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Monday, April 9, 2018

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 members and friends,

I must confess, I hate the word *interpretation*.

Friedrich Nietzsche believed that all things are subject to *interpretation*, and that whichever interpretation prevails at a given time, is a function of power and not truth.



Marcus Tullius Cicero has said that in doubtful cases, the more liberal *interpretation* must always be preferred.

The European Network and Information Security Agency (ENISA) gives a very interesting definition: “**Cyber threat intelligence** is the process and product resulting from the *interpretation* of raw data into information that meets a requirement as it relates to the adversaries that have the intent, opportunity and capability to do harm.”

According to ENISA, cyber threat intelligence as a discipline has its **roots** in incident response and traditional intelligence, and there are various definitions, including the one above. I was **surprised** to see that ENISA used an unusual (for the EU) reference: “CIA, A Definition of Intelligence, 1995”. Of course, ENISA is right (but the URL leading to the CIA document is wrong, something that is not spooky, it is an error.)

According to the SANS CTI Survey of 2017, 60% of the responders already utilize threat intelligence for detection and response, and 78% of them felt that it had **improved** their security and response capabilities.

Well ... I hope this is neither the result of cognitive bias, nor a systematic error of inductive reasoning.

The table below presents some of the properties of threat intelligence, incident response and security operations practices:

	THREAT INTELLIGENCE	INCIDENT RESPONSE	SECURITY OPERATIONS
Adoption	Early adoption phase	Mainstream since ~2010	Mainstream since ~2005
Focus	External threat monitoring	Security incidents and risk escalation	Notable security event monitoring
Best practices	Evolving best practices	Mature best practices	Mature best practices
Technology enablement	Limited technology enablement	Mature technology enablement	Mature technology enablement

Figure 1: Threat Intelligence, Incident Response and Security Operations practices [11]

Friedrich Nietzsche has also said that **necessity** is not an established fact, but an *interpretation*.

Read more at Number 6 below. Welcome to the Top 10 list.

Best Regards,

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*Number 1 (Page 7)***ESRB risk dashboard**

The risk dashboard is a set of quantitative indicators and not an early-warning system. Users may not rely on the indicators as a basis for any mechanical form of inference.

*Number 2 (Page 9)***INTERPOL holds first DarkNet and Cryptocurrencies Working Group**

Altcoins identified as serious law enforcement challenge



The rise of Altcoins, an alternative to Bitcoin, has been identified as an **emerging threat** by the first INTERPOL Working Group on DarkNet and Cryptocurrencies.

In recent years, INTERPOL has witnessed a sharp rise of phenomena such as DarkNet markets, cryptocurrencies and specific Bitcoin mixers and tumblers, which pose a major threat as they are not only limited to cybercrime, but cut **across a multitude of crime** areas.

Other challenges identified by participants included **cryptocurrency mixers, anonymization techniques, lack of altcoin tracing tools and decentralized escrow services.**

*Number 3 (Page 11)***Designing a Regulatory and Supervisory Roadmap for FinTech**

The timing of this event is particularly apt to discuss FinTech developments, and the related challenges for banking regulators and supervisors.

Number 4 (Page 13)

Which new frontiers in banking?

Salvatore Rossi, Senior Deputy Governor of the Bank of Italy, at the 2018 Conference on "New Frontiers in Banking: from Corporate Governance to Risk Management", Faculty of Economics, La Sapienza University, Rome.



“Let's start with size. After the global financial crisis, banking systems in the large advanced economies have undergone a substantial consolidation process.”

Number 5 (Page 17)

Preserving regulatory certainty: The review of insurers' capital requirements

Gabriel Bernardino, Chairman of the European Insurance and Occupational Pensions Authority (EIOPA), Public Hearing “2018 Review of the Solvency II Delegated Regulation”, Brussels.



The introduction of Solvency II was a challenge and the biggest change in the history of the European insurance industry.

We will all agree that the implementation of the risk-based regulatory regime in 2016 was a significant improvement compared to the previous

framework and brings a number of benefits for the insurance industry and importantly for the consumers.

Number 6 (Page 23)

ENISA publishes the first comprehensive study on cyber Threat Intelligence Platforms

ENISA has released the first comprehensive study on cyber *Threat Intelligence Platforms (TIPs)* focused on the needs of consumers, users, developers, vendors and the security research community.



The study channels its efforts into identifying some of the key **opportunities and limitations** of existing platforms and solutions, since information exchange formats and tools remain central items on the agenda of the cybersecurity community in general, and particularly of incident responders.

Number 7 (Page 25)

The General Board of the European Systemic Risk Board (ESRB) held its 29th regular meeting on 22 March 2018



The General Board noted that stronger and more broad-based economic growth has improved the risk outlook for the stability of the EU financial system.

However, **tail risks** remain elevated amid significant political, geopolitical and policy uncertainties.

Those uncertainties could act as **triggers** for the underlying vulnerabilities, in particular as regards the risk of a re-pricing of risk premia in global markets leading to a rise in yields, which could potentially have a negative impact on debt sustainability in the public and private sectors.

*Number 8 (Page 27)***Keynote speech**

Katja Wuertz, Head of Consumer Protection Department at the European Insurance and Occupational Pensions Authority (EIOPA), at the European Consumer Protection Conference, Prague.



“Perhaps the **most critical** part of getting these outcomes, however, is **what we term ‘conduct of business’** – that is, how insurance undertakings and pension providers do business.”

*Number 9 (Page 33)***Federal Reserve System publishes annual financial statements***Number 10 (Page 35)***Progress in Quest to Develop a Human Memory Prosthesis**

Researchers used patterned stimulation derived from patients’ own neural activity to facilitate encoding of episodic memories



DARPA launched the Restoring Active Memory (RAM) program in November 2013 with the goal of developing a fully implantable, closed-loop neural interface capable of **restoring normal memory function** to military personnel suffering from the effects of brain injury or illness. Just over four years later, the program is returning remarkable results.

*Number 1***ESRB risk dashboard**

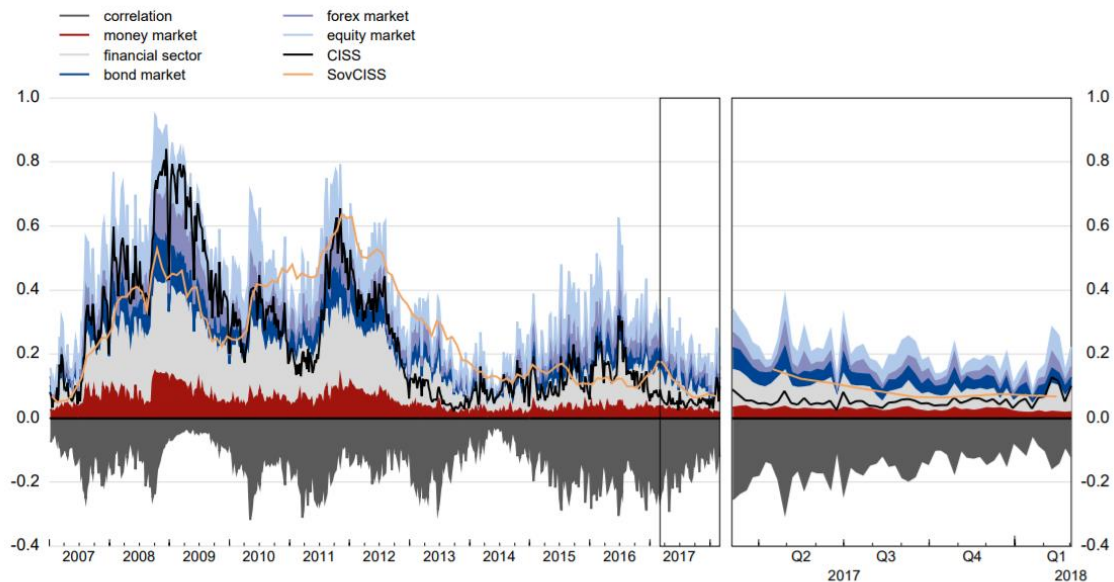
The risk dashboard is a set of quantitative indicators and not an early-warning system. Users may not rely on the indicators as a basis for any mechanical form of inference.



The ESRB risk dashboard is a set of quantitative and qualitative indicators of systemic risk in the EU financial system.

1.1 Composite indicator of systemic stress

(Last observation: 2 Mar. 2018)



Sources: Thomson Reuters, ECB and ECB calculations.

Notes: The CISS is unit-free and constrained to lie within the interval (0, 1). See Hollo, D., Kremer, M. and Lo Duca, M., "CISS - a composite indicator of systemic stress in the financial system", Working Paper Series, No 1426, ECB, March 2012. The Sovereign CISS applies the same methodological concept of the CISS. On aggregation of different measures of stress in different euro area sovereign bond markets see Garcia-de-Andoain, C. and Kremer, M., "Beyond spreads: measuring sovereign market stress in the euro area", Economics Letters, Vol. 159, 2017, pp. 153-156.

The composition and the presentation of the ESRB risk dashboard have been reviewed in the first quarter of 2017.

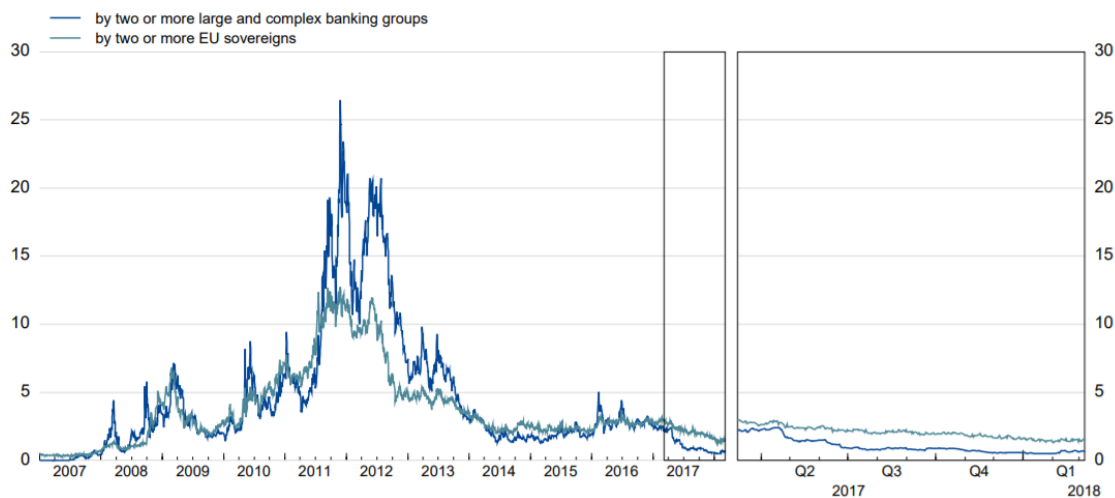
Unless otherwise indicated:

a) all EU indicators relate to the 28 Member States of the EU (the EU28) and

b) all data series relate to the Euro 19 (i.e. the euro area) for the whole time series.

1.2 Probability of a simultaneous default

(Percentages; last observation: 6 Mar. 2018)



Sources: Bloomberg, Thomson Reuters and ECB calculations.

Note: See Box 8, Financial Stability Review, ECB, June 2012.

For statistics based on the balance sheet of the MFI sector, as well as statistics on financial markets and interest rates, the series relate to the composition of the EU/euro area in the period covered (changing composition). Statistics based on the balance sheet of the MFI sector are unconsolidated.

Additional indicators to support the systemic risk assessment in the EU financial system are available in the Macroprudential Database:

<http://sdw.ecb.europa.eu/browse.do?node=9689335>

To read more:

https://www.esrb.europa.eu/pub/pdf/dashboard/esrb.risk_dashboard180329_23.en.pdf?197f19d7444592afbbeebe229de20180



*Number 2***INTERPOL holds first DarkNet and Cryptocurrencies Working Group***Altcoins identified as serious law enforcement challenge*

The rise of Altcoins, an alternative to Bitcoin, has been identified as an **emerging threat** by the first INTERPOL Working Group on DarkNet and Cryptocurrencies.

In recent years, INTERPOL has witnessed a sharp rise of phenomena such as DarkNet markets, cryptocurrencies and specific Bitcoin mixers and tumblers, which pose a major threat as they are not only limited to cybercrime, but cut **across a multitude of crime** areas.

Other challenges identified by participants included **cryptocurrency mixers, anonymization techniques, lack of altcoin tracing tools and decentralized escrow services.**

Held at the INTERPOL Global Complex for Innovation in Singapore, in cooperation with the Bavarian Ministry of Justice (Germany), the working group gathered 39 participants representing 18 member countries and Europol.

During the two day (15 and 16 March) meeting, police officers shared case examples of global Darknet and cryptocurrency investigations, along with the technical and legal challenges they face in various national contexts.

Participants overwhelmingly agreed on the importance of networking and information sharing to maximise investigative resources and avoid duplication of efforts.

The Working Group discussed the use of commercial and law enforcement developed **forensic tools** and their benefits when investigating criminal cases.

Other recommendations included the use of knowledge databases and the creation of [international investigation guides](#).

Anita Hazenberg, Director of the INTERPOL Innovation Centre, echoed the idea and encouraged active collaboration through the Working Group, which will serve as a global platform in fighting criminals who seek to exploit the evolution of anonymization techniques.

The meeting also affirmed that capacity building and training on DarkNet and cryptocurrencies was crucial to ensuring that investigators keep up with the evolution of forensic tools and techniques.

The second Working Group will be held in [October 2018](#) in Germany.



Number 3

Designing a Regulatory and Supervisory Roadmap for FinTech



A taxonomy of regulatory approaches to FinTech

The timing of this event is particularly apt to discuss FinTech developments, and the related challenges for banking regulators and supervisors.

Yesterday, the [European Commission](#) issued its comprehensive and ambitious FinTech Action Plan, which includes several mandates for the EBA.

Next week, the EBA will publish its [Roadmap on FinTech](#), which defines a series of priorities for the coming two years, reflecting the results of a public consultation on our Discussion Paper launched in August 2017 and the new mandates under the Action Plan.

Before moving into the core elements of our Roadmap, I would like to share with you some thoughts on the attitudes of public authorities towards FinTech.

The policy debate on technological and financial innovation often focuses on [two opposite](#) approaches.

[The first](#), which I label “regulate and restrict”, entails the attraction of any new product, process or business model under the remit of existing rules, often coupled with the outright ban of innovative business that doesn’t fit into the rulebook.

Market dynamics are constrained and innovators forced to adapt to the existing regulatory environment.

[The second](#) approach, which sits at the other end of the spectrum, can be represented by the motto “let things happen”. It has its roots in the strongly held belief that a dynamic financial sector needs some breathing space to

innovate, free from the burden of regulation and the intrusive oversight of public authorities.

It allows new players to conduct bank-like business in an unregulated environment and to **experiment freely** new products and business practices.

This is what happened in the US at the beginning of this century, when the liberal attitude adopted by the authorities allowed the so-called “**non-bank banks**” to compete with regulated banks in a number of areas, without having to comply with the same requirements.

To read more:

<http://www.eba.europa.eu/documents/10180/2151635/Andrea+Enria%27s+speech+on+FinTech+at+Copenhagen+Business+School+090318.pdf>



*Number 4***Which new frontiers in banking?**

Salvatore Rossi, Senior Deputy Governor of the Bank of Italy, at the 2018 Conference on "New Frontiers in Banking: from Corporate Governance to Risk Management", Faculty of Economics, La Sapienza University, Rome.



In the banking business, the concept of frontier - and its crossing - can be intended in several ways.

Let's start with size. After the global financial crisis, banking systems in the large advanced economies have undergone a substantial consolidation process.

The number of small banks has decreased; concentration ratios - measured as the share of banking system assets held by the largest five banks - have increased both in the euro area and in the United States. In Italy, at the end of 2016, the share of total assets accounted for by the five largest banks amounted to 43 percent.

This process is still under way, and will presumably continue in the foreseeable future.

It's not always a good thing. From a financial stability perspective, big banks should ideally be highly diversified and less exposed to idiosyncratic risks.

However, the **Lehman crisis** proved that big banks may end up holding very similar portfolios, in which case they might become more vulnerable to adverse systemic shocks. In other words, the reduction in idiosyncratic risk might come at the cost of an increase in total risk on their balance sheets.

Furthermore, the bigger a bank, the greater the "implicit subsidy" it enjoys in terms of higher likelihood to be rescued in case of distress, either being bailed out or, in Europe, resolved rather than liquidated. It's the well-known "too-big-to-fail" problem.

All in all, big banks are not necessarily safer from a systemic perspective. It's something that should be evaluated case by case.

What about business models? Another "new frontier" for the bank of the future could be a fundamental change in its business model, for instance from traditional retail banking to asset management or corporate/investment banking.

The issue there is profitability, and it has very much to do with rules. The current weakness in bank profitability, particularly in Europe, not only depends on macroeconomic cyclical factors, which were very unfavorable in past years, but also on the new requirements in terms of capital and liquidity, that were the regulators' response to the excessive risk-taking of the pre-crisis era.

I don't think the banking sector could ever be back to the double-digit returns of the past 20 years. It may rather converge to a "new normal" with more low- consuming-capital activities. In any case, a sustained profitability must require cutting operational costs, as well as a lot of investment in new technologies.

New technologies are probably the most important new frontier for banks, and I will dwell on them in a minute.

Let me first widen the topic of this roundtable a little bit, to the financial system at large. Banks aren't the only financial players, nor should they be, in perspective, the largely dominant ones, at least in countries like Italy.

In this country the financial structure is already evolving, though at a still moderate pace. Non-financial firms, especially the biggest ones, are now using equity and bond markets much more than in the past for their financial needs, although still not enough, in my opinion.

But in Italy we may need not just more markets. Non-bank intermediaries, such as private equity and venture capital funds, are still underrepresented in the financial landscape.

However, from a prudential point of view there's a delicate balance to strike between a more articulated financial structure, which is desirable per se, and the need not to give "shadow banking" unlimited freedom. We are working, together with our colleagues in the world regulatory circles, on such a difficult puzzle.

Let me conclude with some words on the third and most important new frontier that I've mentioned before for the financial system: technology. Again I'll look at this issue from a regulatory point of view.

We are observing how digitalisation is already changing the financial business. Although many of our intermediaries, particularly the smallest ones, are lagging behind in the process of digitalisation, the road ahead is clear: we are talking about technologies that are well consolidated, they are not "new" anymore.

Fintech firms are a step forward. In a stricter sense, Fintech firms are new players aiming at crowding out traditional intermediaries like banks. Banks are reacting in different ways: some are buying Fintech start-ups and trying to internalize them in their business models, others are establishing partnership agreements and externalizing part of their production function, others are trying to internally develop Fintech-like business units. We don't know which approach will prevail.

What we know is that part of the intermediation chain and of the payment system is moving outside the traditional financial ecosystem. Incumbents are feeling the pressure of these changes.

The potential for efficiency gains, increased accessibility to financial services and lower end-user costs are great, but great opportunities always come with great risks. Safeguarding against risks without curbing innovation is the challenge regulators will face in the near future.

Existing rules have been designed for traditional activities and intermediaries. It is more and more difficult to understand how, when, and to which agents they can be applied.

The temptation to over-regulate, minimizing the risks at the expenses of innovation, may be great. This, however, would not only be against the public interest, but also probably impossible, given the liquid nature of innovation. What regulators may reasonably do is to adopt a pragmatic, flexible approach, coordinated

across jurisdictions and based on a continuous dialogue with the industry, as was recently suggested by the FSB.

For the time being, approaches and stages of development vary considerably across jurisdictions. The majority of supervisors are still in the early stages of understanding the new phenomena.

Continued sharing of supervisory practices in this area is crucial.



*Number 5***Preserving regulatory certainty: The review of insurers' capital requirements**

Gabriel Bernardino, Chairman of the European Insurance and Occupational Pensions Authority (EIOPA), Public Hearing “2018 Review of the Solvency II Delegated Regulation”, Brussels.



Ladies and Gentlemen,

I would first like to thank Vice-President Valdis Dombrovskis for the invitation and his welcoming words. For me it is of course a great pleasure to address today's audience about the revision of solvency capital requirements.

The introduction of **Solvency II** was a challenge and **the biggest change in the history of the European insurance industry**.

We will all agree that the implementation of the risk-based regulatory regime in 2016 was a significant improvement compared to the previous framework and brings a number of benefits for the insurance industry and importantly for the consumers.

Thanks to Solvency II, the insurance industry is now **much stronger**, has capital better aligned to the risks, uses a risk-based approach to assess and mitigate risks and can therefore better price them.

The insurance industry has also **strengthened the governance** models, with the requirements to establish key functions and greater involvement of Boards which are now playing a completely different role.

This increases the understanding of the business and risk environment in which the insurance companies are operating.

With harmonised templates for supervisory reporting and enhanced public disclosure, the insurance industry has also become a more transparent

industry.

Two years after the implementation of the framework, and following the principles of better regulation, we are now [on a journey to assess and review its main components](#).

In this review we looked at the balance between simplicity and risk sensitiveness, between using market consistency and mitigating procyclicality and volatility.

We need to make sure that the regime [remains fit](#) for purpose, works for insurance companies of all sizes and types and that we continue to preserve regulatory certainty.

The first phase of preserving and continuously improving the existing regulation was the completion of the Solvency Capital Requirement (SCR) standard formula review.

In our Advice, split into two parts, we have analysed 29 topics and focused [on three main areas](#):

- Increasing proportionality
- Removing unjustified constraints to financing the economy
- Removing technical inconsistencies

With regard to proportionality, our focus was on small and medium sized insurers and reduced granularity where risk profiles justified this.

We advised to [further simplify](#) calculations for a number of sub-modules such as natural, manmade and health catastrophes, in particular fire risk and mass accident.

To [reduce over-reliance of insurance undertakings on external credit ratings](#) in the calculation of the SCR, EIOPA recommended applying simplified calculations by nominating only one credit rating agency and calculating capital requirements for the remaining non-complex assets only subject to credit quality step 3.

One of the main simplifications is the reduced burden on the treatment of look through to underlying investments.

Access to data was always an issue and we recommended allowing the grouping of underlying exposures and simplifications for the calculation of capital requirements.

This change should be a [significant relief](#) in terms of administrative burden.

Other simplifications included relief in the assessment of lapse and counterparty default risks.

Furthermore, we included a proposal for the use of [undertaking specific parameters](#) for reinsurance stop-loss treaties to allow for better reflection of the risk profile.

To contribute to the objectives of the Capital Markets Union and to remove potential unjustified constraints to financing the economy, EIOPA carried out an analysis of the treatment of unrated debt and unlisted equities to support improving insurers' ability to invest in private placement offerings and in private equity.

As for infrastructure, we [identified circumstances](#) and recommended objective criteria, such as financial ratios, that allow giving those asset classes the same treatment as rated debt and listed equity without having a negative impact on the protection of policyholders.

The availability of more recent data required revised calibrations in a number of areas such as natural catastrophe risks, assistance and medical expenses, as well as legal expenses risks.

EIOPA also advised to create a [new asset class](#) for non-listed guarantees issued by regional governments and local authorities to align insurance with the banking framework and by that to ensure improved risk sensitivity of the calculations.

Let me now address [three remaining](#) topics that I have not yet touch upon and are a substantial part of our Advice:

- Interest rate risks
- Loss-absorbing capacity of deferred taxes
- Risk margin

In the area of the calculation of interest rate risks, the capital requirements

were calibrated with data up to 2008. This current approach does not cater for negative interest rates and is not effective in the new world with low yield environment.

For this reason, we recommended to implement new calibrations that take recent evidence such as negative rates into account.

The proposed approach is [effective at both, high and low level of interest rates](#), was recommended by the vast majority of stakeholders and has already been adopted by internal model users.

Given the material impact on the capital requirements for certain types of insurers, EIOPA suggested to implement the methodology gradually over three years to mitigate the impact.

EIOPA also carried out an analysis of the [loss-absorbing capacity of deferred taxes \(LAC DT\)](#) across the European Economic Area including supervisory and industry practices.

The results of the analysis showed that similar practices are applied with respect to 75% of the around 100 billion euros of LAC DT.

But for the remaining 25%, insurers' and supervisors' practices were divergent.

In order to strike a [reasonable balance](#) between flexibility and to foster greater supervisory convergence, we developed a set of key principles, consistent with the Solvency II framework, that allow proportionality and flexibility in the calculation while increasing the comparability of outcomes.

For example they refer to projections of future fiscal results that should be consistent with the business plan or to the projection of future return on assets that should be prudent and backed by evidence.

In some areas the analyses of recent developments didn't provide for sufficient reason to change the calibrations.

That is the case for [mortality and longevity](#) risks, but also for the [cost-of-capital](#), one of the key elements of the risk margin.

An in-depth assessment of several methodologies showed the results can vary significantly according to the methodology which calls for a stable methodology to avoid introducing regulatory volatility.

The evolution of financial markets does not justify a change in the cost of capital: the decrease of interest rates has not led to a decrease in the cost of raising equity.

Therefore, we are of the opinion that [the cost-of-capital needs to be kept on the same level](#) while the review of other aspects of the risk margin should be assessed in the upcoming overall review of the Solvency II regime scheduled for 2021.

Ladies and Gentlemen,

Our work is the outcome of intensive research and continuous engagement with [stakeholders](#) during the entire exercise.

We are grateful to all stakeholders for the constructive approach on how to improve the current regulatory framework.

The goal of the review was to [detect areas for improvements and simplifications](#) as well as to remove inconsistencies where possible.

Through all our work we have been guided by evidence and facts.

Reflecting developments in the insurance sector and in the wider financial services environment, EIOPA recommended a mixture of revised calibrations, simplifications and, where needed, proposals to achieve greater supervisory convergence.

Overall and leaving aside the advice on interest rate risk, EIOPA's proposals [do not lead to significant changes](#) in terms of capital requirements but will bring significant improvements for the industry, in particular reducing burden for smaller market players.

EIOPA continues to believe that proportionality in solvency requirements should be achieved by the use of simplified methodologies and that all undertakings should be subject to the same quantitative solvency requirements.

We also believe that [unjustified constraints](#) to long-term financing should be removed as long as the protection of consumers is not questioned.

The core values of stability and consumer protection that presided to Solvency II should not be abandoned.

With the changes proposed in our two sets of Advice, accompanied by a full impact assessment, we are convinced that complexity will be reduced while at the same time a proportionate, technically robust, risk-sensitive and consistent supervisory regime for the insurance sector is retained.

In changing economic circumstances these adjustments to the capital requirements are necessary and will help the insurance industry to stay a competitive and strong industry responsive to the environments and treating consumers fairly.

This is in particular the case for the interest rate risk, where the insurance industry cannot leave in a Solvency II world that does not cater for negative rates observed for several years.

With these two sets of Advice to the European Commission, EIOPA, as an independent supervisory Authority, fulfils its duty by recommending evidence based changes which are in line with economic reality.

I am fully aware changes are not necessarily always welcomed.

But approaching them together constructively they will bring the changes for the protection of the European consumers, which each individual consumer deserves.

Furthermore, a solid and stable insurance sector is a precondition for economic growth and sustainable long-term investment.

The proposed adjustments will reinforce Solvency II as a modern, risk-based and proportionate regime; a European regime that is the worldwide reference on insurance regulation.

Thank you very much for your attention and I am looking forward to interesting discussions in the different panels of today's agenda.



Number 6

ENISA publishes the first comprehensive study on cyber Threat Intelligence Platforms

ENISA has released the first comprehensive study on cyber *Threat Intelligence Platforms (TIPs)* focused on the needs of consumers, users, developers, vendors and the security research community.



The study channels its efforts into identifying some of the key **opportunities and limitations** of existing platforms and solutions, since information exchange formats and tools remain central items on the agenda of the cybersecurity community in general, and particularly of incident responders.

The project came as an acknowledgment of the increasing demand for relevant and **'context aware' security data**, as information security management is becoming a key component of any modern organisation.

For the purpose of this project, ENISA has engaged leading field experts and has performed a research of existing tools, practices and TIPs academic literature.

The report concludes with a series of actionable findings and recommendations, so that current TIPs limitations are addressed and overcome.

Furthermore, the report presents a **detailed overview of the users** of these platforms, the main functional areas of TIPs as well as the current landscape of the TIPs used globally by different teams (CTI teams, SOCs, CSIRTs/CERTs, ISACs, etc.).

The report concludes with a series of recommendations addressed to users and organisations, TIPs developers and vendors as well as the research community and academia.

ENISA recommends organisations to focus on their specific requirements and needs before developing and deploying TIP solutions.

In addition, ENISA strongly **encourages organisations to check** if the different cyber intelligence activities they undertake are enabled by technology platforms and systems.

Moreover, organisations are encouraged to invest time on Proof of Concepts with an open source TIPs, to familiarize themselves with the benefits of such systems, before making any significant financial investment.

ENISA encourages TIPs solution developers to focus more on enhancing TIP analysis capabilities by providing efficient threat triage and relevancy assessment.

In addition, TIPs should come with **more flexible** and usable trust modelling functionalities.

Furthermore, TIPs developers and vendors are encouraged to provide threat information consumers with functionalities allowing them to be informed in case the confidence and accuracy of the shared information is not guaranteed by the source.

ENISA calls upon the research community and academia to continue pursuing and investigating the benefits of TIPs, and the means by which these platforms may mature further.

As a centre of expertise in the field of cyber security, ENISA will continue to monitor the evolution of threat intelligence platforms and services, as part of the Agency's commitment to contribute to a more secure and safe cyberspace.

The full report can be consulted at:

<https://www.enisa.europa.eu/publications/exploring-the-opportunities-and-limitations-of-current-threat-intelligence-platforms>



*Number 7***The General Board of the European Systemic Risk Board (ESRB) held its 29th regular meeting on 22 March 2018**

The General Board noted that stronger and more broad-based economic growth has improved the risk outlook for the stability of the EU financial system.

However, [tail risks](#) remain elevated amid significant political, geopolitical and policy uncertainties.

Those uncertainties could act as [triggers](#) for the underlying vulnerabilities, in particular as regards the risk of a re-pricing of risk premia in global markets leading to a rise in yields, which could potentially have a negative impact on debt sustainability in the public and private sectors.

Increased regulatory capital ratios and improved asset quality, together with strengthening economic growth, have contributed to [improving risk outlook for the EU banking system](#).

[Nonetheless, vulnerabilities persist](#) in some Member States' banking systems in the form of high – albeit decreasing – NPLs, low profitability and overcapacity that continue to require attention.

The General Board exchanged views on the major trends in macroprudential policy in the EU in 2017.

Most Member States had taken some macroprudential policy measures and most of these measures were of a tightening nature and aimed at addressing cyclical risks.

The most frequently used instruments over the past year were the systemic risk buffer, the cap on the loan-to-value ratio and the countercyclical capital buffer. The ESRB will publish its [“Review of Macroprudential Policy in the EU in 2017”](#) in the second quarter of 2018.

A healthy (re)insurance sector is essential for the functioning of a modern market economy and contributes to economic growth and financial

stability. The new EU-wide microprudential framework for (re)insurance, set out in the [Solvency II Directive](#), has been a big step forward and makes the EU (re)insurance sector more resilient.

Nonetheless, macroprudential policy that looks beyond individual (re)insurers and deploys measures and instruments to target systemic risks might need to be further developed.

To this end the General Board discussed a conceptual framework for analysing, identifying, mitigating and preventing the main systemic risks stemming from the insurance sector.

This work will be continued by looking into how current insurance regulation already helps to address the main systemic risks in insurance and by considering possible additional measures/instruments to be included in the upcoming Solvency II review.

Finally, the General Board discussed the adverse scenario prepared jointly by ECB staff and the [ESRB Task Force on Stress Testing](#) for the 2018 EU-wide insurance stress test by the European Insurance and Occupational Pensions Authority (EIOPA).

The ESRB will release the 23rd issue of its risk dashboard today. The risk dashboard is a set of quantitative and qualitative indicators of systemic risk in the EU financial system.



Number 8

Keynote speech

Katja Wuertz, Head of Consumer Protection Department at the European Insurance and Occupational Pensions Authority (EIOPA), at the European Consumer Protection Conference, Prague.



Ladies and Gentlemen, thanks to the organisers for inviting me.

Since the very start of EIOPA we have said that consumer protection is at [the heart](#) of our work.

Indeed, I think strong and positive consumer outcomes will always be the most fundamental measure of our success.

In getting these outcomes, ensuring prudentially sound insurance and pensions markets across the European Union is only part of the solution – though solvent firms that you can rely on to do the right thing, whether they are local and known to you, or foreign and unknown, are the basic foundation on which we build.

Perhaps the [most critical](#) part of getting these outcomes, however, is [what we term ‘conduct of business’](#) – that is, how insurance undertakings and pension providers do business.

How they design products and services. How they market those products. And how those who sell or provide financial advice go about their business.

On conduct of business I think [much remains to be done](#).

The outcome we seek is easy to define: fair treatment of consumers.

Put simply this perhaps sounds obvious and easy.

Making the customer happy should be a proverbial ‘win-win’ for firms.

And on paper I think everyone is (more or less) signed up to the core principles that drive fair treatment, such as acting in the best interest of customers and avoiding or mitigating conflicts of interest.

Yet in practice, this is much harder than it seems.

Today, I will touch on our work in this area both from the regulatory and from the supervisory perspectives, to give a sense of where EIOPA is heading on these two levels and why.

First, the regulatory side.

Here there has been much done in the last years, and when taken together I think this amounts to a revolution – [Solvency II](#), [Insurance Distribution Directive \(IDD\)](#), [Regulation on Packaged Retail Insurance-based Investment Products \(PRIIPs\)](#).

The new regulation ensures coherence and consistency in the same broad principles across the whole European Union, addressing such areas as the avoidance and management of conflicts of interest, transparency of services and products, product oversight and governance, fair remuneration and commissions, and strong rules on the quality and substance of financial advice.

Of course, there is much still to do to finish this work, to bed the new regulatory structure down, and to find and address the practical issues that arise in implementing it.

However, for now the policy design work has been mostly completed, and a common regulatory framework is mostly in place.

From our perspective, we strive now for convergence in interpretation and implementation.

We anticipate [material divergences](#) that are not always justified by differences between national markets or in line with the flexibility foreseen in the regulation for the specifics of national implementation.

The consequence we are concerned about is divergences in consumer protection standards, putting consumers at risk and undermining the single market.

For this reason, we are and will continue to put significant resources working alongside national competent authorities (NCAs) in convergence, for instance through developing so-called 'Q&As' on technical issues, but also more behind the scenes in brokering exchanges of view and convergence in interpretation amongst NCAs.

Ultimately, this should filter down to the industry and the consumer – more consistency in understanding the rules, more predictable and reliable implementations.

This is hard, practical work towards the so-called 'single rule book', which will dominate our agenda on the regulatory side of conduct of business for the coming years.

Examining this work in detail, you will see however, already our shift in focus begins from 'regulation' to 'supervision', my second theme.

When I think of regulation, it is important to underline that I am not thinking only about how to read and apply detailed rules but also about outcomes and overarching principles.

The new frameworks such as the IDD recognise – though they still contain a mixture of measures - a general shift away from so-called 'tick box' approaches towards a focus on 'outcomes' and principles-based regulation.

This latter foregrounds high-level concepts and outcomes aimed to ensure that firms systematically take responsibility for the end consumer and ensure the right products are being sold to the right consumers.

In short, there is no 'one size fits all' solution, no regulatory silver bullet, but rather a common framework or toolbox, which also places a greater and much stronger emphasis on practical implementation and judgement - both for firms and for supervisors.

The new regulatory framework puts new challenges on NCAs, just as firms.

In this context, EIOPA has already placed a stronger emphasis on building supervisory capacity and convergence in practical conduct supervision.

This is both because of the challenges of the new framework, but also because of the specific challenges supervisors face in identifying and reacting to conduct risks before these mushroom and have deeper and wider consequences.

The financial crisis was born in part from the misunderstanding of conduct risks – such as poor lending decisions – and how these can accumulate to systemic levels.

[This needs to be avoided in the future.](#)

For EIOPA this means focusing on embedding across all markets a strong risk based and preventative approach at NCAs. This by its nature needs to be led by and rooted in market and product expertise and intelligence: NCAs that know their markets deeply and understand how evolving business models can lead to sudden eruptions in conduct risk.

This is perhaps a shift from recent times, where the focus has been rather more on prudential issues without looking carefully at what business models mean in terms of practical products and services and the value these bring to consumers.

[We recognise that this is demanding.](#)

Further development is needed and supervisory capacities need building.

Market monitoring and market intelligence has to improve, and there needs to be much better transparency from a conduct perspective.

We also need better common ways of talking about conduct risk, of where these are and what they are.

We have to put in place stronger ways of assessing them, more sophisticated techniques.

We have to have [better data and the analytic capacity to know what it is telling us, and what it cannot say.](#)

To help get there, I believe we should require a fuller use by NCAs of the full range of supervisory tools for conduct purposes – routine conduct risk assessments, targeted use of thematic reviews and deep-dives, use of mystery shopping, onsite conduct supervision, where this is relevant.

And indeed, we have to execute enforcement: reliable, predictable action when issues arise. EIOPA is committed to do its part, to support NCAs in building their capacity in this area, including by visiting NCAs, country by country, to solely focus on conduct aspects, and including by fostering greater information and experience sharing amongst NCAs.

EIOPA is also committed to building analytic tools and perspectives to improve transparency, building on its annual consumer trends work, but also its work on thematic reviews and on retail risk indicators.

This may seem like a lot of work given the real risks for consumers.

But the **real impact** for consumers of conduct failings can be life changing in a negative way, in view of the central role that the insurance and pensions sectors have in personal financial risk management and the increased exposure we all have personally to the impacts of the decision we make.

In addition, a failure to properly and demonstrably reduce conduct risks is likely to mean continued fragmentation in the single market, continued higher costs across the European Union, continued poor trust in financial services, and all of the inefficiencies in capital markets that flow from this.

Europe will continue to fail to fulfil its potential, and in an increasingly competitive global market this is not sustainable.

I would like to finish with a few words on Insurtech and Brexit, because both underline, as specific examples, how important our work on conduct risk assessment and practical supervisory convergence are.

First Insurtech.

The need for a strengthened commitment across the European Union to credible conduct supervision has particular importance in the context of an environment of disruption.

It may well be that we move from a period in which **regulatory change was the main engine** of disruption to one in which changes in business models are the main engine of disruption.

This can be both good and bad for consumers: new business models and the technologies that enable them may well mitigate some of the conduct risks we have struggled with in the past.

But you can be certain they will bring new conduct risks with them as well.

EIOPA does not have the answers – yet. But EIOPA is committed to ensuring European Union NCAs are not ‘behind the curve’ and are well placed to understand and react in a coordinated way to the new emergent challenges.

We have a specific task force aimed at Insurtech.

We also have begun, and will continue, a programme of engagement with all relevant stakeholders.

You will hear more on this over the coming years.

Second Brexit.

This raises particular stresses and strains, on issues such as contract continuity, but also in view of the impact it can have on the single market and the dangers of regulatory arbitrage arising should firms decide to relocate and start jurisdiction shopping.

In such a situation coordination and convergence are even more critical, as conduct risks can quickly escalate to widespread consumer detriment.

EIOPA is therefore already working hard with NCAs to ensure consumers are not the ones to pay the price of Brexit through broken promises or falling standards.

Thank you very much for your attention.



*Number 9***Federal Reserve System publishes annual financial statements**

The Federal Reserve System on Friday released the 2017 combined annual audited financial statements for the Federal Reserve Banks, as well as statements for the 12 individual Federal Reserve Banks and the Board of Governors.

An independent public accounting firm engaged by the Board has issued unqualified opinions on the financial statements and on the Board's and the Bank's internal controls over financial reporting.

The Federal Reserve Banks' [2017 earnings were approximately \\$80.7 billion](#). The Reserve Banks provided for remittances to the U.S. Treasury of \$80.6 billion in 2017.

Interest income on securities acquired through open market operations totaled \$113.6 billion, an increase of \$2.5 billion from the previous year.

Interest expense on depository institutions' reserve balances and term deposits during the year was \$25.8 billion, an increase of \$13.8 billion from the previous year.

Interest expense on securities sold under agreements to repurchase was \$3.4 billion, an increase of \$2.2 billion from the previous year. Gains from the daily revaluation of foreign currency denominated investments were \$1.9 billion.

Reserve Bank operating expenses were \$6.8 billion, including assessments of \$2 billion for Board expenses, currency costs, and the operations of the Bureau of Consumer Financial Protection.

The audited financial statements provide a significant amount of information about the assets, liabilities, and earnings of the Reserve Banks and the Board as of December 31, 2017, including information about the composition, fair value, and [earnings related to the \\$4.4 trillion](#) of U.S.

Treasury securities, government-sponsored enterprise (GSE) debt securities, and federal agency and GSE mortgage-backed securities acquired through open market operations.

The Federal Reserve Bank of New York provides additional detailed information about open market operations and securities holdings on an ongoing basis on its website at

www.newyorkfed.org/markets/pomo_landing.html

Total Reserve Bank assets as of December 31, 2017, were approximately **\$4.4 trillion**, which was similar to the balance on December 31, 2016.

The Board engages KPMG LLP, an independent public accounting firm, to conduct annual audits of these financial statements in accordance with auditing standards issued by the American Institute of Certified Public Accountants, the [Public Company Accounting Oversight Board](#), and, for the Board of Governors audit only, the Generally Accepted Government Auditing Standards.

The public accounting firm also conducts audits of internal controls over financial reporting for the 12 individual Federal Reserve Banks and the Board of Governors. The Federal Reserve is unique among large central banks in requesting an external audit of its internal controls over financial reporting.

The Federal Reserve System financial statements are available on the Federal Reserve Board's website at:

www.federalreserve.gov/monetarypolicy/bst_fedfinancials.htm



*Number 10***Progress in Quest to Develop a Human Memory Prosthesis**

Researchers used patterned stimulation derived from patients' own neural activity to facilitate encoding of episodic memories



DARPA launched the Restoring Active Memory (RAM) program in November 2013 with the goal of developing a fully implantable, closed-loop neural interface capable of **restoring normal memory function** to military personnel suffering from the effects of brain injury or illness. Just over four years later, the program is returning remarkable results.

Today, RAM researchers at Wake Forest Baptist Medical Center and the University of Southern California published in the *Journal of Neural Engineering* that they have demonstrated the first successful implementation in humans of a proof-of-concept system for **restoring memory function by facilitating memory encoding** using the patient's own neural codes.

Volunteers in the study demonstrated up to 37 percent improvement in short-term, working memory over baseline levels.

“DARPA’s cumulative investments in **neurotechnology** over the past two decades have brought us to an extremely exciting point today where we’re testing tangible technologies that have the potential to alleviate some of the worst effects of brain injury and illness,” said Justin Sanchez, the director of DARPA’s Biological Technologies Office and the program manager for RAM.

RAM researchers focused on episodic memory, which includes information a person need only remember for brief periods, such as where a car is parked, what was served for dinner on a previous evening, or when he or she last took medication. Episodic memory loss is the most common type of memory loss in people with brain injury or **Alzheimer’s** disease.

To improve episodic memory, the RAM team limited its study to the hippocampus, a region of the brain that is central to memory formation. The hippocampus includes sub-regions called CA3 and CA1 that function together to support memory encoding and retrieval.

When the brain registers new information to be encoded as a memory, neurons in the CA3 region fire, marking the input of information into the hippocampus, which triggers a subsequent sequence of neural activity in the CA1 region, marking the output from the hippocampus.

Working with neurosurgical patient volunteers who were being treated for epilepsy—a condition that often causes memory loss—the RAM researchers used surgically implanted electrodes to record neuronal activity in the volunteers' CA3 and CA1 regions as the volunteers performed a visual memory test.

The study participants were shown a simple image such as a color block and then, after a brief delay during which the screen was blank, were asked to identify the initial image out of four or five others shown on the screen.

By analyzing the recordings associated with correct responses, the researchers were able to construct what's known as a multi-input multi-output (MIMO) nonlinear, mathematical, spatiotemporal model that predicted the transformation of neuronal firing patterns in the CA3 region into neuronal firing patterns in the CA1 region during successful memory formation.

The “codes” that the model produced did not directly reference specific memories, but instead correlated to the CA1 firing patterns that occur when CA3 encodes information properly, thus correcting for any naturally occurring errors in transformation between CA3 and CA1 firing.

When during subsequent image-recall tests the researchers used patterned, spatiotemporal electrical stimulation of CA1 to play back MIMO-based codes—derived from real-time neuronal activity recorded in CA3—the volunteers showed an average of 37 percent improvement in episodic memory performance over baseline.

To explore whether MIMO-predicted stimulation patterns would have a similar effect on long-term memory, the researchers adapted the image-recall test.

In this second iteration, the volunteers were shown a highly distinctive photographic image, followed by a short delay, and then asked to identify the first photo out of four or five others on screen.

Again, the researchers recorded neural activity and delivered MIMO-derived CA1 stimulation for a subset of images.

After another, longer delay of up to 75 minutes, the volunteers were shown sets of three images at a time, including the original image and new photos, and asked to identify the original photo.

When stimulated with the correct spatiotemporal codes, the volunteers showed a 35 percent improvement in memory on average over baseline.

Notably, the stimulation did not replace normal CA1 activity in the volunteers' brains, [but supplemented it, giving a boost to natural memory function.](#)

According to researchers, stimulation delivered via the MIMO-based model was effective in activating a pattern of neuronal firing that corresponded to correct memory performance—a marked improvement over control trials conducted without stimulation.

The new results from the Wake Forest and USC RAM investigators follow a recent announcement made in February by a DARPA-funded team led by the University of Pennsylvania.

The Penn research team developed a closed-loop recording and stimulation system that evaluates brain state and delivers efficacious electrical stimulation only when the system predicts poor memory performance.

Using a memory task in which participants recalled lists of words, the researchers demonstrated a [15-percent improvement in overall memory function.](#)

“We’re closing in on our goal of an implantable, closed-loop memory prosthesis,” Sanchez said.

“The RAM program continues to achieve and integrate amazing breakthroughs in neuroscience, artificial intelligence, and neural interface device development for clinical use, which makes me confident DARPA can ultimately deliver our Service members and veterans powerful technologies for countering memory loss.”



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