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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,

According to the UK National Cyber Security Centre (NCSC), various media outlets have reported on the high number of cyber attacks suffered by UK universities.

The NCSC knows that universities are of interest to a range of attackers. Highly skilled hacking groups conduct cyber espionage, seeking to acquire cutting-edge research and intellectual property in areas such as defence, energy, and artificial intelligence.

Most academics have detailed web pages describing themselves and their research interests, giving attackers more material to use when crafting a convincing phishing email.

Meanwhile, universities are also subjected to indiscriminate phishing, ransomware and denial-of-service campaigns by cyber criminals. Criminals are also interested in stealing student data, and other personal data held by researchers, which they can abuse for identity fraud. There are some reports of cyber criminals specifically targeting universities.

A number of factors can make university networks particularly challenging to secure. Individual departments often design their systems independently to best suit local research requirements, and 'bring your own device' (BYOD) is ubiquitous, restricting the ability of central IT security teams to manage vulnerabilities, especially in the growing number of UK universities with overseas campuses.

In addition, universities' ethos of openness, and the role of networks in providing internet access for personal use as well as work, can make it harder to establish and maintain robust security culture and awareness.

I agree with the NCSC, but I want to add something.

Universities are excellent platforms for attacking other parties. They have good bandwidth, great computing infrastructure, and they usually do not have good cyber security.

Attributing attacks to specific perpetrators is always very difficult in cyberspace, when State-sponsored actors are involved. When university networks are used to attack other parties, identities can be easily disguised. When we cannot provide evidence that a country (and its agents) is behind an attack, this country does not bear responsibility under Article 2(4) of the UN Charter and the customary law.

Welcome to the Top 10 list.

Best Regards,

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Number 1 (Page 8)

Memorandum of Understanding signed by the Basel Committee on Banking Supervision and the IFRS Foundation

BANK FOR INTERNATIONAL SETTLEMENTS

The Basel Committee on Banking Supervision (BCBS) and the IFRS Foundation have announced a new cooperation agreement to foster long-term financial stability, enhance market discipline and further develop sharing of information.

The agreement, in the form of a Memorandum of Understanding (MoU), formalises the mutual interaction and strengthens the existing relationship between the BCBS and the IFRS Foundation at the strategic and working level, focusing on the development of IFRS Standards, the interaction between IFRS Standards and the BCBS Framework and the manner in which they are applied in practice by financial institutions across the world.

Number 2 (Page 10)

Keynote speech by Prof Joachim Wuermeling, Member of the Executive Board of the Deutsche Bundesbank, at the 2nd Payments Drift Forum, Euroforum, Aschaffenburg, 7 September 2017.

“When it comes to information technology there is no such thing as absolute security. The security expert Gene Spafford hit the nail on the head when he said, "The only truly secure system is one that is powered off, cast in a block of concrete and sealed in a lead-lined room with armed guards". Just think of the incident at the central bank of Bangladesh. In February 2016, 81 million US dollars was misappropriated, and the shock among all financial market players was painfully clear.”

Number 3 (Page 21)

Karl-Otto Pöhl Lecture

Text of the Karl-Otto Pöhl Lecture by Mr Peter Praet, Member of the Executive Board of the European Central Bank, Frankfurt am Main, 13 September 2017.

"More than three years on, the risks of deflation have largely disappeared and the transmission of our policy measures to the real economy is clearly demonstrated by a broad-based recovery with solid momentum. This is a pre-condition for inflation returning to the medium-term objective that the Governing Council identified almost 15 years ago as its preferred definition of price stability.

Number 4 (Page 26)

The US economic outlook and the implications for monetary policy

William C Dudley, President and Chief Executive Officer of the Federal Reserve Bank of New York, at Money Marketeers of New York University, New York City

"In my remarks, I will focus on two topics:

1) The economic outlook and the implications for monetary policy, and

2) the Fed's balance sheet normalization process, which is likely to begin relatively soon.

Number 5 (Page 37)

Consultative document on the implications of fintech for banks and supervisors issued by the Basel Committee

The Basel Committee on Banking Supervision released a consultative document on the implications of fintech for the financial sector.

Sound Practices: Implications of fintech developments for banks and bank supervisors (at http://www.bis.org/bcbs/publ/d415.pdf) assesses how technology-driven innovation in financial services, or "fintech", may affect the banking industry and the activities of supervisors in the near to medium term.

Various future potential scenarios are considered, with their specific risks and opportunities.

Number 6 (Page 39)

Early intervention regimes: the balance between rules vs discretion

Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the FSI-IADI Meeting on early supervisory intervention, resolution and deposit insurance, Basel, Switzerland

This meeting takes place at an interesting juncture - almost exactly 10 years after the financial crisis, which is widely acknowledged to have started when BNP Paribas stopped redemptions on three of its money market funds due to its inability to value their subprime mortgage exposures.

Number 7 (Page 46)

Statement on the Equifax cyber incident

"We are aware of a cyber incident affecting Equifax and are working with partners to understand any potential impact in the UK.

It is always a company's responsibility to identify UK victims, and we support the Information Commissioner's call for them to notify any affected parties.

At this stage it is best not to jump to conclusions about the scale of any UK impact. It can take some time to understand the true impact incidents like this, and we continue to investigate."

Number 8 (Page 47)

Young Faculty Award 2018 Research Topics Announced

DARPA has published its Young Faculty Award (YFA) 2018 Research Announcement, seeking proposals in 26 different topic areas—the largest number of YFA research areas ever solicited.

The YFA program aims to identify and engage rising stars in junior faculty positions in academia as well as equivalent positions at non-profit research institutions and expose them to national security challenges and needs.

The 2018 solicitation will provide high-impact funding to elite researchers early in their careers to develop innovative research directions that enable transformative Department of Defense (DoD) capabilities.

The long-term goal of YFA is to develop the next generation of scientists and engineers who will focus a significant portion of their future careers on DoD and national security issues.

Number 9 (Page 50)

Basel III monitoring results published by the Basel Committee

BANK FOR INTERNATIONAL SETTLEMENTS

- All banks meet Basel III minimum and target CET1 capital requirements

- All G-SIBs meet both fully phased-in liquidity requirements

The Basel Committee today published the results of its latest Basel III monitoring exercise based on data as of 31 December 2016.

The Committee established a rigorous reporting process to regularly review the implications of the Basel III standards for banks, and it has published the results of previous exercises since 2012.

For the first time, the report provides not only global averages but also a regional breakdown for many key metrics.

Number 10 (Page 51)

Mark Carney to chair two key BIS central bank groups

The Board of Directors of the Bank for International Settlements (BIS) has appointed Mark Carney, Governor of the Bank of England, as Chair of the Global Economy Meeting (GEM) and the Economic Consultative Committee (ECC), after consultations with members of the GEM. The appointment takes effect on 1 December 2017.

Number 1

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The BCBS is the primary global standard setter for the prudential regulation of banks and provides a forum for regular cooperation on banking supervisory matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.

The mission of the IFRS Foundation, through its standard-setting body, the International Accounting Standards Board, is to develop a single set of high quality global accounting standards that bring transparency, accountability and efficiency to financial markets around the world, fostering trust, growth and long-term financial stability. IFRS Standards are required by over 125 countries globally.

The BCBS and the IFRS Foundation have a shared objective of serving the public interest. This MoU provides for continued strengthening of future cooperation between the BCBS and the IFRS Foundation in achieving common goals that will increase stability and transparency in the financial markets.

Michel Prada, Chair of the IFRS Foundation Trustees, said:
"There is a real desire for international organisations to be more joined up when developing standards for global finance. This agreement will help

achieve that by strengthening and formalising the already high levels of cooperation between the IFRS Foundation and the Basel Committee."

Stefan Ingves, Chairman of the Basel Committee, said:
"I welcome this important initiative which formalises and strengthens the existing relationship between the IFRS Foundation and the Basel Committee. I look forward to continuing to build on our constructive co-operation in the interest of enhancing financial stability."

To read the MOU:
http://www.bis.org/bcbs/ifrs_bcbs_mou.htm

Number 2

Cybersecurity - pivotal for central banks

Keynote speech by Prof Joachim Wuermeling, Member of the Executive Board of the Deutsche Bundesbank, at the 2nd Payments Drift Forum, Euroforum, Aschaffenburg, 7 September 2017.

1. Introduction

Ladies and gentlemen

Thank you for the opportunity to speak to you today. The Payments Drift Forum is a wonderful platform for practitioners, politicians and officials.

I highly appreciate the opportunity to address this group and to contribute to what looks like a very interesting and comprehensive two days of dialogue around current developments in the field of payments and banking operations.

In his keynote address, Winfried Bausback just talked about an issue that is - and will continue to be - extremely relevant for the industry: cybercrime. Let me use this opportunity to weigh in and address the issue of cyber security from a central banker's standpoint.

2. There is no such thing as "absolute security"

When it comes to information technology there is no such thing as absolute security. The security expert Gene Spafford hit the nail on the head when he said, "The only truly secure system is one that is powered off, cast in a block of concrete and sealed in a lead-lined room with armed guards".
Just think of the incident at the central bank of Bangladesh. In February 2016, 81 million US dollars was misappropriated, and the shock among all financial market players was painfully clear.

This is understandable; after all, the last German report on the protection of the Constitution stated that cyberattacks bring annual losses of around €55 billion to the German economy.

The cost to the global economy is supposedly €400 billion. More than half the businesses in Germany (53%) have fallen prey to cyberattacks in the past two years. One in six businesses (17%) had sensitive digital data stolen during this period, with the attackers primarily getting their hands on e-mails (41%) or financial data (36%). These facts should be a reminder for German businesses to boost their cybersecurity.

It goes without saying that these facts are also spurring us at Bundesbank to ramp up our efforts in securing our own systems. Our infrastructure being up and running is not only crucial for us as an institution, but it's also critical for the financial system in Germany and the Euro area.

Let's look at TARGET2 for instance, a wholesale payment system operated by Deutsche Bundesbank, Banca d'Italia and Banque de France. More than 1,000 banks all over Europe are directly connected.

The service ensures the speedy and final settlement of national and cross-border payments in central bank money. Each working day, an average of around 350,000 payments with a value of about 1.7 trillion Euro - which equals half the German GDP last year - are processed by the system.

TARGET2 is just one example for critical financial market infrastructure for which Bundesbank is in charge.

Others include TARGET2 Securities, a service for the settlement of securities in central bank money. Or think of our monetary policy operations, which provide the banking system with liquidity.

A proper functioning of these services is crucial for the stability for our financial system.

But how does the Bundesbank interpret the term "cybersecurity"?

At the Bundesbank, we refer to cybersecurity when our focus is on protection against cybercrime and the associated risks.

We define cybercrime in the following ways.

1. There is a deliberately targeted and IT-based attack on data and IT systems

a. which can viably impair confidentiality,
b. integrity, or
c. availability.

2. Additionally, the unauthorised use of internet capabilities

a. to spread information very quickly,
b. in large volumes, and
c. on a broad scale.

3. Finally, we understand cybercrime to include the procurement of personal information through social engineering.

In these ways, the attackers usually gain either broad reach or access to a specific target.

To what extent has the Bundesbank been hit by attacks?

Cyberattacks also pose a risk to the infrastructures and applications of European central banks, which is not to be underestimated. There are four reasons why central banks, in particular, are a lucrative target for cyber espionage and cyberattacks.

1. Because of their economic and policy mandate,

2. Because, as a result, information is available to them at an early stage,

3. Because of their responsibility for cash-based and cashless payment systems, and

4. Because of their prominent role in their country's financial system.

Last year, the Bundesbank was also the target of isolated distributed denial-of-service attacks. These involve known systems being overloaded by a flood of requests and thus brought to a standstill.

The Bundesbank has used its protective measures to successfully fend off the attacks aimed at it so far. Last year alone, we intercepted around 10,000 e-mails infected with malware and stopped a hundred thousand unauthorised attempts to access the Bundesbank infrastructure.

Possible reasons for broad reach

Cyberattacks like the one recently experienced by the central bank of Bangladesh show, on the one hand, how vulnerable all businesses are once an attacker can take control of the internal network.

On the other hand, a clear trend is evident that financially motivated attackers have significantly enhanced their tactics, techniques and processes, making it harder to detect, analyse and remedy the attacks.

In targeted attacks like these, it can often be months or years before anyone realises that their systems have been compromised and, in some cases, that data has secretly been siphoned out.

On 12 May 2017, WannaCry infected around 200,000 systems in 150 countries around the world, according to Europol. The malware encrypted all available network data. It was spread by exploiting a vulnerability in the Windows operating system (EternalBlue), which was discovered by the NSA, and stolen and leaked by the hacker group Shadow Brokers.

More recently, attackers have also aimed to cause maximum damage within a short timeframe. The businesses hit by NonPetya weren't even able to react quickly enough because the damage was already done in a short space of time by wiping parts of the hard disk.

The Danish container shipping company Maersk estimates the damage caused by the NonPetya attack at between 200 and 300 million US dollars, according to its own statements. These examples are further proof that businesses have to manage their cyber risks at least as scrupulously as they do their traditional risks.

While banks can offset the losses incurred by the default of an average borrower, just one successful cyberattack can bring the activities of a bank to a standstill, no doubt causing immense reputational damage in the process.

What's more, the financial sector is highly interconnected, meaning that the default of a single participant can lead to disturbances being felt throughout the entire industry. If, for instance, a stock exchange or payment system were to default, thousands of participants would be affected on the spot.

The financial sector is also an obvious target for politically motivated attackers. By hitting a critical infrastructure, attackers would be able to not

only inflict direct financial damage but also wreak havoc on the economy at large.

For the financial sector, in particular, it is therefore becoming increasingly important to press ahead with measures in order to defend against cyber risk such as:

- Optimise centralised and decentralised protective measures on an ongoing basis.

- Foster a culture of cybersecurity.

- Bolster the resilience of financial market infrastructures.

3. Cybersecurity as a quantifiable metric is feasible

Looking at the examples that I have cited, it would be fitting to find that financial market participants were complying with a uniform security standard. But this is not the case.

What difference would such a "uniform security standard" make?

First of all, as we draw up our defensive measures, it is vital that we all borrow from established standards such as

- the international Code of practice for information security management (ISO/IEC 27002),

- the US NIST Cybersecurity Framework or

- the German IT Baseline Protection Catalogues of the Federal Office for Information Security.

Compliance with these standards is important and guarantees a middling level of protection. Generally speaking, however, attackers are not interested in firewalls - they are interested in their weak points. It is therefore important that enterprises identify their own vulnerabilities and rectify these using standardised procedures.

Let's take a look at the Top 20 Critical Security Controls. These standards were put together by a large number of government and industry experts in cybersecurity and represent a prioritised, risk-based recommendation for implementation. Such procedures would help us increase awareness of

existing weaknesses. In addition, they would serve as a guideline for implementing effective processes and tools to appropriately secure our systems.

In this context,

- constant monitoring,
- automating processes,
- providing uniform evaluation metrics, and
- acquiring knowledge of real attacks

are all crucially important with respect to developing effective defence systems. This is what we can do, and I appeal enterprises to follow these procedures.

This is because we need to first reach a point where we can identify the current state of cybersecurity using established risk management procedures before going on to

1. find room for improvement and

2. continually improve quality standards ("majority level").

Effectively searching for and finding weak points is therefore one of our main tasks, especially since our capabilities in this regard pale in comparison to those of the attackers.

Liability for manufacturers

Besides the enterprise itself, what can others do? Just like Federal Minister of the Interior Thomas de Maizière and Arne Schönbohm from the Federal Office for Information Security, I expect manufacturers - no matter how short their products' life cycles are - to be required to

- identify bugs at an early stage,
- report them,
- close them as quickly as possible and

- make security updates available for a longer period of time.

The developers of hard- and software must be forced to adhere to IT security standards and to integrate and activate safety functions into their products. Such a legal obligation could have a great impact to the multitude of IT products that are subject to weaknesses.

Therefore, in addition to the product-specific security requirements regarding product liability and product safety laws, the infringement of technical standards and rules - such as DIN standards, common criteria and protection profiles - should lead to a presumption of guaranty or the facilitation of the affected parties.

I myself am a big fan of "bug bounty" programmes, which are run by many international companies and offer financial rewards to ethical hackers (known as "white hats") for reporting bugs - and that's because vulnerabilities that we have been unaware of up to now are another problem that we need to address.

Deutsche Bundesbank therefore supports manufacturers and suppliers conducting bug bounties. As the number of professional attackers grows - irrespective of whether they are cybercriminals or intelligence agencies - so too does the likelihood of their hacking tools becoming the target of attack. The Shadow Broker and Vault 7 documents released on WikiLeaks make these risks abundantly clear.

Penetration tests are helping

Penetration tests are an effective means of unearthing previously unknown vulnerabilities in systems and applications and then eliminating them. They clarify the extent to which attackers can penetrate an organisation's infrastructure and how much damage they can cause. A single weak point can be all it takes for attackers to hit the jackpot.

In my opinion, "red teaming" is the ultimate in penetrating testing. This involves a red team, usually brought in from outside, working against an internal team of analysts (the "blue team") whose mission is to defend the internal infrastructure to the best of their ability. European financial market infrastructures are to be subjected to this manner of cyber testing with the aid of a standardised European red team testing framework.
I would like to encourage you to regularly review the resilience of your own infrastructure and processes and to develop them successively.

In the Bundesbank, annually a large number of vulnerability checks and penetration tests take place. We detect and fix regularly weaknesses of the manufacturers or ourselves in systems and applications.

The weak link: people

Well-known hacker Kevin Mitnick - who allegedly hacked into the US Department of Defence's network more than one hundred times and penetrated NSA systems on multiple occasions - once said: "Companies spend millions of dollars on firewalls, encryption, and secure access devices and it's money wasted because none of these measures address the weakest link in the security chain: the people who use, administer, operate and account for computer systems that contain protected information."

I agree with Kevin Mitnick. This stems from the fact that, in all of the cyberattacks known to us, attackers focused their attention on people as the weak link: in other words, end users and their behaviour.

That is why I think it is essential to raise awareness among users about how to handle data and IT systems in a security-conscious manner - and this awareness needs to be conveyed to all those who work with such systems.

Each and every one of us must

- develop an understanding of the threats, yet
- internalise the fact that these threats are constantly changing and
- that it is possible to protect ourselves.

And this applies in both the work and the private setting. In the Bundesbank, we regularly discuss current threats, organize seminars focusing on cyber-security, or - like in the past year - perform a large-scale awareness campaign which dealt with subjects like "data classification", "encryption", "password protection", "mobility" and "social engineering".

This means that the analysis and synthesis of vulnerabilities are our tools of choice when it comes to heightening security awareness within the company and to giving management a deeper insight into the actual risk situation.
It would be desirable to establish a system of measures and metrics that renders visible the progress already made.

4. Is 99% security enough?

While banks can absorb the losses incurred by the default of an average borrower, just one successful cyberattack can bring the activities of a financial market infrastructure to a standstill, causing at least immense reputational damage or in the worst case a financial crisis.

The onus is therefore on banking supervisors to keep an even closer watch than they do now on the potential threats posed by cybercrime. And the central banks have a special responsibility to protect themselves from cyber risks, thereby safeguarding confidence in the financial system. That's why we're also working closely together at the international level to reduce cyber risks for ourselves and for the financial market infrastructures.

One example of this cooperation is the "Guidance on cyber resilience for financial market infrastructures", which was published in 2016. The Bundesbank, in cooperation with the Federal Financial Supervisory Authority (BaFin) as well as the central banks and the supervisory authorities of the other G10 countries, drew up requirements for financial market infrastructures with regard to cyber risks.

It is of fundamental importance that not only information technology plays its part. Everyone concerned must bear responsibility: the technical experts, every single user and the supervisors.

The global ransomware attacks have once again clearly demonstrated how vulnerable digital infrastructures are.

Last year, BaFin and the Bundesbank, along with representatives from banks and banking associations, discussed the supervisory requirements for information technology.

These requirements were drawn up to encourage a more detailed examination of supervisory expectations on the technical and organisational resources specified in the Minimum requirements for risk management (MaRisk), to clarify them and to render them more transparent.

Thoughts were fleshed out on the basis of the IT strategy in place in other areas such as access management, application development and the management of externally procured IT services.

Thus, protection against increasingly sophisticated IT threats is and remains a never-ending task. The level of IT security achieved therefore has to be constantly reappraised and improved - as it is true for every other criminal menace.

5. Cooperation and coordination are key

The examples I have just mentioned illustrate the ongoing potential for optimising the reliability and robustness of the hardware and software we use as well as the eradication of faults.

The systems that manage our reserve assets have a high level of IT security, and the necessary protective measures can be installed in near-real time. It was in this context that the Federal government and the Bundesbank made cybersecurity a focal point of Germany's G20 presidency.

And that is why we spoke about the issue of cybersecurity in great depth at the meeting of G7 finance ministers and central bank governors. This was where, in October 2016, the G7 Fundamental elements of cybersecurity for the financial sector were adopted. The G7 Cyber Expert Group is tasked with presenting the key aspects of an effective assessment of cybersecurity by October of this year.

Together with the cybersecurity experts of the other central banks we are, moreover, continuously monitoring the current global threat level and regularly consult with each other to initiate any countermeasures.

And last but not least, we are constantly striving to optimise our detection and defence systems, as we take every attack that is launched against us very seriously.

We urgently encourage other institutions, too, to exchange their knowledge and to liaise with each other at the national and international level on their critical infrastructures.

6. Attack is the best form of defence

Ladies and gentlemen, attack is the best form of defence. At least, that's what football pundits tell us. But our turf, the cyberworld, is a place of stealth and cunning, and this particular football adage doesn't apply. Indeed, the opposite approach is called for: protect yourselves against attack and

- Make IT security your goal.

- Establish a company-wide security culture.

- Continue to adapt to the changing and ever-evolving threat situation.

- Seek out security vulnerabilities in your company.

- Optimise your risk management structure constantly.

- Keep contingency plans and competence rules at the ready in case of a crisis.

- Share information, thoughts and experience with each other.

And please, always bear in mind: IT security is not a product you can buy. It's a process that has to be embraced.

There's no such thing as absolute security, we are not immune to attacks. But it is our job to prepare to the best of our ability for possible threats.

Another word of wisdom, yet again from the world of football, is the following: Attack wins you games, defence wins you championships. So let's make sure our defence is in good shape.

Thank you for your attention.

Number 3

Karl-Otto Pöhl Lecture

Text of the Karl-Otto Pöhl Lecture by Mr Peter Praet, Member of the Executive Board of the European Central Bank, Frankfurt am Main, 13 September 2017.

The monetary policy measures introduced by the ECB since June 2014 have played a pivotal role in supporting the economy and have proven to be effective in preventing a period of disinflation from degenerating into one of outright deflation.

More than three years on, the risks of deflation have largely disappeared and the transmission of our policy measures to the real economy is clearly demonstrated by a broad-based recovery with solid momentum. This is a pre-condition for inflation returning to the medium-term objective that the Governing Council identified almost 15 years ago as its preferred definition of price stability.

Before turning to price dynamics and monetary policy, let me say a bit more about the latest economic developments.

Real GDP in the euro area has expanded for 17 consecutive quarters, growing by 2.3% year-on-year during the second quarter of 2017, according to Eurostat - and surpassing our projection at the start of the year. This compares with the latest potential growth estimates for the euro area of just over 1%.

See, for example, European Commission (2017), European Economic Forecast - Spring 2017.

The latest survey data point to a strong start to the third quarter. The composite output Purchasing Managers' Index - which is highly correlated with growth in the euro area - is above its long-term average and remains close to six-year highs.

The forward-looking components of the survey continue to point to growth in the quarters ahead. Moreover, Eurostat's economic sentiment indicator is at a ten-year high.

A distinctive feature of the ongoing recovery is that it has led to tangible employment gains. Since hitting a trough in mid-2013, the number of people employed in the euro area has increased by almost 7 million. As a result, all of the employment losses recorded during the crisis have been offset. The unemployment rate is also continuing to fall, despite an increase in labour force participation, and is now at its lowest level in eight years.

Employment growth, together with the gradual increase in employee compensation, is supporting households' disposable income and underpinning solid consumption dynamics. Buoyant sentiment, favourable bank lending conditions and the notable progress achieved with respect to deleveraging are all conducive to robust consumer spending.

The investment outlook is also positive, supported not only by a need to modernise the capital stock after years of subdued investment and an improving outlook for profitability, but also by highly accommodative financing conditions as our policy measures have passed through financial markets to affect the borrowing conditions of businesses and their customers.

Since June 2014, bank lending rates for euro area non-financial corporations have fallen by almost 120 basis points, and for households by over 100 basis points. Lending rates for very small loans, which can be taken as a proxy for loans to small and medium-sized enterprises (SMEs), have declined by almost 190 basis points.

The significant improvement in funding conditions for SMEs is especially encouraging as they provide two-thirds of total private sector employment in the euro area. Heterogeneity of lending rates across countries has also fallen sharply.

For example, the difference between the average lending rate for firms in countries that were severely affected by the crisis versus other countries has narrowed by about 100 basis points over this three-year period. The pass-through of monetary policy has become more even and less distorting.

These positive developments have been further supported by the second series of targeted longer-term refinancing operations, which have led to banks passing on the favourable funding conditions to their customers.

For more details on the impact of the TLTROs, see European Central Bank (2017), "The targeted longer-term refinancing operations: an overview of the take-up and their impact on bank intermediation", Economic Bulletin, Issue 3, Box 5.

The sharp reduction in bank lending rates has been accompanied by easier access to funding, as recent surveys have shown.

See the ECB's euro area bank lending survey, July 2017, and the ECB's Survey on the Access to Finance of Enterprises in the euro area, October 2016 to March 2017.

Moreover, bank lending volumes have been gradually recovering since early 2014. According to the latest Survey on the Access to Finance of Enterprises, covering the period from October 2016 to March 2017, euro area SMEs have continued to signal improvements in the availability of bank loans. Market-based funding conditions, too, have improved significantly in response to the corporate sector purchase programme launched in June 2016.

Against the backdrop of this substantial easing of financing conditions, domestic demand has become the mainstay of growth in the euro area, making the recovery more resilient to developments overseas. The latest ECB staff macroeconomic projections point to robust private consumption and a continued recovery in investment over the period ahead. Real GDP growth is projected to remain well above potential growth and to average between 1.7% and 2.2% in 2017, 2018 and 2019.

The risks to the growth outlook are broadly balanced: on the upside, the current cyclical momentum could result in stronger than expected growth, while the remaining downside risks relate primarily to global factors and developments in the exchange rate.

From today's point of view, the strength and resilience of the recovery tends to boost our confidence that reflationary forces will gradually support headline inflation returning towards a level that is below, but close to, 2%. But it's too soon to claim victory: inflation dynamics remain subdued.

After hovering at levels well below 1% for three years, with occasional dips into negative territory, euro area headline inflation edged higher towards the end of last year and stood at 1.5% in August according to Eurostat's flash estimate.

Owing to energy-related base effects, headline inflation rates are likely to temporarily decline towards the turn of the year. Looking further ahead, headline inflation, according to our latest staff projections, is expected to remain clearly below a level that is consistent with our inflation aim over the next two years, averaging 1.5% in 2019.

Furthermore, the recent volatility in the exchange rate represents a source of uncertainty which requires monitoring with regard to its possible implications for the medium-term outlook for price stability. Some measures of underlying inflation - which relates more to domestic price pressures - have ticked up moderately in recent months.

For example, HICP inflation excluding food and energy, which in August was 1.3% for the second consecutive month, has surpassed the 1% level where it had been languishing for around three years. Nevertheless, underlying inflation pressures are yet to show convincing signs of a sustained upward trend.

An important element keeping underlying price pressures subdued is muted wage dynamics, which are shaped by many factors. Besides weak productivity developments, the significant degree of remaining labour market slack acts to contain wage growth. When assessing slack, it is also worth looking at alternative measures of unemployment.

The so-called U6 measure captures unemployment, underemployment (meaning workers who would like to work more hours) and marginal attachment, namely those workers who are not competing very actively in the labour market, for example because they are not available to start a new job at short notice. Labour market slack measured in this way currently affects around 18% of the euro area extended labour force and is thus considerably higher than the headline unemployment rate.

See European Central Bank (2017), "Assessing labour market slack", Economic Bulletin, Issue 3, Box 3.

We are undoubtedly experiencing a solid, broad-based and resilient economic recovery that is contributing to a narrowing of the output and unemployment gaps, but a seeming disconnect between growth and inflation remains. As slack in the economy continues to be absorbed, reflationary forces will gradually build up and the traditional Phillips curve connection between inflation and the business cycle should eventually re-assert itself.

Recent empirical evidence suggests the Phillips curve has flattened since the period preceding the global financial crisis. There are two polar interpretations of this development. The weakening of the relationship between inflation and economic slack could be attributed to a mismeasurement of slack, owing to structural changes in the labour market. But there could be a less benign interpretation too. Lower estimates of the slope of the Phillips curve could also stem from parallel shifts in the curve.

If such shifts result from sustained disinflationary developments unmooring inflation expectations, they raise significant concerns. It is our duty, as a central bank, to ensure that the Phillips curve reasserts itself at a steady rate of inflation that is in line with our medium-term objective of below, but close to, 2%.

Our mission is not yet accomplished and we must remain patient and persistent.

Patience is required for inflationary pressures to show through convincingly in the data. The euro area's economic environment is improving, and the negative tail risks to inflation expectations, which were so visible at the start of our asset purchase programme, have virtually disappeared.

But measured inflation rates are exceedingly volatile and metrics of underlying price pressures remain anaemic. The entire distribution of inflation expectations still needs to shift a fair distance to the right.

We must also be persistent with the use of our policy instruments to ensure a durable and self-sustained return of inflation towards a level that is below, but close to, 2% over a meaningful medium-term horizon. The baseline scenario for inflation going forward remains crucially contingent on very easy financing conditions which, to a large extent, depend on the current accommodative monetary policy stance.

Therefore, maintaining a steady hand continues to be critical to fostering a durable convergence of inflation towards our monetary policy objective.

Number 4

The US economic outlook and the implications for monetary policy

William C Dudley, President and Chief Executive Officer of the Federal Reserve Bank of New York, at Money Marketeers of New York University, New York City

Good evening. It is a pleasure to have the opportunity to speak at this Money Marketeers event.

In my remarks, I will focus on two topics:

1) The economic outlook and the implications for monetary policy, and

2) the Fed's balance sheet normalization process, which is likely to begin relatively soon.

As always, what I have to say reflects my own views and not necessarily those of the Federal Open Market Committee (FOMC) or the Federal Reserve System.

Overall, the economy remains on a trajectory of slightly above-trend growth, which is gradually tightening the U.S. labor market. Over time, this should support a rise in wage growth.

When combined with a firmer import price trend-partly reflecting recent depreciation of the dollar-and the fading of effects from a number of temporary, idiosyncratic factors, that causes me to expect inflation will rise and stabilize around the FOMC's 2 percent objective over the medium term.

In response, the Fed will likely continue to remove monetary policy accommodation gradually. But, the upward trajectory of the policy rate path should continue to be shallow, in part because the level of short-term

interest rates consistent with keeping the economy on a sustainable long-run growth path is likely to be considerably lower than it was in prior business cycles.

The process of balance sheet normalization-in which an increasing proportion of maturing Treasuries and agency mortgage-backed securities (MBS) repayments are allowed to run off the Fed's balance sheet-should also exert some monetary policy restraint over time. But, I believe this impact will be quite modest. Not only is this shift in policy now widely anticipated, but we have also seen that the impact on the level of long-term interest rates has been small as expectations have adjusted.

Economic Outlook

So, why do I anticipate that the economy will likely continue to grow at a slightly above-trend pace? The fundamentals supporting continued expansion are generally quite favorable. Low unemployment, sturdy job gains, and rising wages-even at a pace below previous expansions-are lifting personal income. Household wealth has been boosted by rising home and equity prices, and household debt has been growing relatively slowly, contributing to a healthy household balance sheet. Thus, consumer spending should continue to advance in coming quarters.

Business fixed investment outlays are also likely to continue to rise. With the supply of labor tightening, there are greater incentives for businesses to invest in labor-saving technologies. Investment spending should also benefit from a better international outlook and the improvement in U.S. trade competitiveness caused by the dollar's recent weakness. The softer dollar and solid growth abroad also suggest that the trade sector will no longer be a significant drag on economic growth.

Turning to the outlook for inflation, I have been surprised by the persistence of the shortfall from the FOMC's 2 percent long-run objective. While some of this year's shortfall can be explained by one-off factors, such as the sharp fall in prices for cellular phone service, its persistence suggests that more fundamental structural changes may also be playing a role.

These include the increased ability of prospective buyers to compare prices across different sellers quickly and easily, the shift in retail sales to online channels of distribution from traditional brick-and-mortar stores, and the consequences of these changes on brand loyalty and business pricing power.

Over the coming months, I hope that we will be better able to differentiate between these competing explanations.

If it turns out that structural changes have played a significant role, I would generally view this as a positive, rather than negative, development. It would imply that the U.S. economy could operate at a higher level of labor resource utilization without generating a troublesome large rise in inflation.

More people could be put to work on a sustainable basis, enabling them to gain opportunities not just to earn greater income, but also to develop their skills and grow their human capital.

Before I go further, let me say a few words about the impact of Hurricane Harvey. The massive flooding in Texas has been a tragedy for countless people. My heart goes out to all who have suffered and face a long and difficult recovery.

While the human toll of such a storm is immense, past disasters such as Hurricane Katrina and Superstorm Sandy have shown that the impact on the national economy tends to be modest and transitory. At first, activity dips as normal commerce is disrupted. But later, when rebuilding gets underway in earnest, economic activity receives a modest boost.

Although I expect that the Texas floods will make it more difficult to assess the economic data in the months ahead, I do not expect it to fundamentally alter the underlying trajectory of the national economy. Of course, for parts of Texas, sadly, the consequences will be immeasurably greater.

Monetary Policy Outlook

As I noted earlier, I still anticipate that above-trend growth will lead to higher utilization of the economy's resources, and that, over time, this will help push inflation higher. Thus, even though inflation is currently somewhat below our longer-run objective, I judge that it is still appropriate to continue to remove monetary policy accommodation gradually.

This judgment is supported by the fact that financial conditions have eased, rather than tightened, even as the Fed has raised its short-term interest rate target range by 75 basis points since last December. For example, equity prices have risen, credit spreads have narrowed modestly, longer-term interest rates have declined, and the dollar has weakened. On balance, these movements have been large relative to the upward drift in short-term interest rates.

The easing in financial conditions is important because monetary policy does not directly influence the trajectory of economic growth and inflation. Instead, as I have noted in previous remarks, short-term interest rate changes are an important factor that affects broad financial market conditions.

Financial conditions, in turn, influence the demand for goods and services by households and businesses. But, if financial conditions ease even as we are removing monetary policy accommodation, this may have implications for further policy adjustments.

All else equal, an easing of financial conditions may warrant a somewhat steeper policy rate path. Conversely, if financial conditions were to tighten unduly, then this might necessitate a shallower rate path to temper that tightening.

To be clear, this does not mean that the Fed should mechanically target a particular set of financial conditions. That is because the set of financial conditions appropriate to achieving the Fed's statutory objectives of maximum employment and price stability will evolve over time as the economic outlook changes.

Financial conditions are just a means to an end-the achievement of the Fed's employment and inflation objectives.

With that background, I would like to comment on some of the criticism of Fed policy decisions.

Some of the commentary surrounding the FOMC's June decision to raise the federal funds rate target by 25 basis points illustrates the current tension between "too low" inflation and "too buoyant" financial conditions. On one hand, some observers question the decision to reduce policy accommodation given that inflation has fallen somewhat further below our objective.

I would respond to these concerns by noting that monetary policy is still accommodative and that financial conditions have eased. In addition, the long and variable lags between monetary policy adjustments and their impact on the economy imply that the FOMC may need to remove accommodation even when inflation is below its goal.

In particular, if the unemployment rate were already below its longer-run natural rate, as may be the case currently, the impact on wage growth and price inflation would still likely take some time to become evident. This would be particularly true if inflation expectations were well-anchored at or slightly below our 2 percent objective, as is the case currently.

On the other hand, some Fed watchers have argued that we are helping to create financial asset bubbles by not removing accommodation more quickly. My view is that asset valuations are not particularly troublesome given the economic environment in which we've been-that is, a long period of moderate growth, low inflation, low interest rates, and low recession risks.

I would be much more concerned about asset valuations if financial market performance were disconnected from the economy's performance-for example, if market volatility were very low and asset valuations elevated at a time when the economy was performing poorly and the outlook was highly uncertain.

Stretched valuations would also be of greater concern if credit growth were unusually strong and financial institutions were becoming more leveraged and dependent on wholesale funding. The good news is that the substantially higher capital and liquidity requirements enacted in response to the financial crisis have helped to reduce the risks to financial stability.

Relatedly, some critics have argued that our asset purchases have unduly distorted financial asset prices. My response to this critique is that monetary policy-including large-scale asset purchase programs-works through its influence on financial conditions.

We turned to asset purchases to provide additional monetary policy stimulus when the federal funds rate was constrained by the effective zero lower bound. In buying longer-maturity Treasuries and agency MBS, we sought to reduce risk premia to provide additional support to economic growth at a time when the economy was operating far from full employment.

The argument that monetary policy should avoid affecting asset prices-that it be somehow "neutral"-is not one that I find compelling. Such an argument essentially implies that monetary policy should not be utilized to achieve the Fed's dual mandate objectives.

Another recent critique is that the Fed has contributed to the low volatility of financial markets by making monetary policy too predictable. Some argue that we should surprise market participants in order to manufacture greater uncertainty and generate more market volatility.

The notion is that if the Fed were more unpredictable, market participants would be less complacent. And, if markets were perceived as riskier, this might hinder the development of financial asset bubbles.

I am not supportive of such a strategy for several reasons.

First, I don't think it is necessary to be unpredictable to keep financial market participants "on their toes." There are plenty of potential surprises from the economic environment without the Fed seeking to deliberately generate its own. Changes in the economic outlook affect financial asset prices and market participants' expectations for future monetary policy actions.

I don't see a significant benefit to artificially adding "noise" to this process. Developments in early 2016 provide a good example. As the economic environment changed and financial conditions tightened, we responded by raising short-term interest rates much more slowly than had been anticipated.

Second, deliberately degrading the signal of how we are likely to react to changes in economic circumstances would likely lead to higher risk premia. This would represent a real cost that would have to be borne by households and businesses.

Third, a less reliable Fed would also presumably loosen the linkage between the stance of monetary policy and financial conditions. Because the monetary policy impulse works through its impact on financial market conditions, I don't see why the Fed would want to act in a way that deliberately made this linkage less predictable. In actuality, I have been pushing in the opposite direction. By explaining the importance of financial conditions as part of our monetary policy decisions, I am trying to tighten the linkage.

Balance Sheet Normalization

I'd like to wrap up my comments tonight by discussing the likely next step in the monetary policy normalization process: beginning to allow maturing Treasuries and agency MBS paydowns to run off the Fed's balance sheet, in

contrast to our current practice of reinvesting all of the proceeds. As you are aware, following the June FOMC meeting we issued an addendum to our Policy Normalization Principles and Plans.

In that addendum, the FOMC outlined how it planned to gradually reduce the Fed's securities holdings over time. Namely, when that program is implemented, the FOMC will decrease its reinvestments in an orderly way, with repayments reinvested only to the extent they exceed gradually rising caps.

For maturing Treasury securities, the FOMC anticipates that the monthly cap will be $6 billion initially and will increase in steps of $6 billion at three-month intervals over 12 months until it reaches $30 billion. For repayments of agency MBS, the monthly cap will be $4 billion initially and will increase in steps of $4 billion at three-month intervals over 12 months until it reaches $20 billion.

For Treasury securities, when the caps are fully phased in, they will generally only be binding during the middle month of each quarter, when there is typically a spike in maturing Treasuries in the Fed's portfolio. For agency MBS, as long as long-term interest rates are steady or rising, we expect that the fully-phased-in caps will not be binding.

However, if long-term interest rates were to fall sharply-provoking a surge in refinancing and mortgage repayments-the caps would likely bind, limiting the amount of agency MBS that would have to be absorbed by the private market.

As currently anticipated, once we start the balance sheet normalization program, we expect it to continue in the background until the FOMC judges that the Fed's securities holdings are no larger than necessary to implement monetary policy efficiently and effectively. Adjustments to the target range of the federal funds rate will remain the primary tool of monetary policy.

However, if economic circumstances were to change during the normalization process in a way that would warrant a sizable reduction in the target range for the federal funds rate, the FOMC would be prepared to resume reinvestment.

The program has been designed to be implemented gradually and predictably so that market participants and the U.S. Treasury can anticipate when and at what pace the portfolio is likely to run off over the course of normalization. This should keep expectations more stable and reduce the

risk that a sharp shift in expectations could generate undesirably large movements in interest rates and asset prices.

As I see it, a few questions about this program remain and are worth addressing. The first question is why do this at all. After all, the Fed has had a large balance sheet for many years now.

In my view, the balance sheet expansion was undertaken in response to an extraordinary set of circumstances-a deep recession, short-term interest rates at the zero lower bound, and the economy far away from our dual mandate objectives.

Now that these circumstances no longer hold, it seems appropriate to begin to reduce the size of the Fed's balance sheet.

In thinking about the decision to reduce the size of the Fed's balance sheet, I see two important, opposing factors. One is that a large balance sheet could conceivably make further asset purchases less attractive.

This factor suggests that we should use the opportunity to shrink the balance sheet during good economic times so that this tool will be fully available to us in the future if necessary.

However, on the other side, reducing the size of the balance sheet is another form of monetary tightening, one with which we have little experience. This suggests we should proceed with caution.

The FOMC has judged that a gradual, predictable approach to normalization is the best way to appropriately balance these two factors.

Another question is how long the normalization process will take. Assuming that this process begins later this year and continues uninterrupted, the balance sheet size would likely normalize in the early part of the next decade.

There is uncertainty about the exact timing for several reasons. We don't know how fast our agency MBS holdings will pre-pay, how quickly currency outstanding will grow, how many bank reserves will be required for the efficient execution of monetary policy, or the evolution of other liability items on the Fed's balance sheet that affect the amount of bank reserves.

Against that backdrop, one major issue that remains outstanding is whether the Fed will continue to operate with a "floor" system, in which the Fed

maintains a relatively abundant supply of reserves and the effective federal funds rate is managed by periodic adjustments to the interest rate the Fed pays on bank reserves.

Or, whether the Fed will move back to a "corridor" system, in which reserves are relatively scarce and the effective federal funds rate is managed by frequently adjusting the supply of reserves to meet demand at the desired federal funds rate level.

In this type of regime, it is the quantity of reserves, rather than the interest rate the Fed pays on reserves, that is the primary driver of the federal funds rate.

Having managed the System Open Market Account during the financial crisis-a period during which the demand for reserves was very volatile-I very much favor a floor-type system. It is much easier to manage on a day-to-day basis.

It also eliminates the need for a lot of interbank trading activity to move reserves to banks that would otherwise find themselves short of reserves on a particular day. In my view, this type of intermediation activity does not have much social value.

While the FOMC has discussed these issues, it has made no decision about its choice of long-term monetary policy operating framework. This seems appropriate to me because over the next few years we will gain considerable further experience about operating with a floor-type system.

Nevertheless, my expectation is that the FOMC will ultimately favor maintaining a floor-type system similar to what is in place today. As support, I would point to the minutes of the November 2016 FOMC meeting, in which participants observed that the current framework had been working well.

This leads us to the next question: Assuming that a floor system is retained, what amount of reserves will be needed in the banking system so that day-to-day open market operations are not necessary to keep the federal funds rate within its target range?

In other words, how small can the amount of excess reserves be before banks begin to compete and bid for such reserves, introducing unwanted volatility to the federal funds rate?

First, there will need to be sufficient excess reserves to accommodate day-to-day fluctuations in the "autonomous factors" that influence the amount of reserves in the banking system.

These include shifts in the Treasury's cash balance, the foreign repo pool, and overnight reverse repo facility usage.

Second, there will have to be an additional buffer to meet banks' underlying demand for reserves.

We expect that the demand for reserves will be considerably higher than it was prior to the financial crisis because reserves can be used to satisfy the more stringent liquidity requirements that are in place today, and because the opportunity cost of holding reserves is much lower now since the Fed pays interest on reserves.

Together, as a rough starting point, we have suggested that the necessary amount of excess reserves could be in a range of $400 billion to $1 trillion. Coupled with uncertainty about the likely growth in other factors, such as currency outstanding, this implies a normalized balance sheet size of, perhaps, $2.4 trillion to $3.5 trillion in the early 2020s.

After reaching that level, one should anticipate that the Fed would resume purchases of Treasury securities.

These purchases would allow the balance sheet to expand to accommodate the growth in currency outstanding and in banks' demand for reserves as the economy grows. They also would make up for ongoing paydowns of the agency MBS that remain in our portfolio.

Although there is considerable uncertainty about the long-run size of the Fed's balance sheet, I would stress that the balance sheet is likely to shrink by much less than it grew between 2007 and 2014.

Based on New York Fed staff projections, I would expect the Fed's balance sheet, which currently stands at $4.5 trillion, to shrink by roughly $1 trillion to $2 trillion.

This compares to an increase of about $3.7 trillion in the wake of the financial crisis. This is another reason why I anticipate that the impact of balance sheet normalization on financial markets is likely to be quite mild.

This view is supported by empirical research carried out within the Fed and is consistent with the results of surveys of private sector economists, including the Survey of Primary Dealers and the Survey of Market Participants conducted by the New York Fed's Markets Group.

To sum up, I expect that the U.S. economy will continue to perform quite well, with slightly above-trend growth leading to further gradual tightening of the U.S. labor market. As this occurs, I would anticipate that wage growth will firm and that price inflation will gradually rise. In response, I expect that we will continue to gradually remove monetary policy accommodation.

Balance sheet normalization will likely be part of this process. But, we expect this to have only a mild impact and to run passively in the background. Short-term interest rates will remain the primary tool of monetary policy.

Thank you for your kind attention. I would be happy to take a few questions.

Number 5

Consultative document on the implications of fintech for banks and supervisors issued by the Basel Committee

BANK FOR INTERNATIONAL SETTLEMENTS

The Basel Committee on Banking Supervision released a consultative document on the implications of fintech for the financial sector.

Sound Practices: Implications of fintech developments for banks and bank supervisors (at http://www.bis.org/bcbs/publ/d415.pdf) assesses how technology-driven innovation in financial services, or "fintech", may affect the banking industry and the activities of supervisors in the near to medium term.

Various future potential scenarios are considered, with their specific risks and opportunities.

In addition to the banking industry scenarios, three case studies focus on technology developments (big data, distributed ledger technology, and cloud computing) and three on fintech business models (innovative payment services, lending platforms and neo-banks).

Although fintech is only the latest wave of innovation to affect the banking industry, the rapid adoption of enabling technologies and emergence of new business models pose an increasing challenge to incumbent banks in almost all the scenarios considered.

Banking standards and supervisory expectations should be adaptive to new innovations, while maintaining appropriate prudential standards.

Against this background, the Committee has identified 10 key observations and related recommendations on supervisory issues for consideration by banks and bank supervisors.

The Committee welcomes comments on all aspects of this consultative document. Comments should be uploaded by Tuesday 31 October 2017 via the following BCBS link: https://staging.bis.org/bcbs/commentupload.htm

All comments will be published on the website of the Bank for International Settlements unless a respondent specifically requests confidential treatment.

To read more:
http://www.bis.org/bcbs/publ/d415.pdf

Number 6

Early intervention regimes: the balance between rules vs discretion

Fernando Restoy, Chairman, Financial Stability Institute, Bank for International Settlements, at the FSI-IADI Meeting on early supervisory intervention, resolution and deposit insurance, Basel, Switzerland

On behalf of the FSI, I would like to extend a warm welcome to all speakers and participants for taking the time to attend this important meeting. I would also like to thank IADI, in particular IADI Chairman Tom Hoenig and Secretary General David Walker, for partnering with us on this event.

This meeting takes place at an interesting juncture - almost exactly 10 years after the financial crisis, which is widely acknowledged to have started when BNP Paribas stopped redemptions on three of its money market funds due to its inability to value their subprime mortgage exposures.

This was followed shortly thereafter by an old-fashioned bank run at the UK mortgage lender Northern Rock. The failure of Northern Rock turned out to be the first of many high-profile bank failures in a number of countries, with additional collapses averted only by extraordinary government bailouts.

Fortunately, the post-crisis regulatory reforms have led to a more resilient financial system where financial crises are, we hope, less frequent and less costly.

Yet, the world economy still faces a number of risks - including the protracted low interest rate environment, excessive indebtedness, potential for regulatory arbitrage and the overcapacity of the banking sector in some jurisdictions - which, collectively, may contribute to new episodes of financial instability. In this context, I cannot emphasise enough the critical

role that all the safety net authorities that are gathered around this table can play in fostering a stable financial system.

In my brief remarks this morning, I will touch upon the evolution, nature and use of early intervention frameworks including their role during the financial crisis. I will also provide a few thoughts about the age-old debate on the appropriate balance between rules and discretion as it relates to early intervention frameworks. I will conclude by providing some high-level observations which I hope will stimulate lively debate over the next two days.

What does early intervention mean?

The term "early intervention" may mean different things to different people depending on one's vantage point. For supervisors, early intervention might be about the ability to change management behaviour, through moral suasion or more formal supervisory actions, while a bank's financial condition remains sound.

This is broadly consistent with the goals of "risk-based supervision" - the long-standing mantra in the supervisory community - that is, the ability to identify and address weaknesses in risk management and governance before these shortcomings permeate a bank's balance sheet and adversely affect earnings and regulatory capital.

For deposit insurers and resolution authorities, the focus of early supervisory intervention might be focused more narrowly on taking intervention measures to try and avert a bank failure when a bank shows signs of distress; or in their absence, closing a bank when capital is still positive in the hope of minimising losses to the deposit insurer or the taxpayers.

The reality is that what constitutes "early intervention" can take many forms and depends on what point in the life cycle of a problem bank we are talking about.

What I would like to highlight, however, is the point at which early intervention measures are taken against banks in distress. For this is likely to be the point that captures the attention of both supervisors and deposit insurers in equal measure. At the same time, this is the exactly the point when the interests of supervisors and deposit insurers start to diverge, at least in some cases.

Nature of early intervention frameworks and challenges for supervisors

In most countries, prudential frameworks generally provide supervisors with a broad range of powers to take (discretionary) action based on the perceived risk profile of the bank and the nature and severity of the identified problems.

These powers provide supervisors with maximum flexibility to make the "punishment fit the crime" and to weigh the classic trade-offs.

On the one hand, well designed enforcement actions that address the root cause of identified problems can help to rehabilitate a bank when bank management might still be at the denial stage.

On the other hand, acting too early, too explicitly and too forcefully might result in the "medicine killing the patient" and in triggering unintended effects on other institutions.

In some countries, legislation or prudential regulation requires supervisors to impose or, at least formally consider imposing, certain supervisory actions if a financial institution breaches defined thresholds or meets certain conditions.

Depending on the jurisdictions involved, those regimes are referred to as prompt corrective action (PCA) or early intervention measures (EIM).

Rules versus discretion in the context of early intervention frameworks

PCA was first introduced in the United States in 1991 after the savings and loan and commercial banking crisis of the late 1980s.

PCA prescribes a series of both discretionary and mandatory corrective actions to be taken promptly as capital ratios decline to certain levels, with actions ranging from restricting growth, when a bank is considered undercapitalised, to closing a bank if tangible capital falls below 2% for a certain period of time.

The main intent of such frameworks is to limit regulatory forbearance and to reduce costs to the deposit insurance fund.

The PCA concept has been incorporated into European Union legislation through a specific regime, known as early intervention measures, which includes two components.

First, it provides supervisors with a broader range of powers to impose corrective measures on banks falling under the EIM regime than those available under normal supervisory actions.

Second, there is an obligation for supervisors to formally determine whether to apply early intervention measures for all banks that are assigned a low supervisory rating.

The main difference between the PCA and the EIM regimes is that the former prescribes a compulsory application of remedial measures when specific capital triggers are breached while the latter provides the supervisor with more discretion on whether to impose EIM.

This leads me to the heart of the debate in supervision - what is the right balance between rules and discretion, particularly in the context of taking action against weak banks. In the aftermath of the Financial Crisis, and as more rules are increasingly being hard-wired into regulation, should we pause and ask ourselves if the pendulum has moved too far in favour of black-and-white rules? What is the role of discretionary-based supervision in an increasingly rules-based prudential world? To help us answer these questions, let's take stock of the publicly available evidence, which is admittedly rather limited.

Outcomes - the evidence

In September 2011, the US Office of the Inspector General published a report that assesses, among other items, the outcomes of banks that were subject to PCA requirements during the financial crisis and whether US supervisors implemented the PCA requirements promptly. From January 2006 to March 2010, approximately 489 banks in the US were considered undercapitalised and thus subject to PCA triggers. The report includes two key findings:

- First, 60% of all PCA banks failed (291 of 489); this observation supports the conclusion that, by the time troubled banks became subject to PCA provisions, there might have been few options available to resolve the problems.

- Second, critically undercapitalised institutions (those with tangible capital below 2%) were closed promptly as required under PCA, but overall losses to the deposit insurance fund were significantly higher than those experienced in the 1980s banking crisis, when no PCA framework was in place.

Another personal observation (not from the study) is that systemically important banks (SIBs) facing severe stress have rarely been subject to PCA or formal early intervention actions in either the United States or the European Union. In the United States, the banks subject to mandatory PCA triggers were mainly small institutions with extremely poor - and, in many cases, irretrievable - capital situations. In the European Union, there seems to be little evidence that the formal EIM regime was actually applied to weak institutions with a systemic relevance.

Interpreting the outcomes

So what are we to make of these outcomes and how does this inform the "rules versus discretion" debate in the context of early supervisory intervention?

The limited data points from the Financial Crisis indicate a pragmatic application of the early intervention rules in both the United States or the European Union. In both cases, the evidence suggests that, in practice, corrective actions taken against systemically important weak banks were addressed by supervisors using mainly their normal supervisory powers, which are typically more discretionary and discreet in nature.

Public disclosures of formal early intervention actions and the potential adverse effects such disclosures might have on financial stability may also have contributed to the use of more discreet supervisory powers in both the United States and the European Union.

Do these observations mean that supervisors did too little too late? In hindsight, there is little doubt that supervisors in some jurisdictions could have acted earlier and more forcefully to deal with weak banks before, during and immediately after the crisis.

Indeed, some observers question whether the lack of formal early intervention actions taken against weak banks that subsequently failed is an indication that excessive forbearance contributed to the failures. But such an analysis is likely to offer somewhat biased results as it ignores weak banks that did not subsequently fail. In other words, sometimes

discretionary gradualism - that is, discreet action taken under regular supervisory powers - if implemented appropriately in case-by-case situations, could also lead to bank recoveries.

As policymakers, we always need to weigh the costs of early intervention measures (ie the risk that premature, heavy-handed action may accelerate a bank's demise) against the benefits (ie promptly and forcefully addressing a bank's viability to reduce losses to the taxpayer). While a relatively rigid, rules-based early intervention framework may certainly reduce the scope for forbearance, it also places policymakers in a supervisory straitjacket, which may unduly constrain their ability to adopt the most effective means to maintain financial stability.

Regulatory and supervisory implications

Let me conclude by offering a few thoughts on the implications for the design and role of early intervention frameworks as well as on some key implementation challenges.

- First, supervisors must have the necessary powers to take a range of discretionary measures during the normal course of supervision (ie restrictions on dividends, the ability to require banks to hold more than the minimum regulatory requirements, restrict businesses and operations, limit compensation, remove board members etc).

- Second, effective discretionary-based supervisory actions should be taken well before a bank starts showing stress in its capital position. Various forward-looking, judgment-based supervisory tools that have been introduced post-crisis (such as supervisory review of business models, culture and behaviour, and supervisory stress tests) provide a tangible means of addressing problems at an early stage.

- Third, formal early intervention regimes, such as PCA and EIM, are useful backstops to discretionary-based, forward-looking supervisory tools. In particular, PCA-based triggers may be effective in extreme situations and can be a useful mechanism to limit supervisory forbearance and reduce losses to the deposit insurer. Nevertheless, supervisors need to retain sufficient flexibility in their use of enforcement tools in order to tailor the supervisory response to institution- and context-specific circumstances.

- Last but not least, close cooperation among all relevant players - supervisors, deposit insurers and resolution authorities - is particularly

> important in dealing with problem banks and indispensable in promoting the safety and soundness of the financial system. While fully respecting the specific responsibilities of the supervisory authority to assess banks' solvency and viability, all relevant safety-net players must be involved in some manner when supervisory action is taken against weak banks, and not only when those banks are subject to formal early intervention regimes or when they are failing or likely to fail.

In this spirit of cooperation and collaboration, I am delighted to see such a nice mix of supervisory authorities and deposit insurers around this table. This provides a unique opportunity for all of us to exchange views and share challenges; and I hope you will also have time, after our discussions close, to impose a "prompt intervention measure" on yourselves and enjoy the sights of Basel.

Number 7

Statement on the Equifax cyber incident

An NCSC statement on the Equifax cyber incident.

A spokesperson for the NCSC said:

"We are aware of a cyber incident affecting Equifax and are working with partners to understand any potential impact in the UK.

"It is always a company's responsibility to identify UK victims, and we support the Information Commissioner's call for them to notify any affected parties.

"At this stage it is best not to jump to conclusions about the scale of any UK impact. It can take some time to understand the true impact incidents like this, and we continue to investigate."

Further information

If anyone thinks they may have been a victim of a cyber crime they should contact Action Fraud: http://www.actionfraud.police.uk/

Members of the public can report a cyber incident using Action Fraud's online fraud reporting tool anytime of the day or night, or call 0300 123 2040.

Number 8

Young Faculty Award 2018 Research Topics Announced

DARPA has published its Young Faculty Award (YFA) 2018 Research Announcement, seeking proposals in 26 different topic areas—the largest number of YFA research areas ever solicited.

The YFA program aims to identify and engage rising stars in junior faculty positions in academia as well as equivalent positions at non-profit research institutions and expose them to national security challenges and needs.

The 2018 solicitation will provide high-impact funding to elite researchers early in their careers to develop innovative research directions that enable transformative Department of Defense (DoD) capabilities.

The long-term goal of YFA is to develop the next generation of scientists and engineers who will focus a significant portion of their future careers on DoD and national security issues.

“We’re excited to announce a large number of wide-ranging research topics spanning all six of DARPA’s technology offices,” said Tyler McQuade, acting director of DARPA’s Defense Sciences Office.

“Junior tenured and tenure-track assistant and associate professors from diverse disciplines have the opportunity to bring their expertise and innovative ideas to address science and technology challenges of interest to DARPA program managers. While these are fundamental research efforts, if successful, they may eventually yield breakthroughs that could give rise to revolutionary military and civilian technologies.”

The 26 YFA topic areas for 2018 are listed below. For detailed descriptions of teach topic see Para. I. E., “Topic Areas (TAs)” on P. 6 of the YFA Research Announcement (DARPA-RA-17-01) available at:

https://www.fbo.gov/index?s=opportunity&mode=form&id=a35ed12671b7cd68049406a6d150b45d&tab=core&_cview=0

- Designing Ungameably Complex Games
- Topological Photonics
- Artificial Intelligence for Materials Discovery
- Transformative Radiation Sensing
- Engineered Interactions with the Energy of the Vacuum
- Novel Methods for Nonsurgical Brain Interfaces
- Self-forming Chronic Central Nervous System (CNS) Neural Interfaces
- The Minimal Plant: Engineering Plants for Easy Biosynthetic Pathway Design with High Modularity
- Antifouling Solutions for Large, Nonplanar Optical Surfaces
- Replicating Cell-Cell Information Transfer
- Programmable DNA Repair for Improved Genome Editing Outcomes
- Efficient Integrated Nanophotonics
- Adversarial Artificial Intelligence (AI)
- Developing Intelligent Sensors for Fentanyl and Related Toxins
- High Quality Atomic Traps and Waveguides
- Wideband Efficiency in Millimeter Wave Power Amplifiers
- Materials and Actuator Innovation for Small Scale Mobility and Manipulation
- Reducing Software Attack Surface through Compiler-Rewriter Cooperation
- Computational Models of the Spread of False or Misleading Information
- Big Data Summarization
- Decentralized Control of Networked Unmanned Autonomous Systems
- REsilience through COmposable Logistics (RECOiL)
- Wide Area Sensing Using the Internet of Things
- Tactical Terrain Analysis
- Thermostructural Sensitivity to Uncertainties
- Swarm Intent Understanding

The Research Announcement (RA) solicitation seeks grant proposals for research activity consisting of a 24-month base period.

Each 12-month interval of the base period should not exceed $250,000.

Proposals should also include a 12-month option period with a maximum funding level of $500,000.

The 12-month option period, referred to as the "Director's Fellowship," will be reserved for a limited number of awardees who demonstrate exceptional YFA project performance over the 24-month base period. A target start date of July 2018 may be assumed for planning purposes.

Executive summaries are due Oct. 2, 2017, at 4 p.m. Eastern Time, and full proposals are due Dec. 4, 2017, at 4 p.m. Eastern Time. For all submission details, including eligibility, please refer to the RA here:

https://www.fbo.gov/index?s=opportunity&mode=form&id=a35ed12671b7cd68049406a6d150b45d&tab=core&_cview=0

Number 9

Basel III monitoring results published by the Basel Committee

BANK FOR INTERNATIONAL SETTLEMENTS

- All banks meet Basel III minimum and target CET1 capital requirements

- All G-SIBs meet both fully phased-in liquidity requirements

The Basel Committee today published the results of its latest Basel III monitoring exercise based on data as of 31 December 2016.

The Committee established a rigorous reporting process to regularly review the implications of the Basel III standards for banks, and it has published the results of previous exercises since 2012.

For the first time, the report provides not only global averages but also a regional breakdown for many key metrics.

Data have been provided for a total of 200 banks, comprising 105 large internationally active banks.

These "Group 1 banks" are defined as internationally active banks that have Tier 1 capital of more than €3 billion, and include all 30 banks that have been designated as global systemically important banks (G-SIBs).

The Basel Committee's sample also includes 95 "Group 2 banks" (ie banks that have Tier 1 capital of less than €3 billion or are not internationally active).

To read more:
http://www.bis.org/bcbs/publ/d416.pdf

Number 10

Mark Carney to chair two key BIS central bank groups

The Board of Directors of the Bank for International Settlements (BIS) has appointed Mark Carney, Governor of the Bank of England, as Chair of the Global Economy Meeting (GEM) and the Economic Consultative Committee (ECC), after consultations with members of the GEM. The appointment takes effect on 1 December 2017.

Mr Carney will succeed Agustín Carstens, who will step down as chair of the two groups when he takes up the post of General Manager of the BIS at the beginning of December. Mr Carstens has chaired the ECC and the GEM since 1 July 2013.

"Agustín Carstens has done an outstanding job chairing these two important groups, and we thank him for his contribution," BIS Board Chairman Jens Weidmann said. "We look forward to working with Mark Carney, a long-time member of the BIS Board since 2008, in his new role."

Mr Carney has been Governor of the Bank of England since 2013, and from 2008 to 2013 served as Governor of the Bank of Canada.

Global Economy Meeting

The Global Economy Meeting (GEM) comprises the Governors of 30 BIS member central banks in major advanced and emerging market economies that account for about four fifths of global GDP. The GEM has two main roles:

- monitoring and assessing developments, risks and opportunities in the world economy and the global financial system; and

- providing guidance to three Basel-based central bank committees - the Committee on the Global Financial System, the Committee on Payments and Market Infrastructures and the Markets Committee.

The GEM also receives reports from the chairs of those committees and decides on publication.

Economic Consultative Committee

The Economic Consultative Committee (ECC) is an 18-member group that supports the work of the GEM. Also led by the GEM Chair and comprising all Governors participating in the BIS Board meeting and the BIS General Manager, the ECC conducts analyses and prepares proposals for the GEM's consideration.

In addition, the ECC Chair makes recommendations to the GEM on the appointment of the chairs of the three central bank committees mentioned above and on the composition and organisation of those committees.

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www.risk-compliance-association.com/CRCMP_Jobs_Careers.pdf

You can find more information about the CRCMP program at:
www.risk-compliance-association.com/CRCMP_1.pdf
(It is better to save it and open it as an Adobe Acrobat document).

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This will give the opportunity to risk and compliance managers, officers and consultants to have access to instructor-led CRCMP and CISRCP training at convenient locations that meet international standards.

ATCCs use IARCP approved course materials and have access to IARCP Authorized Certified Trainers (IARCP-ACTs).
To learn more:
www.risk-compliance-association.com/Approved_Centers.html