have been extended since then.

From the viewpoint of policymakers, the true issue is whether to employ heterogeneous agent models, instead of handier representative agent models, to examine the implications of heterogeneity for macroeconomic fluctuations. This is a classic case in which Occam's razor with regard to the choice of the appropriate model applies.

This question remains yet to be explored in full depth. We know that increasing attention is being paid to the distributional effects of economic and other public policies.

I would like to reiterate that, under such circumstances, monetary policy is not a tool that is well suited for dealing with inequality or polarization and

that central banks should remain focused on the aggregate implications of their own policy decisions.

At the same time, however, this does not mean that central banks are allowed to ignore the distributional effects of monetary policy, especially if the distributional effects have an aggregate impact.

With this aim, central banks should be, and in fact are, open to learning about heterogeneous agent macroeconomics. These days, much progress has been made on this front in computational economics. Central banks are keenly following the technical progress and will keep abreast with the pioneers on this front as well.

III. The Way Ahead

We are now about to start the 23rd BOJ-IMES Conference, which has a history of more than a quarter-century. This year's conference is organized so that discussions can revolve around the three major topics that I mentioned in these opening remarks.

Nearly ten years ago, Professor Maurice Obstfeld, currently Chief Economist of the IMF and then-Honorary Adviser to IMES, in this room identified the BOJ-IMES Conference as "a venue in which abstract monetary theory and practical policy questions can comfortably be discussed in full depth and side by side."

I regard his remark as a great compliment to this conference. I am convinced that this year's conference will produce further insights into more effective central bank policymaking, in a same manner as previous conferences.

Thank you.

Number 9

Bank of England

Complete FX Global Code published

A global code of conduct for the foreign exchange (FX) markets has been launched.

The FX Global Code (Code) establishes a common set of guidelines for good practice in the FX market.

FX markets are a vital part of the global financial system, with a turnover of more than $5 trillion a day.

A blueprint for achieving widespread adherence to the Code is laid out in a separate report – you may visit:
http://www.bis.org/mktc/fxwg/adherence_report.pdf

The European System of Central Banks has welcomed the publication of the Code and related adherence mechanisms material. A separate statement of support has been issued by governors of the Bank for International Settlements Global Economy Meeting.

The FX Global Code supersedes and substantively updates existing guidance for participants in FX markets provided by the Non-investment Products (NIPs) Code. Guidance on other markets covered by the NIPS Code will be superseded by the UK Money Markets Code and Precious Metals Code (also launched today).

The Code will be maintained and updated by a new Global Foreign Exchange Committee.

You may also visit:
http://www.bis.org/publ/rpfx16fx.pdf

New Global Foreign Exchange Committee (GFXC) formed

Public and private sector representatives from the foreign exchange committees of 16 international FX trading centres met in London on 24 May 2017 and agreed to form a Global Foreign Exchange Committee (GFXC).

One of the core objectives of the GFXC will be to promote and maintain the FX Global Code, by ensuring that the guidance set out remains relevant and taking into account good practices for supporting adherence. The GFXC welcomes the publication of the complete FX Global Code and supports its adoption by market participants.

More broadly, the GFXC will seek to promote collaboration and communication among local foreign exchange committees and other jurisdictions with significant FX markets. It will also provide a forum for the exchange of views on market trends and developments.

Further details on the FX Global Code and the GFXC can be found on the GFXC website: www.globalfxc.org

Number 10

Teaching Robots "Manners": Digitally Capturing and Conveying Human Norms

Researchers develop methods to help machines display appropriate social behavior in interactions with humans

Advances in artificial intelligence (AI) are making virtual and robotic assistants increasingly capable in performing complex tasks.

For these "smart" machines to be considered safe and trustworthy collaborators with human partners, however, robots must be able to quickly assess a given situation and apply human social norms.

Such norms are intuitively obvious to most people—for example, the result of growing up in a society where subtle or not-so-subtle cues are provided from childhood about how to appropriately behave in a group setting or respond to interpersonal situations.

But teaching those rules to robots is a novel challenge.

To address that challenge, DARPA-funded researchers recently completed a project that aimed to provide a theoretical and formal framework for what norms and normative networks are; study experimentally how norms are represented and activated in the human mind; and examine how norms can be learned and might emerge from novel interactive algorithms.

The team was able to create a cognitive-computational model of human norms in a representation that can be coded into machines, and developed a machine-learning algorithm that allows machines to learn norms in unfamiliar situations drawing on human data.

The work represents important progress towards the development of AI systems that can "intuit" how to behave in certain situations in much the way people do.

"The goal of this research effort was to understand and formalize human normative systems and how they guide human behavior, so that we can set

guidelines for how to design next-generation AI machines that are able to help and interact effectively with humans," said Reza Ghanadan, DARPA program manager.

As an example in which humans intuitively apply social norms of behavior, consider a situation in which a cell phone rings in a quiet library.

A person receiving that call would quickly try to silence the distracting phone, and whisper into the phone before going outside to continue the call in a normal voice. Today, an AI phone-answering system would not automatically respond with that kind of social sensitivity.

"We do not currently know how to incorporate meaningful norm processing into effective computational architectures," Ghanadan said, adding that social and ethical norms have a number of properties that make them uniquely challenging.

"There seems to be an enormous number of these norms, yet they are highly context-specific and only a relevant subset of them get activated, depending on the situation.

Moreover, they seem to exist in an organizational hierarchy but can also be activated in horizontal bundles—networks of norms tied together by the contexts in which they apply and triggered by certain context-specific features of the world. They can be in conflict with one another but they are also continuously being updated."

Further complicating matters, norms are activated extremely quickly. "That's something we are all familiar with," Ghanadan said, "since 'normal' people detect norm violations very quickly!"

And in people, new norms or their preconditions for activation are learned into the already complex norm network through not just one but rather a variety of modalities, such as observation, inference, and instruction.

"The uncertainty inherent in these kinds of human data inputs make machine learning of human norms extremely difficult," Ghanadan said.

Ultimately, for a robot to become social or perhaps even ethical, it will need to have a capacity to learn, represent, activate, and apply a large number of norms that people in a given society expect one another to obey, Ghanadan said.

That task will prove far more complicated than teaching AI systems rules for simpler tasks such as tagging pictures, detecting spam, or guiding people through their tax returns.

But by providing a framework for developing and testing such complex algorithms, the new research could accelerate the day when machines emulate the best of human behavior.

“If we’re going to get along as closely with future robots, driverless cars, and virtual digital assistants in our phones and homes as we envision doing so today, then those assistants are going to have to obey the same norms we do,” Ghanadan said.

At some point, it may even be a robot behind that desk at the library, raising its finger and saying, “Shhhh!”

The work was conducted by researchers at Brown University and Tufts University, led by Bertram Malle at Brown.

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