International Association of Risk and Compliance Professionals (IARCP)
1200 G Street NW Suite 800, Washington DC, 20005-6705 USA
Tel: 202-449-9750, Web: www.risk-compliance-association.com

Monday, October 31, 2022

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

Dear members and friends,

"Crypto-assets are one of the major distributed ledger technology (DLT) applications. Crypto-assets are digital representations of value or rights that have the potential to bring significant benefits to both market participants and retail holders of crypto-assets.

Representation of value also includes external, non-intrinsic value attributed to a crypto-asset by parties concerned or market participants, meaning the value can be subjective and can be attributed only to the interest of someone purchasing the crypto-asset."

This is part of the new regulation in the European Union, known as *Markets in Crypto-Assets (MiCA)*. We read:

"Some crypto-assets fall within the scope of existing EU financial services legislation, in particular those that qualify as financial instruments within

the meaning of Directive 2014/65/EU of the European Parliament and of the Council. A full set of Union rules apply to issuers of such crypto-assets and to firms conducting activities related to such crypto-assets.

Other crypto-assets, however, fall outside of the scope of Union financial services legislation. There are no rules, other than AML rules, for services related to these unregulated cryptoassets, including for the operation of trading platforms for crypto-assets, the service of exchanging crypto-assets for funds or other crypto-assets, or the custody of crypto-assets.

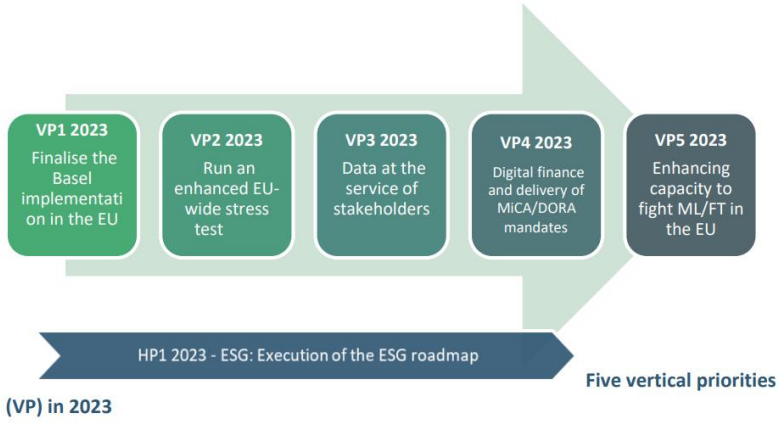
The lack of such rules leaves holders of crypto-assets exposed to risks, in particular in areas not covered by consumer protection rules. The lack of such rules can also lead to substantial risks to market integrity, including market manipulation, and financial crime."

MiCA divides cryptocurrencies into four categories: crypto-assets, utility tokens, asset-referenced tokens, and electronic money tokens.

The regulation, approved by the European Parliament, will come into effect in 2024.

This is a major development, and the process moves faster than expected. *The European Banking Authority (EBA)* has just published its annual work programme for 2023, describing the key strategic areas of work for the Authority for the coming year, as well as related activities and tasks. We read:

"Given the political agreements reached in 2022 on the Digital Operational Resilience Act (DORA) and Markets in Crypto-Assets (MiCA) legislations, the EBA will also actively start its preparations to be able to discharge the new oversight responsibilities it will receive, together with the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA)."



We also read: “Both MiCA and DORA are expected to enter into force in 2023, while the date of application is anticipated for 1 January 2025 (albeit these dates are tentative and, in the case of MiCA, depend on the outcome of the legislative process).

The EBA, together with the other ESAs (where necessary), will need to develop the **vast policy work** from MiCA and DORA in advance of the application date.

The implementation of the policy mandates on these files will deepen the digital risk management dimension of the Single Rulebook and contribute to a consistent framework for the regulation and supervision of crypto-asset activities.”

This “vast policy work” is scary. Compliance is becoming more complex month after month. Perhaps Chopin was right, he believed that “**Simplicity** is the final achievement. After one has played a **vast** quantity of notes and more notes, it is simplicity that emerges as the crowning reward of art.”

Read more at number 1 below. Welcome to the Top 10 list.

Best regards,

George Lekatis
President of the IARCP
1200 G Street NW Suite 800,
Washington DC 20005, USA
Tel: (202) 449-9750
Email: lekatis@risk-compliance-association.com
Web: www.risk-compliance-association.com
HQ: 1220 N. Market Street Suite 804,
Wilmington DE 19801, USA
Tel: (302) 342-8828

Number 1 (Page 6)

The European Council approved the Markets in Crypto-Assets (MiCA) regulation

Council of the European Union

Number 2 (Page 9)

Financial watchdog warns insurers to protect customers' wellbeing during cost of living squeeze

FCA FINANCIAL CONDUCT AUTHORITY

Number 3 (Page 12)

The Financial Stability Oversight Council Releases Report on Digital Asset Financial Stability Risks and Regulation

FSOC

Number 4 (Page 17)

EBA Risk Dashboard shows that capital ratios remained broadly stable and liquidity ratios declined slightly

EBA European Banking Authority

Number 5 (Page 19)

PCAOB Chair Delivers Remarks at UCI Audit Committee Summit

Erica Y. Williams, at the ninth annual UCI Audit Committee Summit.

PCAOB PUBLIC COMPANY ACCOUNTING OVERSIGHT BOARD

Number 6 (Page 22)

The experience of 10 years of data in central banking - from gathering real-time data and big data to challenges like storage or skills

Piero Cipollone, Deputy Governor of the Bank of Italy, at the international conference "Future of Central Banking" organised by the Bank of Lithuania and the Bank for International Settlements (BIS).

Number 7 (Page 27)

Protecting People From Malicious Account Compromise Apps

David Agranovich, Director, Threat Disruption and Ryan Victory, Malware Discovery and Detection Engineer

Meta

Number 8 (Page 30)

FBI Releases 2021 Crime in the Nation Statistics

Number 9 (Page 32)

SPCE Program to Push Beyond Power Limitations in Space

New DARPA program targets novel materials, engineering, and design for improved performance in radiated space environments

DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

Number 10 (Page 34)

We proved Schrödinger wrong about color perception

By Roxana Bujack

Los Alamos NATIONAL LABORATORY

Number 1

The European Council approved the Markets in Crypto-Assets (MiCA) regulation

Council of the European Union

Subject Matter, Scope and Definitions

Article 1, Subject matter

This Regulation lays down uniform requirements for the offering and placing on the market of crypto-assets other than asset-referenced tokens and e-money tokens, asset-referenced tokens and emoney tokens, and requirements for crypto-asset service providers.

In particular, this Regulation lays down the following:

(a) transparency and disclosure requirements for the issuance, offering to the public and the admission to trading of crypto-assets on a trading platform for crypto-assets;

(b) the authorisation and supervision of crypto-asset service providers, issuers of assetreferenced tokens and issuers of electronic money tokens;

(c) the operation, organisation and governance of issuers of asset-referenced tokens, issuers of electronic money tokens and crypto-asset service providers;

(d) protection of holders of crypto-assets in the issuance, offering to the public and admission to trading;

(da) protection of clients of crypto-assets service providers;

(e) measures to prevent insider dealing, unlawful disclosure of inside information and market manipulation related to crypto-assets, in order to ensure the integrity of crypto-asset markets.

Article 2, Scope

1. This Regulation applies to natural and legal persons and other undertakings that are engaged in the issuance, offer to the public and admission to trading of crypto-assets or that provide services related to crypto-assets in the Union.

2. This Regulation does not apply to the following entities and persons:

(a) persons who provide crypto-asset services exclusively for their parent companies, for their subsidiaries or for other subsidiaries of their parent companies;

(b) a liquidator or an administrator acting in the course of an insolvency procedure, except for the purpose of Article 42;

(c) the European Central Bank, national central banks of the Member States when acting in their capacity as monetary authority or other public authorities of the Member States;

(d) the European Investment Bank including its subsidiaries;

(e) the European Financial Stability Facility and the European Stability Mechanism;

(f) public international organisations.

2a. This Regulation does not apply to crypto-assets that are unique and not fungible with other crypto-assets.

Article 3, Definitions

1. For the purposes of this Regulation, the following definitions apply:

(1) **'distributed ledger technology'** or 'DLT' means distributed ledger technology as defined in [the DLT Pilot Regime Regulation];

(1b) **'distributed ledger'** means a distributed ledger as referred to [in the DLT Pilot Regime Regulation]

(1c) a **'consensus mechanism'** means a consensus mechanism as defined in [the DLT Pilot Regime Regulation]

(2) **'crypto-asset'** means a digital representation of a value or a right which may be transferred and stored electronically, using distributed ledger technology or similar technology;

(3) **'asset-referenced token'** means a type of crypto-asset that is not an electronic money token and that purports to maintain a stable value by referencing to any other value or right or a combination thereof, including one or more official currencies;

(4) 'electronic money token' or **'e-money token'** means a type of crypto-asset that purports to maintain a stable value by referencing to the value of one official currency;

(5) **'utility token'** means a type of crypto-asset which is only intended to provide access to a good or a service supplied by the issuer of that token.

(6) **'issuer of crypto-assets'** means the natural or legal person or other undertaking who issues the crypto-assets;

(7) **'offer to the public'** means a communication to persons in any form and by any means, presenting sufficient information on the terms of the offer and the crypto-assets to be offered, so as to enable potential holders to decide whether to purchase those cryptoassets;

(8) **'crypto-asset service provider'** means legal person or other undertaking whose occupation or business is the provision of one or more crypto-asset services to third parties on a professional basis, and are allowed to provide crypto-asset services in accordance with Article 53;

To read more:
https://data.consilium.europa.eu/doc/document/ST-13198-2022-INIT/en/pdf

Number 2

Financial watchdog warns insurers to protect customers' wellbeing during cost of living squeeze

The Financial Conduct Authority (FCA) is concerned that as pressure mounts on household budgets some customers may cut-back on the insurance they need, leaving them without protection.

The government has announced further support for consumers and businesses for energy costs and in the September fiscal event, including a two-year energy-price guarantee for households. While this will help tackle the pressure on household budgets, some people may still consider cutting back on insurance cover.

Dear CEO

Our expectations on cost of living and insurance

Consumers across the country continue to be significantly affected by the rising cost of living, with households with the lowest levels of income impacted the most. The Government have announced further support for consumers and businesses on energy costs and through other measures. This will help alleviate some financial pressure, although we set out here some continuing challenges. Low income households already tend to be less insured, are more likely to pay for their insurance on a monthly basis and often pay higher premiums. In July we published the Consumer Duty, with rules coming into force next July, to help deliver good outcomes for consumers.

We also know firms are facing challenges, including many small and medium sized enterprises (SMEs), including higher costs (such as energy costs) and staffing issues.

Underinsurance and the uninsured

Many consumers and SMEs will have to consider difficult trade-offs about where to reduce spending. This could include balanced decisions to reduce or cancel insurance cover. However, some consumers may opt to self-insure against risks without fully understanding the potential consequences. For example, a consumer who doesn't understand the medical element of their travel insurance policy may choose to travel uninsured and then face unaffordable medical costs.

SMEs may also look to cut costs and reduce overheads. Some may never have held cyber insurance policies, and some may cancel these policies altogether. This could happen during a time when we believe the risks of hacking and cyber attacks are higher, due to the ongoing effects of the global pandemic and geopolitical and economic instability following Russia's invasion of Ukraine.

Some consumers may increasingly focus on the price of insurance without considering demands, needs or baseline expectations and we have seen an increase in the number of providers offering 'basic' products. These products typically offer lower cover with higher excesses than more comprehensive products. For example, for motor insurance we have seen reduced features that were typically included as standard, such as windscreen cover and personal belongings.

The FCA is taking action to support households, by *writing to insurance industry CEOs* to make sure their customers are protected from

unnecessary products or add-ons and unfair penalties. Where poor practise is found, the FCA will quickly intervene to protect customers from harm. You may visit:
https://www.fca.org.uk/publication/correspondence/dear-ceo-letter-expectations-cost-of-living-and-insurance-2022.pdf

Customers, including businesses, in financial difficulty are also more likely to need to pay for their insurance monthly through premium finance. They may also be the most affected by general interest rate rises and have a higher likelihood of not being able to make a payment.

If customers face increasing difficulty paying bills or repaying debts, the impact on them is unlikely to be purely financial. Consumers will be more likely to face pressures on their physical and mental health, which in turn could worsen the impact of their financial difficulties.

Firms can help customers in financial difficulty by:

- Reassessing customers' needs

- Considering whether there are other products that better meet the customer's needs

- Providing clear information to consumers about the additional cost of premium finance

- Working with customers to avoid the need to cancel necessary cover

- Waiving fees associated with adjusting a customer's policy in line with the reassessments

- Considering whether cancellation fees should be removed for customers in financial difficulty

Sheldon Mills, Executive Director, Consumers and Competition at the FCA, said: "Customers who are struggling with their finances should contact their providers as soon as possible. We encourage customers to continue to shop around to find the best deal.

"Firms should not unfairly penalise them for any payment difficulties but instead work with them to find solutions.

"We have a thriving and efficient insurance sector, and we want people getting the cover they need at a cost they can afford so both business and customers benefit."

Firms must continue to provide clear information when customers renew their policy to help them decide whether they want to go ahead or shop around for a better deal.

Since the cost of living squeeze began, the FCA has reminded 3,500 lenders how it expects them to support borrowers who get into financial difficulty.

Although the FCA does not yet regulate Buy Now Pay Later (BNPL) products, the FCA met unauthorised BNPL providers to encourage these firms to provide their customers with an appropriate level of care and support.

The FCA has also **told banks** to improve the way they treat struggling small business owners when collecting and recovering debts and warned firms about unsuitable credit promotions.

FCA FINANCIAL CONDUCT AUTHORITY

Search

About us | Firms | Markets | Consumers

Home / News / FCA tells banks to improve treatment of struggling small business borrowers

FCA tells banks to improve treatment of struggling small business borrowers

Press Releases | First published: 12/07/2022 | Last updated: 12/07/2022

As part of its work in response to the increased cost of living, the FCA has told banks they must treat small business customers fairly when collecting and recovering debts.

As a result of the FCA's work, nearly 4,000 adverts have been amended or withdrawn, helping to protect consumers from being misled.

To read more:
https://www.fca.org.uk/news/press-releases/financial-watchdog-warns-insurers-protect-customers-wellbeing-during-cost-living-squeeze

Number 3

The Financial Stability Oversight Council Releases Report on Digital Asset Financial Stability Risks and Regulation

FSOC

Note: The Financial Stability Oversight Council (FSOC or Council) was established by the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). The purposes of the Council under the Dodd-Frank Act are:

(1) to identify risks to the financial stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected bank holding companies or nonbank financial companies, or that could arise outside the financial services marketplace;

(2) to promote market discipline by eliminating expectations on the part of shareholders, creditors, and counterparties of such companies, that the Government will shield them from losses in the event of failure; and

(3) to respond to emerging threats to the stability of the United States (U.S.) financial system.

Executive Summary

Crypto-asset activities could pose risks to the stability of the U.S. financial system if their interconnections with the traditional financial system or their overall scale were to grow without adherence to or being paired with appropriate regulation, including enforcement of the existing regulatory structure.

The scale of crypto-asset activities has increased significantly in recent years. Although interconnections with the traditional financial system are currently relatively limited, they could potentially increase rapidly.

Participants in the cryptoasset ecosystem and the traditional financial system have explored or created a variety of interconnections. Notable sources of potential interconnections include traditional assets held as part of stablecoin activities.

Crypto-asset trading platforms may also have the potential for greater interconnections by providing a wide variety of services, including leveraged trading and asset custody, to a range of retail investors and

traditional financial institutions. Consumers can also increasingly access crypto-asset activities, including through certain traditional money services businesses. Some characteristics of crypto-asset activities have acutely amplified instability within the crypto-asset ecosystem.

Many crypto-asset activities lack basic risk controls to protect against run risk or to help ensure that leverage is not excessive.

Crypto-asset prices appear to be primarily driven by speculation rather than grounded in current fundamental economic use cases, and prices have repeatedly recorded significant and broad declines.

Many crypto-asset firms or activities have sizable interconnections with crypto-asset entities that have risky business profiles and opaque capital and liquidity positions.

In addition, despite the distributed nature of crypto-asset systems, operational risks may arise from the concentration of key services or from vulnerabilities related to distributed ledger technology.

These vulnerabilities are partly attributable to the choices made by market participants, including crypto-asset issuers and platforms, to not implement or refuse to implement appropriate risk controls, arrange for effective governance, or take other available steps that would address the financial stability risks of their activities.

Many nonbank firms in the crypto-asset ecosystem have advertised themselves as regulated.

Firms often emphasize money services business regulation, though such regulation is largely focused on anti-money laundering controls or consumer protection requirements and does not provide a comprehensive framework for mitigating financial stability vulnerabilities arising from other activities that may be undertaken, for example, by a trading platform or stablecoin issuer.

While some firms in the crypto-asset ecosystem have attempted to avoid the existing regulatory system, other firms have engaged with the existing regulatory system by obtaining trust charters or special state-level crypto-asset-specific charters or licenses.

Compliance with and enforcement of the existing regulatory structure is a key step in addressing financial stability risks. For example, certain crypto-asset platforms may be listing securities but are not in compliance with exchange or broker-dealer registration requirements.

In addition, certain crypto-asset issuers have offered and sold crypto-assets in violation of federal and state securities laws, because the offering and sale were not registered or conducted pursuant to an available exemption.

Regulators have taken enforcement actions over the past several years to address many additional instances of non-compliance with existing rules and regulations, including illegally offered crypto-asset derivatives products, false statements about stablecoin assets, and many episodes of fraud and market manipulation.

In addition, false and misleading statements, made directly or by implication, concerning availability of federal deposit insurance for a given product, are violations of the law, and have given customers the impression that they are protected by the government safety net when they are not.

Further, misrepresentations by crypto-asset firms about how they are regulated have also confused consumers and investors regarding whether a given crypto-asset product is regulated to the same extent as other financial products.

Though the existing regulatory system covers large parts of the crypto-asset ecosystem, this report identifies three gaps in the regulation of crypto-asset activities in the United States.

First, the spot markets for crypto-assets that are not securities are subject to limited direct federal regulation. As a result, those markets may not feature robust rules and regulations designed to ensure orderly and transparent trading, prevent conflicts of interest and market manipulation, and protect investors and the economy more broadly.

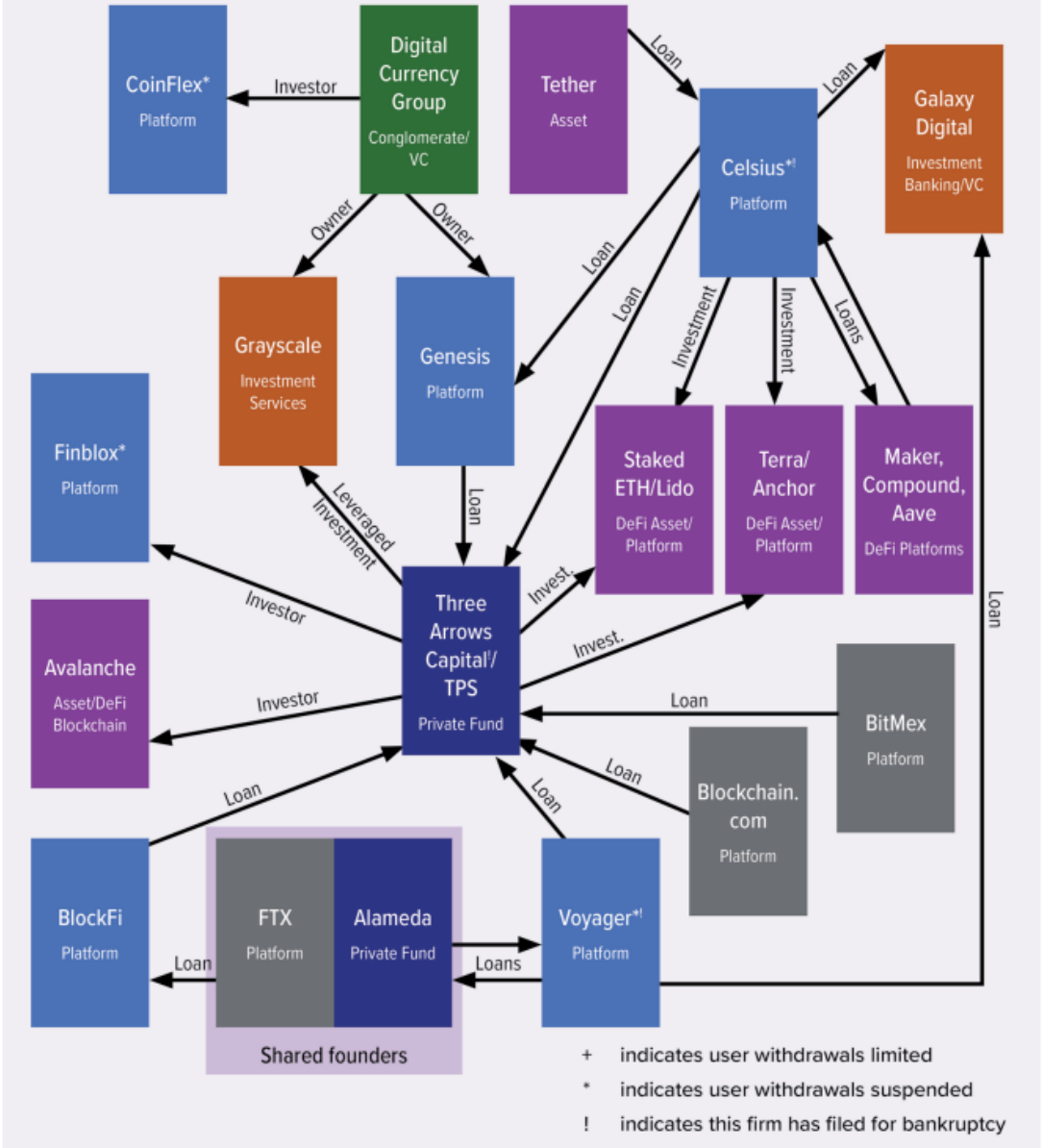
Second, crypto-asset businesses do not have a consistent or comprehensive regulatory framework and can engage in regulatory arbitrage. Some crypto-asset businesses may have affiliates or subsidiaries operating under different regulatory frameworks, and no single regulator may have visibility into the risks across the entire business.

Third, a number of crypto-asset trading platforms have proposed offering retail customers direct access to markets by vertically integrating the services provided by intermediaries such as broker-dealers or futures commission merchants. Financial stability and investor protection implications may arise from retail investors' exposure to certain practices commonly proposed by vertically integrated trading platforms, such as automated liquidation.

To ensure appropriate regulation of crypto-asset activities, the Council is making several recommendations in part 5 of this report, including the consideration of regulatory principles, continued enforcement of the existing regulatory structure, steps to address each regulatory gap, and bolstering member agencies' capacities related to crypto-asset data and expertise.

FSOC Report on Digital Asset Financial Stability Risks and Regulation

Figure B-1: Reported Interconnections of Three Arrows Capital



FSOC

FINANCIAL STABILITY OVERSIGHT COUNCIL

Report on Digital Asset Financial Stability Risks and Regulation

2022

The report:
https://home.treasury.gov/system/files/261/FSOC-Digital-Assets-Report-2022.pdf

Number 4

EBA Risk Dashboard shows that capital ratios remained broadly stable and liquidity ratios declined slightly

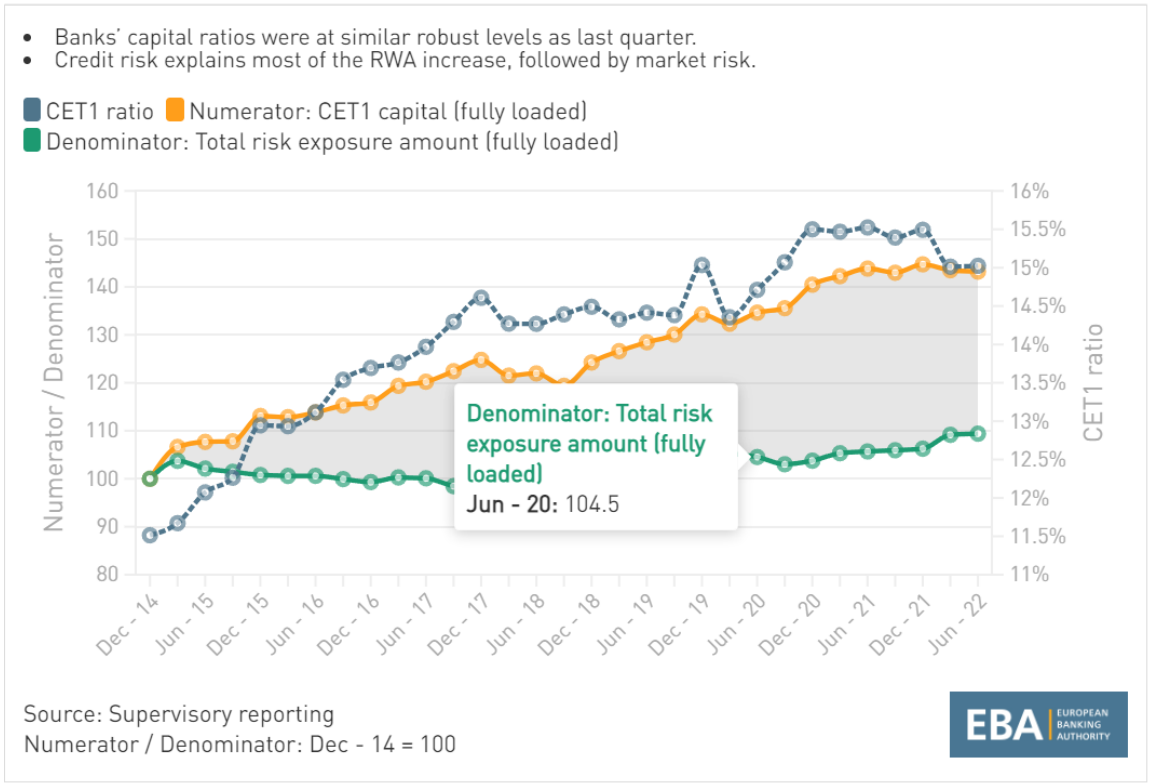
The European Banking Authority (EBA) has published its quarterly Risk Dashboard covering the main risks and vulnerabilities in the EU banking sector.

- The average CET1 fully loaded ratio remained unchanged at 15%.

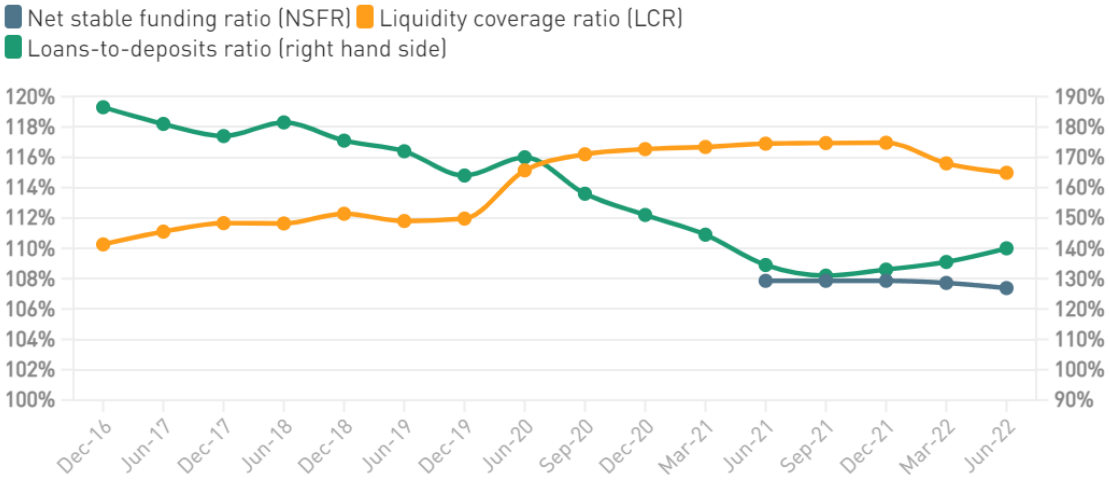
- Overall, banks reported robust liquidity ratios with the average liquidity coverage ratio (LCR) reaching 164.9% and the net stable funding ratio (NSFR) standing at 126.9%.

- While EU/EEA banks' NPL ratio kept on declining (from 1.9% to 1.8%), the Stage 2 ratio was again on the rise (from 9.1% to 9.5%).

- EU/EEA banks' return on equity (RoE) stood at 7.9% (6.7% in Q1 2022). The rise in profitability was particularly supported by net interest income.



- The LCR stood at 164.9% although moving down from its high of 174.8% in Q4 2021. Even banks at the lowest end of the distribution showed an LCR well above the minimum.
- The NSFR also decreased slightly (126.9% in Q2 vs 128.6% in Q1). Going forward, the ratio might fall further amid the further nearing of maturing TLTRO funding.
- The loan to deposit ratio stood at 110% (109.1% in Q1 2022) due to a slightly higher increase in loans than in deposits to households and NFCs.



Source: Supervisory reporting

EBA EUROPEAN BANKING AUTHORITY

To read more:
https://www.eba.europa.eu/eba-risk-dashboard-shows-capital-ratios-remained-broadly-stable-and-liquidity-ratios-declined

Number 5

PCAOB Chair Delivers Remarks at UCI Audit Committee Summit

Erica Y. Williams, at the ninth annual UCI Audit Committee Summit.

Thank you, Dr. [Patricia] Wellmeyer.

I will start by providing the standard disclaimer that the views that I express here are my own and not necessarily the views of my fellow Board Members or the PCAOB's staff.

I am delighted to be here and to have the chance to address this distinguished audience.

I'm also honored to be on an agenda with so many great speakers, starting with Commissioner Peirce.

Like all of you, I am really looking forward to Commissioner Peirce's remarks, which are always insightful and thought-provoking.

I am not the first PCAOB Board Member to address this summit. Since this event began in 2014, several Board Members have delivered keynote remarks here, because engaging with audit committees is vital to the work we do at the PCAOB.

In fact, since 2019, the PCAOB has held conversations with more than 1,000 audit committee chairs to hear your perspectives and insights on a broad range of topics.

After all, we share a common aim – audit committees are guided by a fiduciary responsibility, and the PCAOB is guided by our mission, but our goal is the same: to protect investors.

As Senator Paul Sarbanes said shortly after he helped create the PCAOB, "If you don't protect the interests of the investors, it deals a major blow to the

workings of the economic system…Investors, after all, make the whole thing work."

This summer marked 20 years since Senator Sarbanes joined Representative Mike Oxley and Members from across both parties to create the PCAOB.

As we think about where we are going, it's worth reflecting on where we've been.

Lawmakers came together to pass the Sarbanes-Oxley Act nearly unanimously after major accounting scandals from Enron to WorldCom rocked our markets in the early 2000s.

Corporations were lying about their earnings and hiding their debt. And when it all came crashing down, investors lost billions, workers lost jobs and retirement savings, and trust in our markets was eroded.

Since then, the PCAOB has:

- Registered over 3,800 audit firms,

- Completed more than 4,300 firm inspections in 55 countries – reviewing more than 15,000 audits of public companies and over 1,000 broker-dealer engagements, and

- Issued more than 330 settled enforcement orders – and sanctioned more than 230 firms and 270 individuals.

And it has made a difference.

Multiple academic studies have found that PCAOB inspections improve audit quality, both here in the U.S. and in other countries where the PCAOB has inspection access.

We know that increasing audit quality boosts confidence in the credibility of financial reporting, which supports capital formation and is good for everyday investors.

Continuing to strengthen that credibility is a top priority for our Board as we carry out our mission to protect investors.

We understand that the integrity and success of our capital markets are not inevitable. Like the lawmakers who passed the Sarbanes-Oxley Act 20 years ago, we must continue to take action to keep investors protected today.

This summer, the Board released our five-year strategic plan, outlining four key goals:

- One, modernizing our standards,
- Two, enhancing our inspections,
- Three, strengthening our enforcement, and
- Four, improving organizational effectiveness.

To read more:
https://pcaobus.org/news-events/news-releases/news-release-detail/pcaob-chair-williams-delivers-remarks-at-uci-audit-committee-summit

Number 6

The experience of 10 years of data in central banking - from gathering real-time data and big data to challenges like storage or skills

Piero Cipollone, Deputy Governor of the Bank of Italy, at the international conference "Future of Central Banking" organised by the Bank of Lithuania and the Bank for International Settlements (BIS).

Ladies and Gentlemen,

I am delighted to open this Session on “Central bank as a pool of real-time data: the ‘Whys’ and the ‘Hows’” jointly organized by Lietuvos bankas and Bank for International Settlements on the occasion of the 100th Anniversary of Lietuvos bankas.

I would like to thank the organizers for the kind invitation.

1. Introduction

I would like to share the Bank of Italy’s experience in central banking, using real-time data – also known as big data, Nontraditional data or Alternative data – for policy purposes with all the challenges involved.

As we all know, we live in a data-empowered era where we can plan a trip and Google can estimate our travel time by recommending the best route based on both current and past traffic data or where Netflix can suggest us movies or shows we might like based on its data from people with similar preferences.

Our lives have become not only more data-driven but also more and more data-producers, generating more data than ever before.

This combined with greater and greater computing power and ad-hoc technology enables private companies and government institutions to use that new data for different purposes efficiently.

2. The role of big data in central banking activities

Central banks have always used market data and macroeconomic data based on surveys to make projections about economic activity, inflation and unemployment, to then guide their monetary policy decisions.

The Bank of Italy has always given a very high priority to the collection and use of granular data for economic analysis.

For example, it started conducting a well-structured Survey on household income and wealth (SHIW) in the early sixties; at a time, when only in the US a similar effort was done.

Bank of Italy was also one of the pioneers in Europe in creating a Central Credit Register, the information archive on household and firms' debts at a loan by loan granular level.

Besides the collection of data and production of statistics on banks and the broader financial sector for which it is legally responsible, the Bank runs a large number of surveys and collects granular data from firms, households and the public administration.

We do have a sound history of basing our decisions on data. It is not a surprise therefore that the Bank of Italy was early on very eager to look at the potential offered by the huge increase in the availability of information coming from the ICT revolution with the Web at its center, i.e. the phenomenon of digitalization.

Some activity in big data started in the early 2000's; for example, we were using data from Google Trends as soon as Google made them available.

However, it was overall a very scattered activity, mainly performed at the initiative of individual researchers. The real step forward was made in 2016 when this activity was elevated to a strategic priority of the Bank.

We set up a multidisciplinary team to address the potential benefits and hidden risks of embracing the technological challenges of artificial intelligence (AI), machine learning (ML) and natural language processing (NLP) fueled by the advances in big data, which continue to evolve at an incredible speed.

It is then that we started to collect in a systematic manner data from a variety of non-traditional sources, such as social media, newspapers, and credit card transactions.

These new sources of data have changed the data landscape and enriched economic analysis with more disaggregated and more timely economic information.

It is important to stress that we see these sources of data as complementary to traditional sources of structured data, based on surveys, which remain of foremost importance since they allow us to collect high-quality and reliable data within a clear methodological and theoretical framework built to analyze specific phenomena.

In any case, the role of the non-traditional and unstructured data has been growing over time and certainly, the pandemic crisis was a big push for us to use it even more, given the exceptional circumstances and the impossibility to run surveys to gather data by national institutions.

It was great that we had already some experience and some alternative data in our hands to be able to run some analyses without using survey data.

At this stage, I would say that big data and ML techniques have already transitioned from a supporting role to a symbiotic relationship with more traditional statistical analysis. Still, we do recognize that we are only at the beginning of the journey and that the potential remains huge and largely unexploited.

3. Data Science at the Bank of Italy

Data Science is an interdisciplinary field that combines computer science, statistics and business domain knowledge aimed at generating insights from noisy and often unstructured data. It integrates mathematics with scientific methods and computing platforms.

Albeit a young field, it has quickly developed over the last few years. Its main driver is the astounding volume of data stored by private companies and public authorities, which can now be treated more easily with ML algorithms to extract the information hidden among them.

In the age of Big Data, economic analysis should be addressed with different tools. Among the data we are going to use, I would mention the following:

1) government data, such as electronic invoices and Tax records;

2) corporate data, such as data from Google or other private companies such as retailers;

3) unstructured data, such as textual data from social media, newspapers, job searching platforms, people and goods mobility, FinTech apps, etc.

The necessity to exploit nontraditional data with special algorithms is unavoidable for addressing the present economic conundrums.

For example, Raj Chetty shows how big data gathered from private companies in the US can be fruitfully used to understand and solve some of the most important social and economic problems in a particular period of stress like the recent pandemic.

Taking advantage of big data can ultimately improve macroeconomics policymaking:

i) by answering new questions and producing new, accurate and more granular indicators;

ii) by offering a painstaking and detailed description of the economic scenario through innovative data sources;

iii) slashing the time lags in statistics production, therefore, contributing to a timelier nowcasts/forecasts of existing indicators. Again, Raj Chetty shows that with real-time data like card payment transaction data securely merged with other individual data, we can design a new system of real-time national accounts that can be useful for diagnosing issues in the economy.

Big data can open new pathways for macro policy and macro modelling. We can fine-tune our policies based on the current state of the economy and evaluate the observed impacts of those policies in real-time.

The spread and usage of Bbg data, right now, cannot replace official statistics. The two data sources should be seen as complementary.

Both outputs should be compared to ensure the robustness of new indicators vis-à-vis existing time series that can serve as a benchmark to validate those new indicators.

At the Bank of Italy, we use big data and machine learning to support our routine economic and statistical analysis and to carry out research projects. So far, this activity has focused on three main areas:

1) indicators for now-casting and forecasting,

2) expectations of households and firms and

3) sentiment and confidence indicators.

The main purpose has been to enrich the information set and create new real-time indicators and models to improve our analysis of the economy and the ability to anticipate future trends.

To read more:
https://www.bancaditalia.it/pubblicazioni/interventi-direttorio/int-dir-2022/Cipollone_future_of_central_banking_29_settembre_2022_Vilnius.pdf

Number 7

Protecting People From Malicious Account Compromise Apps

David Agranovich, Director, Threat Disruption and Ryan Victory, Malware Discovery and Detection Engineer

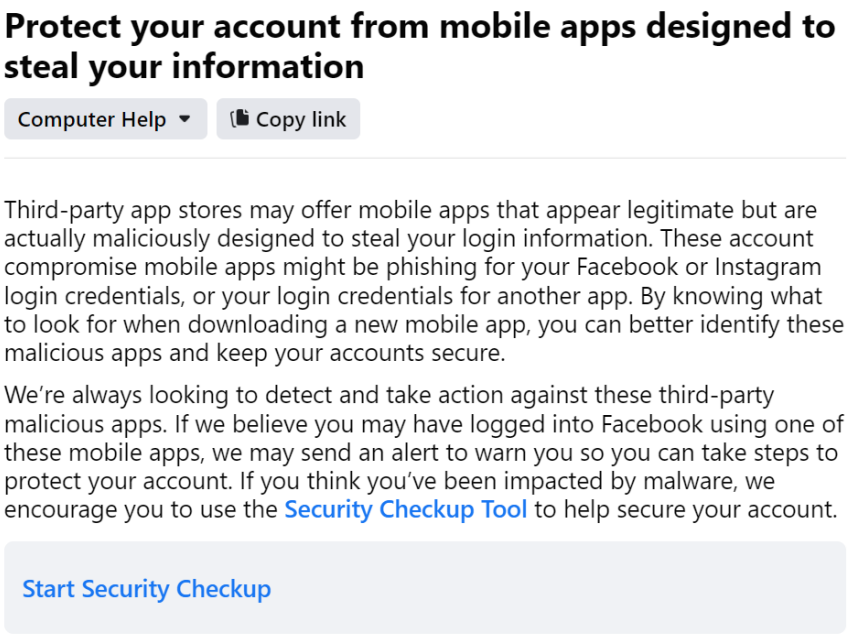
Meta

Takeaways

- We identified more than 400 malicious Android and iOS apps this year that target people across the internet to steal their Facebook login information.
- We reported our findings to Apple and Google and are helping potentially impacted people to learn more about how to stay safe and secure their accounts.
- We've included more information about these apps at the bottom of our post to enable further security research by our industry so we can improve our collective defense.

We're sharing an update on our work against malicious mobile apps available in the official Apple and Google app stores that are designed to compromise people's Facebook accounts.

We've shared our findings with industry peers, security researchers and policymakers to help us improve our collective defenses against this threat.



Most importantly, because these apps were accessible in third-party app stores, we're encouraging people to be cautious when downloading a new app that asks for social media credentials and providing *practical steps* to help people stay safe. You may visit: https://www.facebook.com/help/1209531163223876?ref=cm_md_nrp

What We've Found

Our security researchers have found **more than 400 malicious Android and iOS apps** this year that were designed to steal Facebook login information and compromise people's accounts.

These apps were **listed on the Google Play Store and Apple's App Store** and disguised as photo editors, games, VPN services, business apps and other utilities to trick people into downloading them.

Some examples include:

- Photo editors, including those that claim to allow you to "turn yourself into a cartoon"
- VPNs claiming to boost browsing speed or grant access to blocked content or websites
- Phone utilities such as flashlight apps that claim to brighten your phone's flashlight
- Mobile games falsely promising high-quality 3D graphics
- Health and lifestyle apps such as horoscopes and fitness trackers
- Business or ad management apps claiming to provide hidden or unauthorized features not found in official apps by tech platforms.

This is a highly adversarial space and while our industry peers work to detect and remove malicious software, some of these apps evade detection and make it onto legitimate app stores.

We've reported these malicious apps to our peers at Apple and Google and they have been taken down from both app stores prior to this report's publication.

We are also alerting people who may have unknowingly self-compromised their accounts by downloading these apps and sharing their credentials, and are helping them to secure their accounts.

How You Can Stay Safe

There are many legitimate apps that offer the features listed above or that may ask you to sign in with Facebook in a safe and secure way.

Cybercriminals know how popular these types of apps are and use these themes to trick people and steal their accounts and information.

Malware apps often have telltale signs that differentiate them from legitimate apps. Here are a few things to consider before logging into a mobile app with your Facebook account:

- **Requiring social media credentials to use the app:** Is the app unusable if you don't provide your Facebook information? For example, be suspicious of a photo-editing app that needs your Facebook login and password before allowing you to use it.

- **The app's reputation:** Is the app reputable? Look at its download count, ratings and reviews, including negative ones.

- **Promised features:** Does the app provide the functionality it says it will, either before or after logging in?

To read more:
https://about.fb.com/news/2022/10/protecting-people-from-malicious-account-compromise-apps/

Number 8

FBI Releases 2021 Crime in the Nation Statistics

The FBI has released detailed data on over 11 million criminal offenses reported to the Uniform Crime Reporting (UCR) Program's National Incident-Based Reporting System (NIBRS) in 2021 via NIBRS, 2021; NIBRS Estimates, 2021; The Transition to the National Incident-Based Reporting System (NIBRS): A Comparison of 2020 and 2021 NIBRS Estimates; and Crime in the United States (CIUS), 2021.

For years, the FBI's UCR Program has provided annual snapshots of crime in the nation. This year, users will notice a difference in the data because it was exclusively collected via NIBRS in 2021. Both the NIBRS, 2021 and CIUS, 2021 releases are based solely on these NIBRS submissions.

Establishing NIBRS as the national standard for crime data provides the opportunity to know more about, and better understand, various facets of crime in our nation.

NIBRS provides an avenue for the UCR Program to estimate the amount of arson committed each year, estimates on drug offenses by drug type, and victimization estimates. NIBRS also provides estimates on victim and arrestee demographics, including age, sex, and race.

In anticipation of UCR's evolution to NIBRS, the FBI collaborated with the Bureau of Justice Statistics (BJS) to develop comprehensive methodologies to bring a NIBRS estimation process to fruition and establish 2021 as the first year in which all crime estimates can be based on NIBRS data.

Together, the FBI and BJS developed and tested statistical procedures that assess the quality and completeness of NIBRS data, created methods to adjust for non-transitioned agencies, crafted estimation procedures for generating reliable and accurate national indicators as new agencies report NIBRS data, and established a semi-automated system for producing national estimates of key crime indicators on an annual basis.

To provide a confident comparison of crime trends across the nation, the UCR Program performed a NIBRS estimation crime trend analysis.

The analysis used NIBRS estimation data of violent and property crimes from 2020 and 2021.

Overall, the analysis shows violent and property crime remained consistent between 2020 and 2021. While the aggregate estimated violent crime volume decreased 1% for the nation from 1,326,600 in 2020 to 1,313,200 in 2021, the estimated number of murders increased from 22,000 in 2020 to 22,900 in 2021. The increase of murders constitutes a 4.3% increase.

The robbery rate decreased 8.9% from 2020 to 2021, which heavily contributed to the decrease in overall violent crime despite increases in murder and rape rates at the national level. It is important to note that these estimated trends are not considered statistically significant by NIBRS estimation methods. The nonsignificant nature of the observed trends is why, despite these described changes, the overall message is that crime remained consistent.

The complete analysis is located on the UCR's Crime Data Explorer at: https://crime-data-explorer.app.cloud.gov/pages/home

Number 9

SPCE Program to Push Beyond Power Limitations in Space

New DARPA program targets novel materials, engineering, and design for improved performance in radiated space environments

Rapidly proliferating small satellites in low Earth orbit (LEO) are expanding space-based capabilities critical to both government and industry.

As the subsequent, ever-increasing demand strains operational limitations of LEO satellites, DARPA's new Space Power Conversion Electronics (SPCE) program seeks greater efficiencies in usable power in the harsh space environment.

Space-based power consumption generates heat that can only be offloaded through radiation. This type of thermal management constrains the maximum operating power a satellite can consume. Usable power is further reduced by the inefficiencies in point-of-load (POL) converters.

The main function of POL converters is to deliver power at significantly lower voltage than the high-voltage main satellite power bus for payloads. These lower-voltage applications include onboard microsystems that execute computing and other electronic functions.

Today's space POL converters comprise radiation-hardened, high-voltage switching transistors and radiation-resistant passive and active circuit elements to survive in challenging space conditions.

These components, subject to extensive development and testing processes to withstand radiation damage, trail the performance of their counterparts built for non-radiated applications, such as ground-based systems.

The latter can leverage faster, more cutting-edge components, but the radiation-hardening process reduces POL power efficiency in space to as little as 60% – severely limiting a satellite's capabilities and battery lifetime.

Improved power efficiency in the harsh, radiated space environment is necessary to meet demands for new, increasingly advanced mission capabilities as well as extended lifetimes for persistent LEO constellations.

The goal of DARPA's SPCE program is to boost the performance of space-based POL systems through development of high-voltage,

radiation-tolerant transistors and integrated circuit technologies that are low-loss, high-voltage, and radiation tolerant.

“SPCE will exploit a combination of materials and device-engineering, integrating advanced materials of different types and composition – or heterogenous material synthesis – and novel device designs. This will help achieve radiation-tolerant power transistors for space that offer performance that is competitive with terrestrial, state-of-the-art wide bandgap semiconductor power transistors,” said Jason Woo, DARPA program manager for SPCE. “With proliferation in LEO, 60% efficiency is no longer good enough.”

According to Woo, if successful, SPCE breakthroughs could extend system lifetimes and create new mission capabilities for persistent LEO constellations operating in difficult space terrains.

The SPCE program consists of three program phases. The 20-month first phase will target radiation-tolerant, high-performance, high-voltage transistors development, while Phase 2 focuses on low-loss integration development, and Phase 3 targets high-efficiency conversion circuit demonstration.

More information can be found in the Broad Agency Announcement at: https://sam.gov/opp/3f10325a851e44478b4761a45b8d933b/view

Number 10

We proved Schrödinger wrong about color perception

By Roxana Bujack

The opportunity to correct the work of Nobel Prize-winning physicist Erwin Schrödinger — yes, that Schrödinger, of quantum cat fame — comes once in a lifetime, so when my colleagues and I discovered he and others were wrong in their mathematical description of how people perceive color, we jumped on it.

In my early-career research project, our scientific visualization team at Los Alamos National Laboratory wanted to develop algorithms to automatically improve the color maps underlying the images and movies that make data — numbers — easy to understand and interpret at a glance.

Our minds have trouble digging meaning out of arrays of digits, but we can quickly spot patterns and trends when those numbers are converted to pictures, with colors representing different values in the data.

Our visualizations help physicists, climate modelers, space weather researchers and many others make sense of vast data streams that might otherwise bury their revelations beneath seemingly endless spreadsheet columns.

Interpreting data in a visualization depends strongly on the quality of the color map, which assigns colors to data values. A continuous color map follows a path through color space.

We thought we could automate the design of color maps if we treated them as pure geometric objects and mathematically captured what makes a good colormap.

For that to work, you have to have a color model that really captures human perception. We wanted to use the century-old model developed by Schrödinger and others. To read more:
https://discover.lanl.gov/news/0928-color-perception

Disclaimer

The Association tries to enhance public access to information about risk and compliance management.

Our goal is to keep this information timely and accurate. If errors are brought to our attention, we will try to correct them.

This information:

- is of a general nature only and is not intended to address the specific circumstances of any individual or entity;

- should not be relied on in the context of enforcement or similar regulatory action;

- is not necessarily comprehensive, complete, or up to date;

- is sometimes linked to external sites over which the Association has no control and for which the Association assumes no responsibility;

- is not professional or legal advice (if you need specific advice, you should always consult a suitably qualified professional);

- is in no way constitutive of an interpretative document;

- does not prejudge the position that the relevant authorities might decide to take on the same matters if developments, including Court rulings, were to lead it to revise some of the views expressed here;

- does not prejudge the interpretation that the Courts might place on the matters at issue.

Please note that it cannot be guaranteed that these information and documents exactly reproduce officially adopted texts.

It is our goal to minimize disruption caused by technical errors.

However, some data or information may have been created or structured in files or formats that are not error-free and we cannot guarantee that our service will not be interrupted or otherwise affected by such problems.

The Association accepts no responsibility regarding such problems incurred because of using this site or any linked external sites.

International Association of Risk and Compliance Professionals (IARCP)

You can explore what we offer to our members:

1. *Membership* – Become a standard, premium or lifetime member.

You may visit:
https://www.risk-compliance-association.com/How_to_become_member.htm

2. *Weekly Updates* - Visit the *Reading Room* of the association at:
https://www.risk-compliance-association.com/Reading_Room.htm

3. *Training and Certification* – Become:

- a Certified Risk and Compliance Management Professional (CRCMP),

- a Certified Information Systems Risk and Compliance Professional (CISRCP),

- a Certified Cyber (Governance Risk and Compliance) Professional - CC(GRC)P,

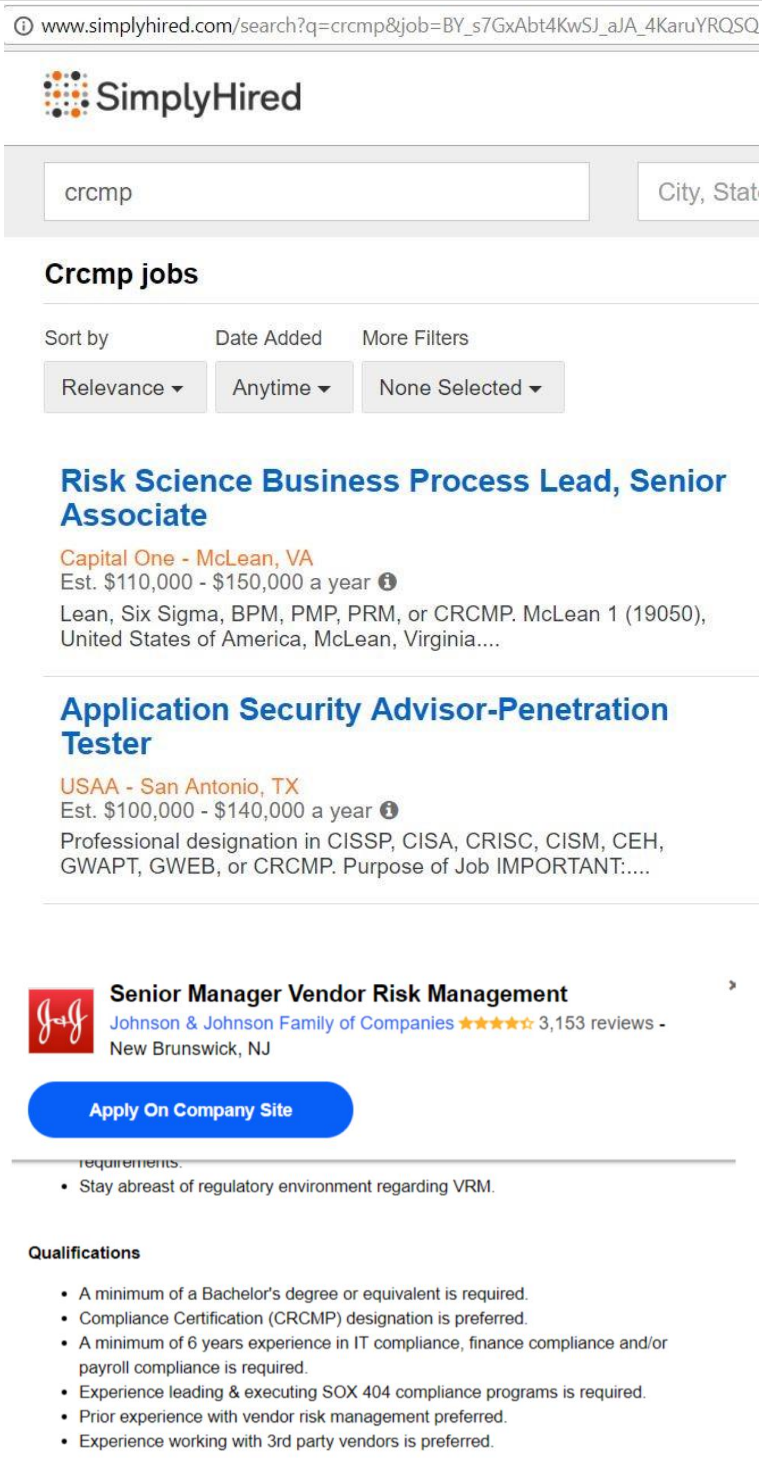
- a Certified Risk and Compliance Management Professional in Insurance and Reinsurance - CRCMP(Re)I,

- a Travel Security Trained Professional (TSecTPro).

The CRCMP has become one of the most recognized certificates in risk management and compliance. There are CRCMPs in 32 countries.

Companies and organizations around the world consider the CRCMP a preferred certificate:

Senior Information Security Risk Analyst
Public Company Accounting Oversight Board - ★★★★☆ 10 reviews - Washington, DC
Professional designation in CISSP, CISA, CRISC, or CRCMP preferred. The PCAOB is a nonprofit corporation established by Congress to oversee the audits of public...



You can find more about the demand for CRCMPs at:
https://www.risk-compliance-association.com/CRCMP_Jobs_Careers.pdf

For the Certified Risk and Compliance Management Professional (CRCMP) distance learning and online certification program, you may visit:
https://www.risk-compliance-association.com/Distance_Learning_and_Certification.htm

For the Certified Information Systems Risk and Compliance Professional (CISRCP), distance learning and online certification program, you may visit:
https://www.risk-compliance-association.com/CISRCP_Distance_Learning_and_Certification.htm

For the Certified Cyber (Governance Risk and Compliance) Professional - CC(GRC)P, distance learning and online certification program, you may visit:
https://www.risk-compliance-association.com/CC_GRC_P_Distance_Learning_and_Certification.htm

For the Certified Risk and Compliance Management Professional in Insurance and Reinsurance - CRCMP(Re)I distance learning and online certification program, you may visit:
https://www.risk-compliance-association.com/CRCMP_Re_I.htm

For the Travel Security Trained Professional (TSecTPro), distance learning and online certification program, you may visit:
https://www.risk-compliance-association.com/TSecTPro_Distance_Learning_and_Certification.htm

Certified Cyber (Governance Risk and Compliance) Professionals - CC(GRC)Ps, have a 50% discount for the Travel Security Trained Professional (TSecTPro) program ($148 instead of $297).

You have a $100 discount after you purchase one of our programs. The discount applies to each additional program. For example, you can purchase the CRCMP program for $297, and then purchase the CISRCP program for $197 (instead of $297), the CC(GRC)P program for $197 (instead of $297), the CRCMP(Re)I program for $197 (instead of $297), and the TSecTPro program for $197 (instead of $297).

For *instructor-led* training, you may contact us. We can tailor all programs to meet specific requirements.