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Hedge Funds News, March 2022

Dear members and friends,

Are Fault-Tolerant Quantum Computers on the Horizon?

This is the title of an interesting paper from the Defense Advanced Research Projects Agency (DARPA).

According to DARPA, it's been hypothesized that quantum computing will one day revolutionize information processing across a range of military and civilian applications – from artificial intelligence, to supply chain optimization, to pharmaceuticals discovery, to cryptography.

Prevailing predictions are that it will be decades before fully fault-tolerant quantum computers capable of solving important problems are available.

As various quantum computing research and development efforts advance globally, however, DARPA wants to rigorously assess any quantum research claims that a useful fault-tolerant quantum computer could be built much sooner.

DARPA announced the *Underexplored Systems for Utility-Scale Quantum Computing (US2QC)* program. US2QC aims to determine if an underexplored approach to quantum computing is capable of achieving utility-scale operation much faster than conventional predictions.

"DARPA's mission is to create and prevent strategic surprise," said Joe Altepeter, US2QC program manager in DARPA's Defense Sciences Office.

"If there's an underexplored area of quantum computing showing promise for a faster breakthrough than we previously expected, we want to explore it immediately and thoroughly verify and validate the approach's viability."

An existing DARPA program, Quantum Benchmarking, is developing quantitative benchmarks on the software side to thoroughly assess potential applications where quantum computers could provide a meaningful improvement over classical computers for important problems. You may visit: https://www.darpa.mil/program/quantum-benchmarking

US2QC is a complementary hardware effort focused on verifying and validating system, component, and sub-system designs for a proposed fault-tolerant quantum computer.

"If a company or an organization thinks they can make a truly useful, really big, fault-tolerant quantum computer, we want to have a conversation with them," Altepeter said. "We would like them to show us exactly why they're convinced their machine is going to be revolutionary in the near future, and we want to work collaboratively with them, pay for additional experts to embed with their team, and help advance bold concepts that withstand rigorous testing."

Because innovative approaches to building a quantum computer are extremely varied, US2QC is structured for maximum flexibility and will exclusively use tailorable Other Transaction agreements to fund proposals.

The only common foundation for all proposals is Phase 0, in which proposers will quantitatively describe a complete utility-scale concept, including all components and sub-systems, projected performance capabilities against a variety of metrics, and anticipated technical risks and mitigation strategies.

"There's no one verification and validation program that fits all the different quantum computing approaches out there," Altepeter said. "That means we don't know what follow-on phases will look like or how long they'll be.

Identifying key milestones will be unique for each project depending on how the Phase 0 validation and verification goes. If the proposed concept proves to be sound, Phase 0 could be very short. As teams meet follow-on phase milestones unique to their approach, we'll keep scaling the effort up."

A program solicitation with all details for proposing to US2QC is available here: https://sam.gov/opp/6c8cffdd547b4816bb8b09e4e4448892/view

Send Lawyers, Guns and Money: (Over-) Zealous Representation by Corporate Lawyers

Commissioner Allison Herren Lee, remarks at PLI's Corporate Governance – A Master Class 2022

Thank you Brian [Breheny] for the introduction and to the Practicing Law Institute for having me today. Before I begin, I want to take a moment to acknowledge the on-going humanitarian disaster in Ukraine.

My thoughts are with the people of Ukraine, who have demonstrated impossible bravery, and with those of you who may have friends or relatives affected by this crisis.

It's a privilege to address my fellow members of the bar. This privilege is very meaningful to me personally in part because of my unexpected path into the legal profession and my deep regard for the ideals of public service that our profession represents.

I do not come from a family of lawyers; in fact my parents did not even attend college. I never laid eyes on an actual lawyer during my childhood.

What I knew about them came from TV shows, which means I assumed their jobs were to cleverly question witnesses at trial until they confessed to the crime for which another had been charged.

Despite (or maybe because of) this misperception, I secretly dreamed of becoming a lawyer and was awed to the point of reverence by the profession.

As I worked my way through college and eventually, in my late thirties, through law school, I began to better understand what lawyers do and what it means to be a member of a "profession"—how the calling stood apart from other businesses principally because advocating for fidelity to the law is, at its core, a form of public service.

Taking this to heart, I launched an initiative in law school that led to the adoption of a requirement for students to complete pro bono work as part of the curriculum.

I have lived the experience of law from the perspectives of an outsider with no idea of what lawyers do, a student, a client, a securities law practitioner,

an enforcement lawyer (both civil and criminal), and now as a Commissioner helping to shape regulatory policy.

My belief in the ideals of the profession—ideals that I know you all share—has only grown stronger with time.

I take great pride in being a member of the bar and this is the lens that I bring to the topic I want to address today.

I want to talk about supporting securities lawyers, both in-house and outside counsel, in upholding the best traditions of the profession.

Specifically, by fulfilling a mandate in the Sarbanes-Oxley Act designed to do just that.

As we near the twentieth anniversary of its passage, we still have not fulfilled Congress's mandate under Section 307 of Sarbanes-Oxley to adopt minimum standards of professional conduct for attorneys appearing and practicing before the Commission in the representation of issuers.

A key element of Sarbanes-Oxley, passed in the wake of the massive financial failures of the Enron era, was to create structures of accountability for professionals—executives, accountants and auditors, and, under Section 307 of the Act, accountability for lawyers.

In considering Section 307, Congress recognized that executives and accountants did not "work alone," and that lawyers were "virtually always there looking over their shoulders."

Congress was concerned, however, that counsel often acted in the interests of the executives who hired them rather than the company and its shareholders to whom their duty and responsibility is owed.

Unfortunately, in response to this mandate, the SEC adopted only one standard: the so-called "up-the-ladder" rule, requiring lawyers to report certain potential violations up the chain of management inside a corporate client.

We did not adopt a broader set of rules as Congress directed, and quite significantly, even this single standard has not been enforced in the nearly 20 years since it was adopted.

The policies behind this unfulfilled mandate—which are designed to support lawyers in their gatekeeping role—are as relevant and compelling today as they were 20 years ago, if not more so.

Indeed the role of corporate lawyers as gatekeepers in the capital markets—distinct from the litigator's role—has long been acknowledged by a broad and bipartisan group from William O. Douglas, to A.A. Sommer and Stanley Sporkin.

It also includes Independent, Republican, and Democratic Chairs of the SEC.

And it wasn't just during the Enron era that we saw lapses in the gatekeeping role. We saw such lapses with stock option backdating and mutual fund market timing cases, and to some extent in the 2008 financial crisis.

More recently, we have seen an entirely new, multi-trillion dollar industry develop around cryptocurrency and digital assets that largely defies existing laws and regulations.

The role of lawyers in enabling this approach remains to be fully fleshed out, but the failure to comply with well-known principles of the securities laws has already been costly for many firms.

The bottom line is this: when corporate lawyers give bad advice, the consequences befall not just their clients, but the investing public and capital markets more broadly—especially when it comes to disclosure advice.

But we do not currently have sufficient standards in place upon which to assess this kind of advice.

Standards for professional conduct could help both lawyers and regulators navigate this difficult terrain where bad legal advice can, in the words of a prior Commission, "inflict substantial damage on the Commission's processes, and thus the investing public, and the level of trust and confidence in our capital markets."

It's time to revisit this unfulfilled mandate and consider whether the SEC should adopt (and enforce) a minimum set of standards for lawyers who practice before the Commission to better protect investors and markets.

"Can-do" Corporate Lawyering

The "bad advice" I refer to arises from a type of "can-do" approach to lawyering that is ill-suited to lawyers in a gatekeeping role. It is born from a desire to give management the answer that it wants.

Or, as a Delaware court recently stated, it stems from a "contrived effort to generate the client's desired result when real-world facts would not support it."

If you haven't read this particular Delaware decision (Bandera Master Fund v. Boardwalk Pipeline) from late last year, I commend it to you as a study in the perils of modern corporate law practice.

It involves sophisticated counsel who, as the court put it, engaged in "goal-directed reasoning" to provide an opinion designed to allow the client to exercise a lucrative call right.

However, the court concluded the opinion was based on artifice and sleight of hand. It thus ruled that the opinion was given in bad faith and awarded damages against the client of roughly $700 million.

Unfortunately, this case does not appear to represent an isolated instance of poor judgment by a single lawyer or firm.

Indeed, this same court wrote an expansive opinion in 2020 in which it found another preeminent firm had "committed fraud" by holding back important information during a competitive bidding process.

In yet another recent case, the court laid out chapter and verse how a large law firm took part in a covert plan to "undermine a merger" while concealing their work so as not to "advertis[e] that [the client] was breaching its obligations" to use best efforts to close the deal.

Though these particular cases were not about disclosure under the securities laws, they are nevertheless emblematic of a dynamic—a kind of race to the bottom—that can occur when specialized professionals like securities lawyers compete for clients in high stakes matters and are pressured to provide the answers their clients seek.

As one observer put it: "Can-do lawyering has run amok. Still you don't want to be the lawyer that just says 'no.' You'll never make it."

Of course, this type of conduct is far from the norm for securities law practitioners, but it is not as rare as we would like to think. In my 25 years as a securities lawyer, I have observed this kind of conduct on multiple occasions.

It is not easy to strike the right balance between zealous representation in corporate law matters and thoughtful consideration of the potential impact to shareholders, investor protection, and the public interest.

Most lawyers generally err on the side of caution. But examples like those I've noted erode public trust in the highly-skilled, principled attorneys in the financial regulatory space and in our markets more broadly.

To read more: https://www.sec.gov/news/speech/lee-remarks-pli-corporate-governance-030422

Economic activity, prices, and monetary policy in Japan

Toyoaki Nakamura, Member of the Policy Board of the Bank of Japan, at a meeting with local leaders, Yamanashi.

日本銀行 BANK OF JAPAN

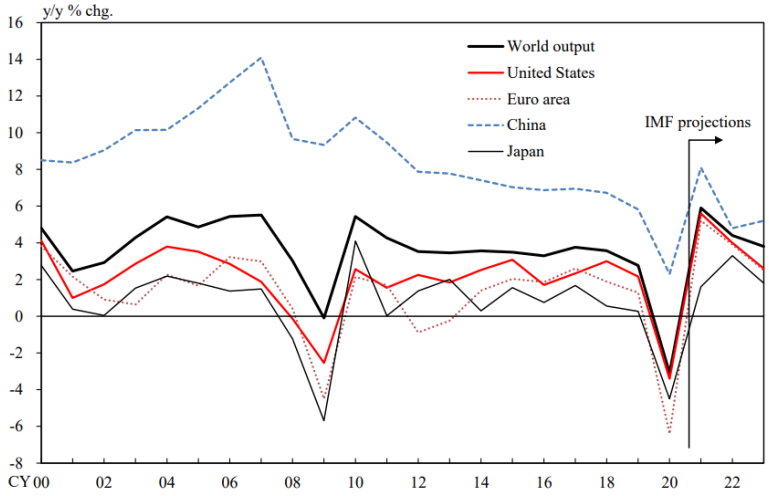
I. Economic and Price Developments at Home and Abroad

A. Recent Developments and Outlook for Economic Activity and Prices

I will begin my speech by talking about recent developments in economic activity and prices. Overseas economies have recovered on the whole, albeit with variation across countries and regions, with the impact of the novel coronavirus (COVID-19) waning gradually (Chart 1).

Chart 1

IMF Projections in the *World Economic Outlook* (January 2022)

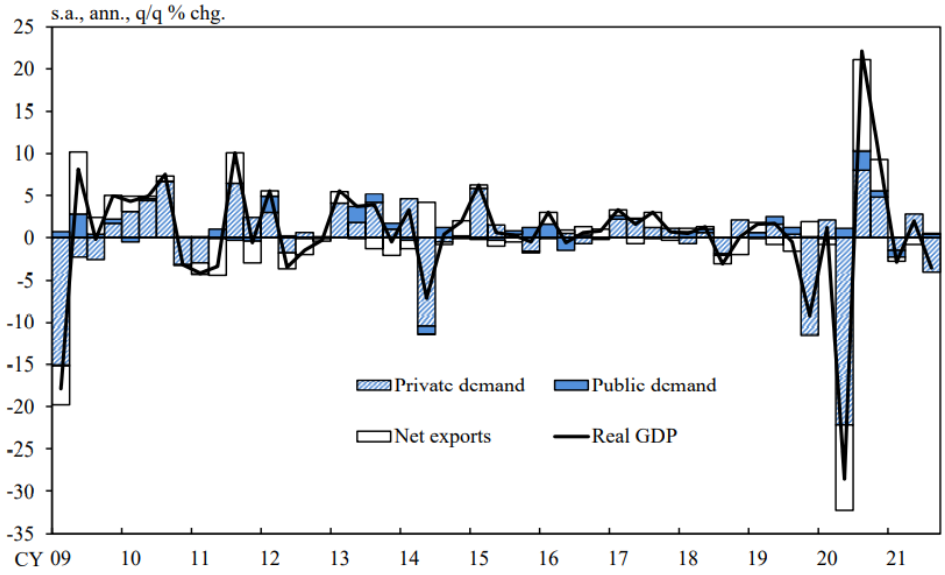


Source: IMF.

In advanced economies, resumption of economic activity continues as vaccination has progressed, while priority public health measures have been taken to respond specifically to the spread of the Omicron variant. Emerging and commodity-exporting economies have generally picked up on the back of progress with vaccinations. Against this background, a pick-up in Japan's economy has become evident (Chart 2).

Chart 2

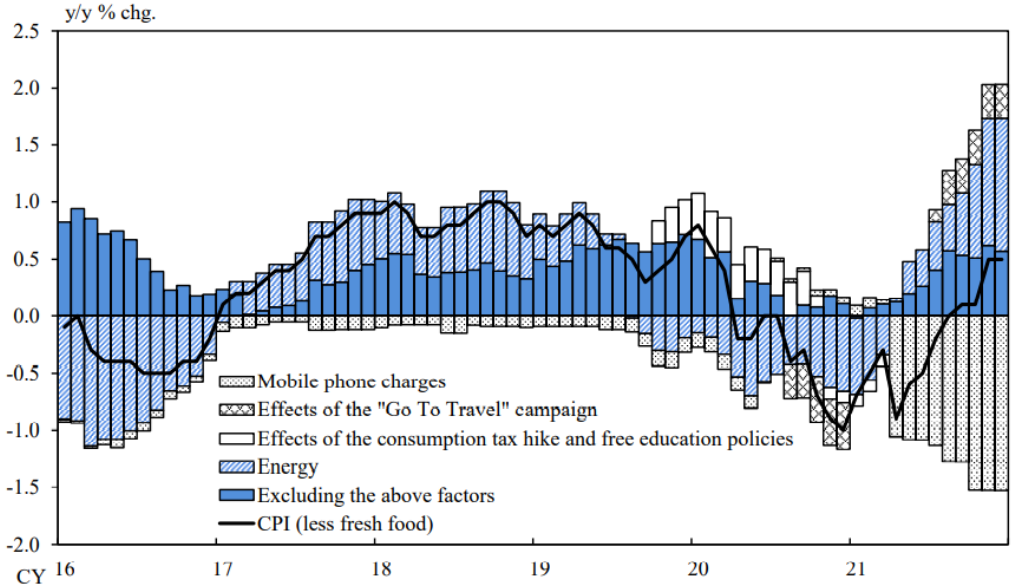
Japan's Real GDP



Source: Cabinet Office.

Chart 3

Japan's CPI (Less Fresh Food)



Notes: 1. Energy consists of petroleum products (gasoline, kerosene, and liquefied propane), electricity, and manufactured and piped gas charges.

2. Figures for the "effects of the consumption tax hike and free education policies" from April 2020 onward are based on staff estimations and include the effects of measures such as free higher education introduced in April 2020.

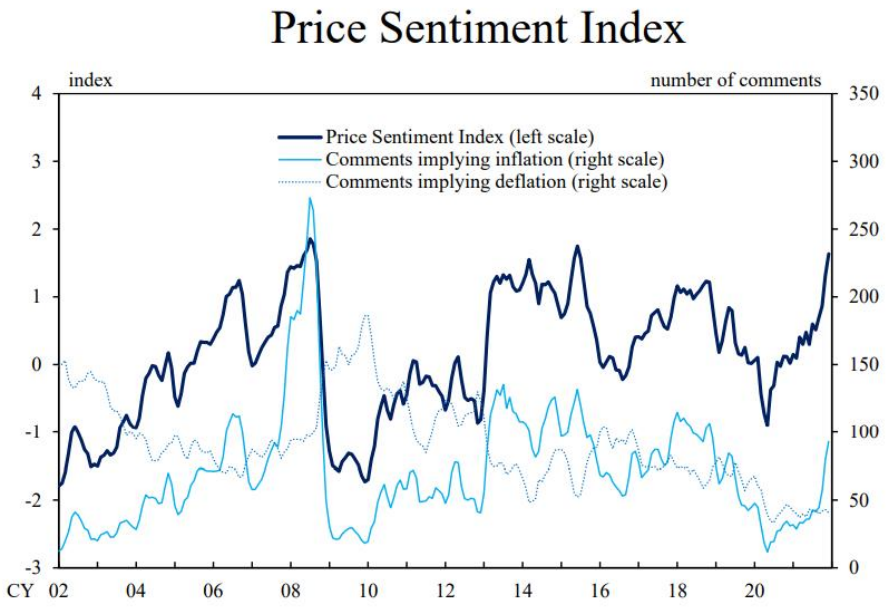
Source: Ministry of Internal Affairs and Communications.

Exports and production continue on an uptrend, albeit with the effects of supply-side constraints. A pick-up in private consumption has also become evident since early autumn 2021, although downward pressure due to the spread of the Omicron variant has recently been a cause for concern. On the price front, the year-on-year rate of change in the consumer price index (CPI) for all items less fresh food, or core CPI, despite being affected by the reduction in mobile phone charges, has been slightly positive, reflecting price rises in energy and other items (Chart 3).

Japan's economy is likely to recover as the impact of COVID-19 and the effects of supply-side constraints gradually wane. The year-on-year rate of change in the core CPI is also likely to increase in positive territory due to a dissipation of the effects of a reduction in mobile phone charges on the back of a moderate pass-through of raw material cost increases.

B. Risk Factors for Economic Activity and Prices

Chart 4



Note: The Price Sentiment Index is calculated as follows. Using the Naïve Bayes classifier, comments on current economic conditions in the Economy Watchers Survey are first classified into (A) comments implying inflation, (B) comments implying deflation, (C) comments implying zero inflation, and (D) comments not referring to price developments. The Price Sentiment Index is then calculated as (A-B) / (A+B+C) × 100 and normalized (3-month backward moving averages).

Source: Cabinet Office.

This outlook is subject to a number of uncertainties; specifically, I am particularly attentive to the following factors. The first is the Chinese economy, sometimes referred to as "the world's market" or "the workshop of the world." There is a risk that the spread of the Omicron variant under China's zero-Covid policy will lead to globally prolonged supply-side

constraints and protracted inflationary pressures, in addition to pushing down the global economy.

Attention should also be paid to such factors as the aging population, intensified conflict between China and both the United States and Europe, and the decline in medium- to long-term growth potential mainly due to the imposition of stronger restrictions.

The second factor is firms' price-setting behavior. Uncertainties surround future developments in the pass-through of raw material cost increases, leaving potential for movement in either direction. If cost increases are not passed on sufficiently, this could cause firms to fall into a vicious cycle where their business performance will deteriorate, making it inevitable that they will cut wages and investment for the future.

On the other hand, the pass-through of cost increases may also proceed further than expected; firms have recently become increasingly sensitive to inflation, with upstream price rises gradually spreading to downstream (Chart 4).

I consider it crucial for firms' price-setting stance to become active in order for Japan's economy to shift toward a new growth path and to achieve the Bank's price stability target.

To read more: https://www.bis.org/review/r220218d.pdf

Cash of the Future

Prof. Johannes Beermann, Member of the Executive Board of the Deutsche Bundesbank, the Banknote & Currency Conference 2022, Washington DC

1 Introduction

Ladies and gentlemen,

Thank you for the invitation and kind introduction. It is a great pleasure for me to be here in Washington, D.C. and to speak at the Banknote and Currency Conference. Having the opportunity to attend a conference like this again and see each other in person is another step towards normality – or rather: towards a new normality.

"The best way to predict the future is to create it." This timeless wisdom is sometimes attributed to the 16th President of the United States of America, Abraham Lincoln. I also see it as a call for us to start thinking about the cash of the future today.

As the member of the Bundesbank Executive Board responsible for cash, I arguably very much represent what many outside these four walls may refer to as the "old world of payments". A world that some claim has little room for innovation and progress.

However, the exciting contributions of the past conference days show the opposite: the latest developments in the field of cash production, the innovative methods presented in the fight against banknote counterfeiting and cybercrime, as well as the highly topical discussion on sustainability all speak for the fact that this supposedly "old world of payment transactions" is much more modern and promising than it might seem at first glance.

The future of cash – this plays an important role in my speech. But when we talk about the future, we cannot disregard current developments.

Therefore, let us first take a look at the present.

Cash in circulation continues to increase in Germany and throughout the euro area. The Bundesbank has issued more than half of the euro banknotes currently in circulation by value.

Cash fulfils various economic functions. One of them is to store value. Another is to make payments.

According to our estimates, only about one in twenty banknotes issued by the Bundesbank is used to make payments in Germany. The use of cash as a means of payment is declining – this is true both internationally and in Germany. Nevertheless, the level of cash use is still high in many countries – and especially so in Germany.

There are fewer cash payments, but we are far from being cashless. So why has physical cash not sunk in the vast sea of digital means of payment? In my opinion, this has to do with the special characteristics of cash.

2 Cash as an independent means of payment

We regularly monitor payment behaviour in Germany to understand households' motives for using certain means of payment. Protection against financial loss, privacy and an overview of spending are crucial features that consumers expect from a means of payment. In all these areas, cash performs well according to our surveys.

My interpretation of these results is: German households value independence – and physical cash offers three unique forms of independence, which distinguishes it from digital payment systems.

First, it offers independence from one's socio-economic background. Cash is tangible and does not require any technical equipment. The use of cash is easily understood across generations, from young children to the elderly. The physical feel of cash is, in my view, an important element for strengthening financial inclusion.

Consumers can use cash regardless of their income level or level of education. In this sense, cash is also a means of safeguarding social cohesion.

Therefore, ensuring access to cash is particularly important in rural areas with inadequate banking or technical infrastructure. A study we conducted, the results of which we published in 2020, showed that cash access is guaranteed in both urban and rural areas of Germany.

Second, cash ensures independence from technological ecosystems. Given the still partially fragmented payments landscape in Europe, it is important to note that cash has long been a universal means of payment when it comes to person-to-person transactions in the euro area.

Tech companies and foreign financial service providers could shake up the traditional banking system. These companies can often leverage their global reach and large customer base. This may bring benefits for consumers, for example in cross-border payments. However, it also means that customers are becoming locked into particular payment ecosystems and private companies.

In the Eurosystem, cash offers an easy way out, at least for certain transactions. This is because it can also be used as a matter of course for payments abroad.

Third, cash ensures independence from social control and data collection. As legal tender, cash is fully backed by the domestic central bank. Cash is the payment method of choice when it comes to privacy. This strengthens individual freedom.

Ultimately, digital payment systems involve the collection of personal data. Compiling data is not harmful per se. In the age of Big Data, collecting detailed data means obtaining valuable information that, in turn, makes it possible to construct patterns of individual behaviour. It is not for nothing that data is often referred to as the gold of the digital age.

From a consumer protection point of view, though, the question arises as to how much information is required to carry out a particular transaction and for what purpose the data is used. From an economic point of view, the disclosure of personal data can be seen as an additional type of fee.

When comparing the cost structures of different payment methods, this aspect should be taken into account. I therefore have my doubts as to whether we can actually describe payments with Apple Pay, Google Pay or PayPal, which are now part of everyday life for many of us, as free of charge for the consumer.

3 Cash in the crisis

Ladies and gentlemen, ensuring well-functioning payment transactions – that is one of the core tasks of central banks. When it comes to cash payments, we as a central bank are an important part of the cash infrastructure, but not the only part.

The cash cycle only runs smoothly when the various stakeholders work together. In normal times, we have established processes and routines for this. Withdrawals and deposits of banknotes therefore run smoothly.

Yet the pandemic has added some burdens. All cash stakeholders – from cash-in-transit companies and retailers to banks – have had to quickly

adapt established work processes, for example, to improve occupational health and safety, avoid physical contact and, at the same time, always keep an eye on the pandemic situation and the resulting containment measures.

During the coronavirus crisis, cash payments functioned smoothly in many places. This was and still is important. Cash fulfils a special, stabilising role in times of crisis and macroeconomic uncertainty. The data on cash demand illustrate this.

With the spread of the coronavirus, cash demand in Germany increased particularly strongly. In 2020, the Bundesbank's net issues were significantly higher than in the previous year. In uncertain times, cash is in particularly high demand because it is something haptic, something tangible.

People in Germany value cash not only as an easy-to-handle and familiar means of payment, but also as a safe store of value. The observed increase in German banknotes in circulation during the pandemic once again impressively demonstrated this. But it is also true that, in many countries of the world, people are using banknotes and coins less and less.

A Bundesbank study shows that in 2020 6 out of 10 transactions in Germany were settled in cash during the survey period. This is a relatively high value by international standards. Cash has thus remained the most widely used means of payment in Germany during the pandemic.

We have observed that, before the pandemic, the use of cash as a means of payment in Germany was decreasing by about one percentage point every year. This trend has accelerated at least temporarily since the beginning of the pandemic.

This may be partly due to the fact that many areas in Germany where people often pay in cash, such as restaurants and public festivals, were closed for a long time due to the pandemic. But it is also due to the fact that consumers have an ever-growing choice of non-cash payment methods at their disposal, some of which are heavily advertised.

We cannot and do not want to interfere in individual payment habits. That is the personal decision of each and every individual. For the future, however, we must ensure that access to cash and the acceptance of cash payments are maintained as cash use declines. To ensure that consumers continue to have a free choice between different means of payment, cash must continue to be available and generally accepted.

Thus, not only the coronavirus crisis but also advancing digitalisation and infrastructure changes are already challenging us to look ahead. The cash infrastructure will prove reliable in the future if the responsible actors develop strategies and consider possibilities today to ensure a disruption-free cash supply – far beyond the pandemic.

4 A look into the future

And that, ladies and gentlemen, brings us to the core of my speech – the future of cash. We want cash to remain an attractive, reliable and competitive means of payment in the future. But payment transactions will continue to change, that is certain. Is it enough if we central banks merely passively accompany this change and only react to developments?

No. When we think about the future of cash, we cannot simply wait and be surprised at the end. We have to hold the reins in our hands and actively shape the future.

But before we can think about what course we should set, we first need to get an idea of what the future might even look like. What is possible, what is realistic? How will cash user groups develop in the future? What social trends will shape the future?

We do not have a crystal ball to hand to answer these questions. Instead, we at the Bundesbank have decided to work with methods of future research.

Let me first shed some light in the darkness and explain what this means. According to Rolf Kreibich, a German physicist and future researcher, future research is "the scientific study of possible, probable and desirable future developments, the options for shaping them, and their roots in past and present".

This is not about forecasting, which is predicting the future precisely. Forecasting tends to derive short-term conclusions from developments and often assumes that developments from the recent past will continue.

In our case, however, it is about foresight. So it's about keeping the big picture in mind. Taking an overall look at societal trends and keeping in mind that there are multitudes of possible future paths – and long-term consequences associated with these different paths.
Because, and you will know this from your own lives: depending on the path you take, the landscapes to the left and right can differ greatly. And your perspective is sometimes quite different depending on your position.

Thinking through these different paths and applying a broad mix of methods is an important part of future research. It is about strategic foresight and the creation of different scenarios for possible futures.

You can imagine the future as being like a funnel. The further the time horizon is in the future, the more possibilities can occur. These may not necessarily be desirable but they must be plausible.

Alternatively, to paraphrase Kreibich: scenarios can only be “indicators of a spectrum of possibilities”. We therefore need to consider more than one scenario in order to be prepared.

With the knowledge gained in the scenarios, we can then take measures and decisions to steer the future in the desired direction. The insight into possible cash futures is thus intended to provide orientation for our actions today.

5 Practical examples

This may all sound very abstract at first. Let me give you some practical examples where these foresight techniques are already being used.

One of the pioneers from the private sector is Shell, one of the world's largest mineral oil and natural gas companies. Shell has been developing possible visions of the future since the early 1970s. The challenge here is to create plausible and challenging descriptions of the future economic environment.

Especially in times of uncertainty and upheaval, energy and environmental issues play an important role for society as a whole. In the past, Shell was prepared for crises and changes because decision-makers were already confronted with such items in future scenarios.

In the meantime, strategic foresight is also used in public and political contexts. One example is the 2020 Value Study of the Federal Ministry of Education and Research in Germany. In order to have a preview of possible future value landscapes, the Federal Ministry commissioned the study “The Future of People's Value Perceptions in Our Country”.

Why do companies and institutions rely on such methods? The aim is to show policymakers what futures are possible. It is about anticipating developments, pointing out interdependencies as well as opportunities and challenges, and stimulating discussions. And all of this on different levels: social, economic, political.

Future developments are not monocausal, but are created by all of us. We need to involve relevant stakeholders and their knowledge in the process at an early stage. The development of strategies and scenarios enables conscious, value-oriented action – based on evidence.

6 Scenario process in strategic foresight

Ladies and gentlemen, we have an idea of what strategic foresight means and have heard about some practical examples. How can we now transfer these techniques to our cash strategy? How can we create scenarios?

In order to better assess the payments landscape of tomorrow and to derive measures, we at the Deutsche Bundesbank are currently working together with a research institute. Foresight experts and experts in the field of cash are coming together throughout the process to ensure fruitful cooperation. It is important that no ideas are off-limits, especially at the beginning. And now we will look together at how we proceed with this study.

The whole process is summarised as the scenario process. The first phase of the scenario process consists of setting the scenario field. At this stage, we define the topic that the scenarios will later describe. We also need to determine basic questions as well as the scope of the study. These include questions such as: what needs to be integrated into a scenario, and what does not?

In our case, the overarching theme is clearly defined: Cash in Germany in 15 to 20 years. Within this theme, we focus on two main groups: the potential users of cash and the cash cycle with all its stakeholders.

Consumers and their future needs are of particular importance. After all, cash will have no future if there are no more people who use cash.

Specifically, we ask ourselves: who exactly is the user group, what are their values, where do they pay in cash? And what is their motivation to use cash in the future? What are the future needs of consumers? In summary, under the given conditions in a defined scenario, we want to explore who uses cash, where, why and for what kind of transactions.

The second group we take a closer look at are the stakeholders in the cash cycle: the producers, banks and cash-in-transit companies. Without a functioning cash cycle, cash cannot be used. What will these stakeholders need in the future to continue to ensure a functioning cash infrastructure? Will new players possibly enter the cycle?

You see, to proactively manage the cash cycle, the first step is to understand the possible changes and developments in the entire cash cycle.

After we have mapped out the scenario field, the second phase is about identifying and analysing key factors. In this phase, an interdisciplinary team of researchers experienced in future research and strategic foresight identifies key factors that have a strong influence on future developments.

Key factors can be parameters, trends, developments or events. Computer-assisted literature research makes it possible to identify even weak signals for future key factors that are not yet so important. The key factors play a central role in the further course of the scenario process.

During the key factor analysis, researchers explore what range of outcomes these key factors could produce. This leads to an expansion of the scenario funnel. The further into the future the scenario lies, the more possibilities arise.

If the key factors only describe linear trends, the result is a scenario that describes a "business as usual" situation. However, the experiences of the last few decades, with several crises and, especially, two years of a pandemic, show us that "business as usual" is often not the most sensible approach for planning the future in reality. Therefore, the scenario process also takes into account disruptive key factors or possible sudden changes and developments.

7 Digitalisation as megatrend

Ladies and gentlemen, let us look at one of the most obvious key factors: megatrends. Megatrends affect all aspects of a society: Social aspects, but also economic factors and political decisions.

Of course, the future use of cash is not monocausal. This means that there are several megatrends, each of which will have a major impact on our future approach to cash. Among all the megatrends already known, there is one that stands out in particular: digitalisation.

Digitalisation has already changed all of our daily lives and will certainly continue to do so. The changes are not only of a purely technical nature. Digitalisation also has direct and indirect effects on everyday objects such as cash and our everyday behaviour.

The motivation behind technological progress is often the desire to make our lives easier and more convenient and to make processes more efficient. In our houses and flats, the heating, air conditioning, lights and sound system can be switched on and off via an app – and digital payment systems are attracting more and more users.

In recent years, however, we have also learned that complete dependence on the digital world can leave us vulnerable. This can happen in various situations. I would like to give you two examples.

One is a situation where people are exposed to a natural disaster. With climate change, we will all experience even more extreme weather conditions that can cause severe damage to infrastructure. This can lead to power outages – sometimes not just for a few hours, but for a few days or weeks.

This is where cash has proven in the past to be a means of payment that works even without electricity and therefore has a high resilience in this situation. Cash can also provide quick and direct assistance to those who are affected. Because with cash they are able to help themselves in an autonomous way.

The second example is the danger of criminal misuse or theft of digital data. Cases of cybercrime have increased in recent years. Hackers attack private individuals, companies and banks by stealing data and identities, blackmailing them or installing malware.

In some cases, immense financial damage is caused thousands of kilometres away at the touch of a button. And we are talking about incredible sums of money here – a criminal could not even carry that many suitcases of physical money.

Both examples show the growing need for security in various areas and the importance of building resilience.

In addition to digitalisation, the needs of users are certainly another key factor for the cash of the future. For example, the age structure will be different in the future to how it is today. If necessary, we will have to take the needs of older cash users into account in a completely different way, for example in the design of banknotes.

I will give you other examples of key factors, apart from cash. Just think of the change in values in the 80s regarding fur clothing. What is chic one moment can be frowned upon the next.

There can be also disruptive events. The majority of people in Europe would not have thought it possible that the United Kingdom would actually leave the European Union. Or, most recently, the coronavirus pandemic, which has affected and changed almost every aspect of our public and private lives. You see the wide range of possible key factors.

What happens now with the key factors in the scenario process? The key factors are bundled in the phase called scenario generation. The aim here is to generate a relatively small number of meaningfully distinguishable scenarios. A total number of three to five scenarios is envisaged.

The finished scenarios will not only be described in text form, we also plan to show them in graphical form in order to make it easy to visualise this specific part of the future. This makes a scenario more tangible.

The last step, scenario transfer, is actually no longer part of the scenario process. In this final phase, we as decision-makers can use the finished scenarios for specific purposes, such as strategic planning.

Now we have learned a lot about the methodology of strategic foresight and the scenario process, looked at practical examples and identified the megatrend of digitalisation as a key factor for the future development of cash. For us at the Bundesbank, it is now a matter of putting theory into practice.

This year we will compile the key factors and prepare the scenario generation. In spring 2023, we expect to have completed the core of the scenario process and produced the scenario transfer and reporting.

Incidentally, being able to present the results of our study next year or the year after – possibly at this wonderful conference – is, in my view, a plausible and realistic scenario.

8 Conclusion

Ladies and gentlemen, when we talk about cash against the backdrop of an increase in new digital payment methods, one might get the impression that it is about the “old world versus the new world”. This supposed duality is not new.

If we think back, around the turn of the millennium there was a real hype about everything that was called the New Economy. New Economy was a term used to describe internet start-ups, which often relied on little physical capital to generate, at times, staggering market valuations. This was in contrast to the Old Economy. Think of brick-and-mortar car plants, for example.

With the passage of time, we can say that “the new has become a bit old and the old a bit new”. Economic structures have become integrated. The basic market forces still apply: the companies that survive are those that are competitive and offer a unique product that meets the needs of consumers.

I view the cash of the future in this light. To me, digital payments offer exciting prospects. However, that does not necessarily imply that existing payment methods will become extinct.

Financial inclusion and maintaining social cohesion will continue to be important challenges in our societies. Cash offers unique features, so it is clear to me that it will continue to enjoy great popularity – also and even more so in the digital age.

However, as central banks, we should not stand passively on the sidelines. To the extent that the decline in cash usage is not due to demand-side but supply-side adjustments, central banks need to pay close attention. Being neutral with respect to consumer choices does not mean that we remain passive.

Rather, we must do our part today to steer the future of cash and be prepared for future challenges. Because, as we heard at the beginning of my speech, the best way to predict the future is to shape it ourselves.

With our study on the cash of the future, we are laying an important foundation stone for this. So that cash will remain an attractive and reliable means of payment – for all parts of society.

Let us create the future of cash – now!

I am looking forward to a fruitful discussion with you.

To read more: https://www.bundesbank.de/en/press/speeches/cash-of-the-future-885796

Navigating change in the global financial system - the role of the Financial Stability Board

Klaas Knot, President of the Netherlands Bank, at the G20 meeting of Finance Ministers and Central Bank Governors, Jakarta.

Good afternoon. It is great to meet you all here in person, as a hopeful step toward normality. First of all I want to thank Governor Perry Warjiyo for inviting me to speak here today. And I want to thank the Indonesian G20 Presidency for their hospitality and their organization of such a smooth event in the face of a still challenging Covid environment.

I feel honored to speak before you as the new Chair of the Financial Stability Board. And I am grateful to my predecessor, Randal K. Quarles, for his leadership in a challenging period. Randy came in when the reform agenda that followed the 2008 crisis was nearing completion.

We had just started to look ahead. Then the pandemic hit. He did a fantastic job as FSB Chair in turning the FSB's focus to the crisis at hand, without losing sight of the need to continue to make progress on longer-term priorities.

Along the way, he further strengthened the FSB in its role as the primary coordinating mechanism on financial stability matters. I will continue the work that Randy had already started. Here I realize I have big shoes to fill. Luckily, they are already pointed in the right direction.

The past three years have seen a fundamental shift in the work of the FSB, from completing the post-2008 reforms to tackling new challenges for financial stability.

Here I think of the crisis management and ongoing coordination during the pandemic, efforts to tackle vulnerabilities in non-bank financial intermediation, work to ensure that digital innovation is safe, and addressing the risks that climate change may create for financial stability.

The FSB has coped with this shift effectively, not least thanks to the continued support of its members and the G20. Yet we may have seen only the beginning of the changes that the pandemic, digitalization and climate change are bringing to the financial system, and our economies more widely.

Today, I would like to discuss with you my view of the role that the FSB should play to ensure that the financial system can navigate these changes safely, while providing the financing that the real economy needs.

The FSB is the centre piece of a multilateral approach to financial stability that until now has proven very effective. This was best demonstrated by the G20 reforms following the great financial crisis.

These reforms have served the financial system well during the Covid pandemic. Greater resilience of major banks at the core of the financial system has allowed the system to absorb, rather than amplify, the economic shock. Without the G20 reforms, governments would now have to deal with a crippled banking sector in full deleveraging mode, on top of an economy hit by Covid restrictions. We would have had a crisis within a crisis.

In my view, this success is in large part thanks to the G20's commitment to dealing with global challenges together, and to the FSB's broad membership, its agility and its engagement with other stakeholders. We will need to fully use these strengths, to which I will return later on, if we want to tackle the new financial stability challenges successfully.

So let me now discuss the nature of these challenges and what it means for the work of the FSB in the coming years.

A big challenge for policy makers worldwide at this moment is navigating their economies out of the Covid pandemic.

Two years after its onset, the economic fall-out of the pandemic appears to be subsiding, and the extraordinary fiscal and monetary support measures that kept economies afloat are being gradually unwound. But as the economic recovery is proceeding at an uneven pace across regions, this unwinding process is increasingly likely to be asynchronous. This creates the potential for cross-border spill-overs.

Moreover, since the onset of the pandemic, both public and private sector debt have increased, while asset prices have grown amid a search for yield. This has made the global financial system more vulnerable to a disorderly tightening of financial conditions - a concern that has been accentuated lately by the return of high inflation.

The FSB is monitoring and analysing developments closely and stands ready to facilitate global coordination of financial policies, where necessary, to minimize the risk of a disorderly exit.

This is being underpinned by the FSB's new financial stability surveillance framework. The framework enables us to identify global financial vulnerabilities in a systematic manner. It draws on the collective expertise of the FSB's broad membership. It places particular emphasis on incorporating multiple perspectives in the identification and assessment of both current and emerging vulnerabilities.

At the same time as navigating our economies out of Covid, we need to strengthen resilience in the non-bank financial intermediation, or NBFI, sector.

The financial reform agenda after 2008 focused heavily on banks. Greater resilience of major banks at the core of the financial system has allowed the system to absorb, rather than amplify, the economic shock from the pandemic. But as a side-effect, risks in the financial system moved from the banking sector to the non-bank financial sector. This is what I have previously referred to as the 'waterbed effect'. Pressing down on one end of the financial system causes risks to pop up elsewhere. And, indeed, since 2008 NBFI has grown much faster than bank intermediation. It now accounts for about half of all financial assets worldwide.

So, we now have some catching up to do when it comes to reducing systemic risk in non-bank financial markets. This is a top priority for the FSB, as reflected in our ambitious NBFI work programme.

The pandemic has brought into even sharper focus the central role of digital innovation. Digital innovation offers important opportunities for more efficient and inclusive finance. Let's take the FSB's work to enhance cross-border payments. The use of new technology is an important element here. The aim of this initiative is to bring about cheaper, faster and more transparent and inclusive cross-border payment services for the benefit of citizens and businesses worldwide.

Over the past year, in cooperation with CPMI, we have done the foundational work under the G20 Roadmap for Enhancing Cross-Border Payments and we have established quantitative targets. Which means we can now go to the next stage: developing specific proposals for material improvements to existing systems and arrangements, as well as the development of new systems.

But digital innovation also creates risks. The issues raised by digital innovation in finance are in a number of respects similar to those of traditional NBFI: we need to assess the implications of changes in intermediation structures for financial stability. The key difference is that important innovation is happening outside the traditional financial system, often supplied by non-financial entities such as BigTechs, traded on

unregulated platforms and transferred on ordinary computer networks globally.

Crypto-asset markets are a case in point. The FSB has been monitoring crypto-asset developments since 2018. Our most recent risk assessment shows that markets for crypto-assets are fast evolving and could reach a point where they represent a threat to global financial stability. I must say I have my concerns about this development.

Let's take for example all the misnomers that are doing the rounds. Unbacked crypto assets suggest all others are backed, which they are not. Most stablecoins are neither stable nor coins. Decentralized finance is often quite centralized. This leads to misconceptions about crypto-assets, which contribute to their fast growth.

The FSB is stepping up to the plate to deliver an effective regulatory approach to crypto-assets. We have issued a set of high-level recommendations for the regulation, supervision and oversight of so-called "global stablecoins". Also we are continuing to work with the standard-setting bodies to review their implementation and whether any changes are needed.

Parallel to this, the FSB has started to examine, together with the relevant standard-setting bodies, regulatory and supervisory issues and approaches to address risks stemming from the so-called "unbacked" crypto-assets. And we will analyse the financial stability implications of Decentralized Finance, in order to understand the need for policy action in that area.

Another feature of digital innovation is the ever-greater use by financial institutions of outsourcing to third-party service providers. While outsourcing may have provided additional resilience during the pandemic, it has also reinforced the importance of effective policies for the oversight of financial institutions' reliance on critical service providers.

To this can be added the greater exposure to cyber risk. Greater interconnections in the financial system increase the surface for cyberattacks, which have escalated during the Covid pandemic. Enhancing operational and cyber resilience will therefore remain important items on the FSB agenda.

Next to digitalization, we face the ever-growing threat of climate change. While emanating outside the financial sector, climate change may severely affect financial stability. The financial risks of climate change reflect its particular nature: it is global in its causes and its implications, and it is pervasive, affecting all kinds of financial assets and contracts.

For safeguarding financial stability and ensuring the financing needed for the transition to net zero, it is key that climate related financial risk is adequately priced in financial contracts. This is crucial because financial contracts price the future, and that future is about to undergo fundamental change.

The FSB's roadmap for addressing climate-related financial risks, which is being taken forward in close conjunction with the NGFS and many other international bodies, aims to ensure that climate risks are properly reflected in all financial decisions. It covers disclosures, data, vulnerability analysis, and regulatory and supervisory approaches. This is important because, as we all know, what gets measured, gets managed.

Despite the progress made, the challenges are formidable. They range from identifying and collecting the information needed to measure and assess climate-related risks, to designing robust supervisory tools, such as climate stress tests and scenario analysis. Because there are no international standards in place yet, not least relating to disclosures, we have an enormous opportunity to get this right from the start. We should not miss it.

The changes I discussed – the move to a post-covid world, ensuring safe digital innovation, and transitioning to net-zero emissions – are global in nature, including their impact on the financial system. In order to promote global financial resilience and the smooth provision of finance to the real economy in the face of these changes, we need to continue our successful global cooperation. The FSB is uniquely placed to facilitate this, because of its three key strengths.

First of all its broad, diverse and multi-disciplinary membership. The FSB brings together in a collegial spirit of mutual trust senior officials from 71 authorities in 25 jurisdictions, and 10 multilateral institutions, covering multiple mandates across different sectors. This broad membership enables the FSB to take a truly holistic – cross-sectoral and international – perspective on financial stability issues.

Such a perspective is key to understanding and tackling risks from digital innovation and climate change, which affect all parts of the financial system, as well as understanding system-wide risk in complex financial ecosystems like NBFI. It is also key to avoid regulatory arbitrage and fragmentation. And its broad membership, including the sectoral standard setters, puts the FSB in a position to coordinate effectively.

The second strength is the FSB's agility in addressing near-term threats as well as structural changes in the financial system, while keeping sufficient headroom to be able to respond to new emerging vulnerabilities that are

detected. This agility was demonstrated at the start of the pandemic, when FSB members exchanged information on market developments and policy actions on a daily basis and reprioritized their work and resources to focus on the pandemic.

The third strength is the FSB's engagement, as part of the policy-making process, with a broad range of stakeholders both inside and, importantly, outside the financial sector. The FSB reaches beyond its membership to include over 70 further jurisdictions through its Regional Consultative Groups.

This engagement is underpinned by its commitment to transparency as well as its accountability to its various stakeholders, including the G20. This outreach will be even more important in the areas of digital innovation and climate change, where relevant expertise and responsibilities may not rest with financial authorities.

I will build upon and further develop these strength during my tenure. I aim to ensure that the FSB remains a member-led and inclusive organization.

Because this has proven key for continued support to a multilateral approach. An approach that has proven to work.

And I would like to thank you, G20 colleagues, for entrusting me the task of chairing this organization. I look forward to working with you and with my fellow FSB members to ensure that the FSB plays its part in supporting the G20 objective of strong, sustainable, balanced and inclusive growth.

SHIELDS UP

While there are no specific or credible cyber threats to the U.S. homeland at this time, Russia's unprovoked attack on Ukraine, which has involved cyber-attacks on Ukrainian government and critical infrastructure organizations, may impact organizations both within and beyond the region, particularly in the wake of sanctions imposed by the United States and our Allies. Every organization—large and small—must be prepared to respond to disruptive cyber activity.

As the nation's cyber defense agency, CISA stands ready to help organizations prepare for, respond to, and mitigate the impact of cyber-attacks. When cyber incidents are reported quickly, we can use this information to render assistance and as warning to prevent other organizations and entities from falling victim to a similar attack.

CISA recommends all organizations—regardless of size—adopt a heightened posture when it comes to cybersecurity and protecting their most critical assets.

Recognizing that many organizations find it challenging to identify resources for urgent security improvements, we've compiled a catalog of free services from government partners, and industry to assist. Recommended actions include:

Reduce the likelihood of a damaging cyber intrusion

- Validate that all remote access to the organization's network and privileged or administrative access requires multi-factor authentication.

- Ensure that software is up to date, prioritizing updates that address known exploited vulnerabilities identified by CISA.

- Confirm that the organization's IT personnel have disabled all ports and protocols that are not essential for business purposes.

- If the organization is using cloud services, ensure that IT personnel have reviewed and implemented strong controls outlined in CISA's guidance.

- Sign up for CISA's free cyber hygiene services, including vulnerability scanning, to help reduce exposure to threats.

Take steps to quickly detect a potential intrusion

- Ensure that cybersecurity/IT personnel are focused on identifying and quickly assessing any unexpected or unusual network behavior. Enable logging in order to better investigate issues or events.

- Confirm that the organization's entire network is protected by antivirus/antimalware software and that signatures in these tools are updated.

- If working with Ukrainian organizations, take extra care to monitor, inspect, and isolate traffic from those organizations; closely review access controls for that traffic.

Ensure that the organization is prepared to respond if an intrusion occurs

- Designate a crisis-response team with main points of contact for a suspected cybersecurity incident and roles/responsibilities within the organization, including technology, communications, legal and business continuity.

- Assure availability of key personnel; identify means to provide surge support for responding to an incident.

- Conduct a tabletop exercise to ensure that all participants understand their roles during an incident.

Maximize the organization's resilience to a destructive cyber incident

- Test backup procedures to ensure that critical data can be rapidly restored if the organization is impacted by ransomware or a destructive cyberattack; ensure that backups are isolated from network connections.

- If using industrial control systems or operational technology, conduct a test of manual controls to ensure that critical functions remain operable if the organization’s network is unavailable or untrusted.

By implementing the steps above, all organizations can make near-term progress toward improving cybersecurity and resilience. In addition, while recent cyber incidents have not been attributed to specific actors, CISA urges cybersecurity/IT personnel at every organization to review Understanding and Mitigating Russian State-Sponsored Cyber Threats to U.S. Critical Infrastructure.

CISA also recommends organizations visit StopRansomware.gov, a centralized, whole-of-government webpage providing ransomware resources and alerts.

For corporate leaders and CEOs

Corporate leaders have an important role to play in ensuring that their organization adopts a heightened security posture. CISA urges all senior leaders, including CEOs, to take the following steps:

- *Empower Chief Information Security Officers (CISO):* In nearly every organization, security improvements are weighed against cost and operational risks to the business. In this heightened threat environment, senior management should empower CISOs by including them in the decision-making process for risk to the company, and ensure that the entire organization understands that security investments are a top priority in the immediate term.

- *Lower Reporting Thresholds:* Every organization should have documented thresholds for reporting potential cyber incidents to senior management and to the U.S. government. In this heightened threat environment, these thresholds should be significantly lower than normal. Senior management should establish an expectation that any indications of malicious cyber activity, even if blocked by security controls, should be reported, as noted in the Shields-Up website, to CISA or the FBI. Lowering thresholds will ensure we are able to immediately identify an issue and help protect against further attack or victims.

- *Participate in a Test of Response Plans:* Cyber incident response plans should include not only your security and IT teams, but also senior business leadership and Board members. If you've not already done, senior management should participate in a tabletop exercise to ensure familiarity with how your organization will manage a major cyber incident, to not only your company but also companies within your supply chain.

- *Focus on Continuity:* Recognizing finite resources, investments in security and resilience should be focused on those systems supporting

critical business functions. Senior management should ensure that such systems have been identified and that continuity tests have been conducted to ensure that critical business functions can remain available subsequent to a cyber intrusion.

- *Plan for the Worst:* While the U.S. government does not have credible information regarding specific threats to the U.S. homeland, organizations should plan for a worst-case scenario. Senior management should ensure that exigent measures can be taken to protect your organization's most critical assets in case of an intrusion, including disconnecting high-impact parts of the network if necessary.

To read more: https://www.cisa.gov/shields-up

SHIELDS UP – Simple steps for individuals

Every individual can take simple steps to improve their cyber hygiene and protect themselves online.

CISA urges everyone to practice the following:

- Implement multi-factor authentication on your accounts. A password isn't enough to keep you safe online.

  By implementing a second layer of identification, like a confirmation text message or email, a code from an authentication app, a fingerprint or Face ID, or best yet, a FIDO key, you're giving your bank, email provider, or any other site you're logging into the confidence that it really is you.

  Multi-factor authentication can make you 99% less likely to get hacked. So enable multi-factor authentication on your email, social media, online shopping, financial services accounts. And don't forget your gaming and streaming entertainment services!

- Update your software. In fact, turn on automatic updates. Bad actors will exploit flaws in the system.

  Update the operating system on your mobile phones, tablets, and laptops. And update your applications – especially the web browsers – on all your devices too. Leverage automatic updates for all devices, applications, and operating systems.

- Think before you click. More than 90% of successful cyber-attacks start with a phishing email.

  A phishing scheme is when a link or webpage looks legitimate, but it's a trick designed by bad actors to have you reveal your passwords, social security number, credit card numbers, or other sensitive information.

  Once they have that information, they can use it on legitimate sites. And they may try to get you to run malicious software, also known as malware. If it's a link you don't recognize, trust your instincts, and think before you click.

- Use strong passwords, and ideally a password manager to generate and store unique passwords. Our world is increasingly digital and

increasingly interconnected. So, while we must protect ourselves, it's going to take all of us to really protect the systems we all rely on.

Important CISA Resources:

CISA Insights: Preparing for and Mitigating Foreign Influence Operations Targeting Critical Infrastructure – you may visit: https://www.cisa.gov/sites/default/files/publications/cisa_insight_mitigating_foreign_influence_508.pdf

Preparing for and Mitigating Foreign Influence Operations Targeting Critical Infrastructure

CISA Insights: Implement Cybersecurity Measures Now to Protect Against Potential Critical Threats – you may visit: https://www.cisa.gov/sites/default/files/publications/CISA_Insights-Implement_Cybersecurity_Measures_Now_to_Protect_Against_Critical_Threats_508C.pdf

January 18, 2022

Implement Cybersecurity Measures Now to Protect Against Potential Critical Threats

To read more: https://www.cisa.gov/shields-up

EBA publishes annual assessment of banks' internal approaches for the calculation of capital requirements

The European Banking Authority (EBA) published its Reports on the annual market and credit risk benchmarking exercises.

These exercises aim at monitoring the consistency of risk weighted assets (RWAs) across all EU institutions authorised to use internal approaches for the calculation of capital requirements.

Regarding market risk, for the majority of participating banks, the results confirm low dispersion in the initial market valuation (IMVs) and increased dispersion in the VaR submissions.

For credit risk, the variability of RWA remained rather stable, despite the pandemic and banks' efforts to re-develop or re-calibrate their models to comply with the policies set out in the EBA internal rating-based (IRB) roadmap.

A particular focus has been put on analysing the impact of the pandemic and the compensating public measures on the IRB models.

Credit Risk exercise

This year's Report provides an in-depth analysis of the observed and potential impact of the COVID-19 pandemic.

It includes theoretical analysis on where potential impact is likely to be observed and empirical analysis on the development of average RWs, probabilities of default (PDs) and default rates (DRs) between 31 December 2019 and 31 December 2020 for the different benchmarking portfolios.

The theoretical assessment concludes that heterogeneity of the impact is expected not only due to the different extent to which the underlying loans (obligors) are affected by the pandemic but also because of the institutions' relevant processes for assigning and reviewing IRB ratings.

The empirical analysis indicates that the observed decrease of average RW and PDs for high-default (HP) portfolios is mostly due to the re-estimation of PDs conducted in 2020.

For qualified revolving exposures (RQRR) slight migrations of retail obligors/exposures towards better rating grades are observed, while for

SME corporates the decrease of RW is likely to be related to the Capital Requirements Regulation (CRR) quick fix.

Lastly, for retail SME portfolios, the observed decrease of average default rates may indicate a potential overcompensation of the expected impact of the economic crisis by public measures and moratoria.

The Report also includes an analysis of the developments of both average PDs and average default rates between end 2019 and end 2020, which may be due to the IRB roadmap implementation.

As usual, the Report contains a section on the competent authorities' assessment of the deviations from the benchmarks.

For HDP portfolios, this assessment underpins the results obtained from the empirical analysis and confirms that some deviations are related to the COVID-19 pandemic. The focus analysis is complemented with an extensive chart pack providing the analysis of the benchmarking metrics.

Market Risk exercise

The Report presents the results of the 2021 supervisory benchmarking and summarises the conclusions drawn from a hypothetical portfolio exercise (HPE) conducted by the EBA during 2020/21.

The 2021 exercise considered the same instruments applied in 2019 and 2020, which are mostly plain vanilla. This stability has facilitated the understanding of the benchmarking portfolio and contributed to an observed reduction in overall dispersion in the instruments booking.

Regarding the single risk measures, the overall variability for value at risk (VaR) across all asset classes, except for credit spread, is slightly lower than the observed variability for stressed VaR (sVaR) (27% and 31% respectively, compared with 18% and 29% in 2020). More complex measures, such as incremental risk charge (IRC) show a higher level of dispersion (43% compared with 49% in 2020).

The increase of the VaR dispersion for 2021 was also analysed separately in order to explain the impact of the increased market volatility followed by the COVID-19 outbreak.

Competent authorities also complemented a questionnaire on banks participating in the exercise to supplement the quantitative analysis. Although the majority of the causes were identified and actions put in place to reduce the unwanted variability of the hypothetical RWAs, the effectiveness of these actions can be evaluated only with ongoing analysis.

Note

These annual benchmarking exercises contribute to the work the EBA is conducting for improving the regulatory framework, increase convergence of supervisory practices and, thus, restoring confidence in internal models. For credit risk internal models, the EBA has followed its roadmap for the implementation of the regulatory review of internal models.

This exercise should be read in parallel with other efforts to reduce undue level of variability. In particular, the EBA roadmap to Repair IRB models is a key component of the review of the IRB framework, along with the enhancements brought by the final Basel III framework assessed by the EBA in a set of recommendations as an answer to the call for advice of the European Commission. You may visit: https://www.eba.europa.eu/eba-publishes-report-on-progress-made-on-its-roadmap-to-repair-irb-models

In parallel, the exercises provide a regular supervisory tool based on benchmarks to support competent authorities' assessments of internal models and produce comparisons with EU peers.

Basel III Monitoring Report

This report presents the results of the Basel Committee's latest Basel III monitoring exercise, based on 30 June 2021 data. It sets out the impact of the Basel III framework including the December 2017 finalisation of the Basel III reforms and the January 2019 finalisation of the market risk framework.

Highlights of the Basel III monitoring exercise as of 30 June 2021

- Banks' risk-based capital ratios remained stable and liquidity ratios further improved on average even as the pandemic crisis continued in H1 2021

- Leverage ratios decreased during H1 2021 due to the expiration of some support measures

To assess the impact of the Basel III framework on banks, the Basel Committee on Banking Supervision monitors the effects and dynamics of the reforms.

For this purpose, a semiannual monitoring framework has been set up on the risk-based capital ratio, the leverage ratio and the liquidity metrics using data collected by national supervisors on a representative sample of institutions in each country.

Since the end-2017 reporting date, the report also captures the effects of the Committee's finalisation of the Basel III reforms.

This report summarises the aggregate results using data as of 30 June 2021.

The Committee believes that the information contained in the report will provide relevant stakeholders with a useful benchmark for analysis.

Information considered for this report was obtained by voluntary and confidential data submissions from individual banks and their national supervisors.

Data were included for 172 banks, including 110 large internationally active ("Group 1") banks, among them all 30 G-SIBs, and 62 other ("Group 2") banks.

Overview of results — Table 1

	31 December 2020[1]			30 June 2021		
	Group 1	Of which: G-SIBs	Group 2	Group 1	Of which: G-SIBs	Group 2
Initial Basel III framework						
CET1 ratio (%)	13.2	13.0	16.3	13.2	12.9	16.2
Target capital shortfalls (€ bn);[2] of which:	0.0	0.0	1.0	0.0	0.0	0.0
CET1	0.0	0.0	0.0	0.0	0.0	0.0
Additional Tier 1	0.0	0.0	1.0	0.0	0.0	0.0
Tier 2	0.0	0.0	0.0	0.0	0.0	0.0
TLAC shortfall 2022 minimum (€ bn)	18.4	18.4		24.2	24.2	
Total accounting assets (€ bn)	72,357	51,021	2,886	76,606	53,753	2,808
Leverage ratio (%)[3]	6.6	6.6	5.8	6.3	6.1	5.9
LCR (%)	142.8	141.2	208.3	143.8	142.7	224.6
NSFR (%)	123.0	124.5	125.7	124.5	125.9	129.6
Fully phased-in final Basel III framework (2028)						
Change in Tier 1 MRC at the target level (%)	2.9	3.5	6.4	3.3	3.7	8.4
CET1 ratio (%)	12.8	12.7	14.5	12.7	12.5	15.2
Target capital shortfalls (€ bn); of which:	6.1	6.1	1.8	2.3	2.3	1.3
CET1	0.0	0.0	0.6	0.0	0.0	0.4
Additional Tier 1	2.0	2.0	0.7	0.0	0.0	0.4
Tier 2	4.1	4.1	0.6	2.3	2.3	0.5
TLAC shortfall 2022 minimum (€ bn)	17.9	17.9		11.5	11.5	
Leverage ratio (%)[3]	6.5	6.4	5.6	6.2	6.1	5.9

See Table A.4 for the target level capital requirements. [1] The values for the previous period may slightly differ from those published in the end-December 2020 report at the time of its release. This is caused by data resubmissions for previous periods to improve the underlying data quality and enlarge the time series sample. [2] Uses the 2017 definition of the leverage ratio exposure measure. [3] The leverage ratios reflect temporary exclusions from leverage exposures introduced in some jurisdictions.

Source: Basel Committee on Banking Supervision.

Members' coverage of their banking sector is very high for Group 1 banks, reaching 100% coverage for some countries, while coverage is lower for Group 2 banks and varies by country.

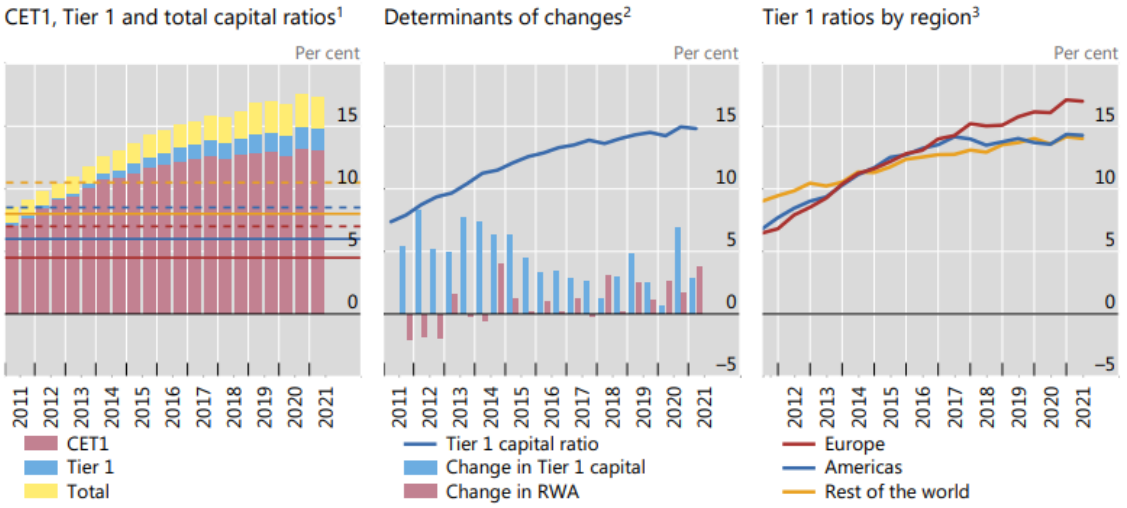
In general, this report does not take into account any transitional arrangements such as grandfathering arrangements. Rather, the estimates presented generally assume full implementation of the Basel III requirements based on data as of 30 June 2021.

No assumptions have been made about banks' profitability or behavioural responses, such as changes in bank capital or balance sheet composition, either since this date or in the future.

Furthermore, the report does not reflect any additional capital requirements under Pillar 2 of the Basel III framework, any higher loss absorbency requirements for domestic systemically important banks, nor does it reflect any countercyclical capital buffer requirements.

Initial Basel III capital ratios remained stable above pre-pandemic levels in the first half of 2021

Consistent sample of Group 1 banks — Graph 1



[1] The solid lines depict the relevant minimums, the dotted lines the minimums plus the capital conservation buffer. See Table A.4 for the relevant levels. [2] Exchange rates as of the current reporting date. [3] See Table B.1 for the composition of the regions.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

• Compared with the end-December 2020 reporting period, the average Common Equity Tier 1 (CET1) capital ratio under the initial Basel III framework remained flat at 13.2% for Group 1 banks and decreased from 16.3% to 16.2% for Group 2 banks.

• The average impact of the final Basel III framework on the Tier 1 Minimum Required Capital (MRC) of Group 1 banks is higher (+3.3%) when compared to the 2.9% increase at end-December 2020.

• The total capital shortfalls under the fully phased-in final Basel III framework as of the end-June 2021 reporting date for Group 1 banks further decreased to €2.3 billion in comparison to end-December 2020 at €6.1 billion.

• Applying the 2022 minimum TLAC requirements and the initial Basel III framework, three of the 25 G-SIBs reporting total loss-absorbing capacity (TLAC) data reported an aggregate incremental shortfall of €24.2 billion.

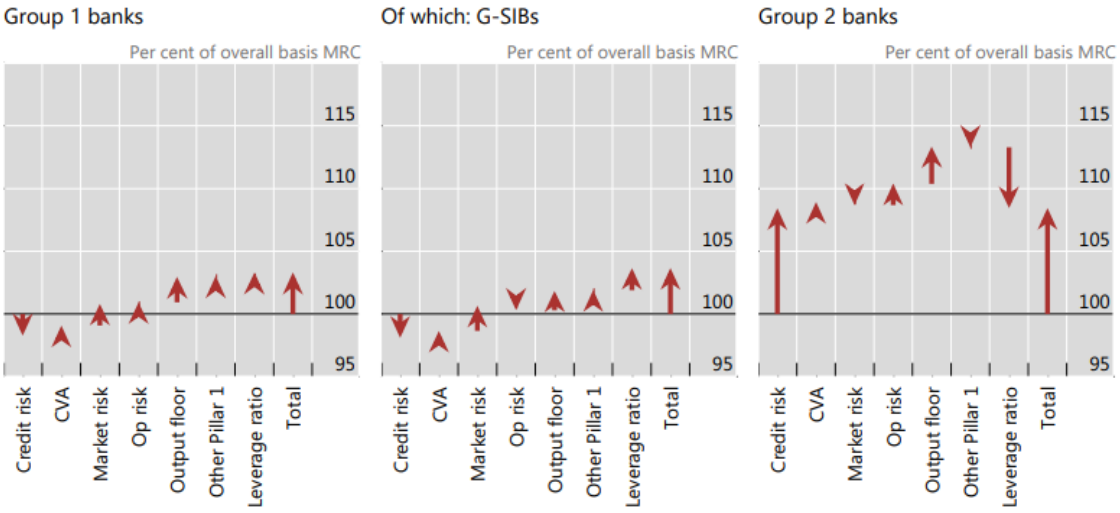
• Group 1 banks' average Liquidity Coverage Ratio (LCR) increased from 142.8% to 143.8% and the average Net Stable Funding Ratio (NSFR) from 123.0% to 124.5%. For Group 2 banks, there was also an increase for the NSFR and again a significant increase by more than 15 percentage points for the LCR.

• The consistent sample of Group 1 banks showed a slight drop in initial Basel III capital ratios in H1 2021, driven by an increase in RWA that was higher than the increase in Tier 1 capital.

However, with the drop in H1 2020 and the increase in H2 2020, capital ratios still remain above pre-pandemic levels at end-2019. The overall CET1 capital ratios for Group 1 banks in the consistent sample were 13.1% in June 2021.

• Currently, the Tier 1 capital ratios are higher in Europe than in the Americas and the rest of the world region. However, when compared with data starting from 2011, this relationship used to be reversed before 2014.

Change in Tier 1 MRC at the target level due to the final Basel III standards higher compared to end-December 2020 Graph 2



Credit risk shows the change in MRC due to revised standardised and internal ratings-based approaches, including securitisation. Operational risk figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, changes in MRC may be overestimated. Output floor results are net of the existing Basel I-based floor according to national implementation of the Basel II framework. The target level accounts for Tier 1 minimum capital requirements and the capital conservation buffer (ie resulting in an 8.5% Tier 1 capital requirement), as well as any applicable G-SIB surcharge.

Source: Basel Committee on Banking Supervision. See also Table 4.

• For Group 1 banks, the Tier 1 minimum required capital (MRC) would increase by 3.3%, following full phasing-in of the final Basel III standards.

This increase is composed of a 3.0% rise in the combined risk-based components. Those are driven by positive contributions of the output floor (+2.0%), market risk (+1.7%), CVA (+0.8%) and other Pillar 1 requirements and operational risk (+0.1% each) on the one hand and a reduction in credit risk (-1.7%) on the other hand.

The rise of the combined risk-based components is accompanied by a positive effect of the leverage ratio requirements (+0.3%).

• The impact on MRC across regions is very heterogeneous for Group 1 banks with a moderate decrease in the rest of the world (-5.5%), a small increase shown in the Americas (+4.7%) and in contrast to this a strong increase in MRC for European banks (+18.0%).

• For Group 2 banks, the overall 8.4% increase in Tier 1 MRC is driven by an increase in the risk-based measure of 13.3%, mainly stemming from credit risk (+8.4%) and the output floor (+3.0%), while the leverage ratio measure partially offsets this increase at -4.9%.

• The average impact of the final Basel III framework on Group 1 banks at +3.3% is higher when compared to end-December 2020 results (+2.9%). It has also increased during H1 2021 for Group 2 banks.

The higher impact for Group 1 banks and G-SIBs may be partially driven by measures taken by some jurisdictions during the Covid-19 pandemic that reduce current capital requirements but leave capital requirements under the fully phased-in final Basel III standard unaffected.

To read more: https://www.bis.org/bcbs/publ/d531.pdf

Europe sets out 6G vision at Mobile Web Congress Barcelona

Commissioner Breton has outlined Europe's plans for technology and infrastructure investment to foster resilience, and pave the way to 6G, addressing the Mobile World Congress.

At this year's Mobile World Congress (MWC) Barcelona, Commissioner Breton addressed key representatives of the mobile industry in a video speech summarising Europe's ambitious plans for technology and infrastructure investment to foster resilience and strengthen EU's digital supply chain.

In his video address during the ministerial session on "Digital policies to speed the post-COVID recovery", Commissioner Breton stressed that combining public and private resources with investment-friendly regulatory frameworks is key to allow Europe to build the required level of infrastructure and technology capacities for the data economy.

Following that, at the launch event of the Smart Networks and Services Joint Undertaking (SNS JU) "On the Road to 6G", several of Europe's thought leaders in digital set out the strategy and the tools to enable the sector community to develop technology capacities for 6G systems as a basis for future digital services towards 2030.

6G visions

Speakers from industry highlighted 6G technologies as the next step-change in performance from Gigabit to Terabit capacities as well as to reach sub-millisecond response times.

This should enable new critical applications such as real-time automation or extended reality ("Internet of Senses") sensing, collecting and providing the data for a digital twin of the physical world.

Such new applications and technologies will offer strategic opportunities for European actors to develop new markets and pave the ground for leading technology companies, e.g. in the area of microchips for 6G or next-generation cloud technology.

In addition, 6G will be designed to enhance drastically the energy efficiency of connectivity infrastructures to cope with major traffic growth.
These technologies will form the basis for humancentric services and address Sustainable Development Goals (SDGs) such as greening the economy and supporting digital inclusion.

European and national R&I programmes

To make this happen, ambitious 6G R&I programmes have started both at European level and in several Member States.

In this context, the Smart Networks and Services Joint Undertaking (SNS JU) presented its two strategic pillars: 6G research and innovation and 5G deployment actions funded by European or national funding programmes.

The already committed public-private budget of around €2 billion establishes the necessary financial planning certainty to proceed with an ambitious 6G R&I roadmap.

Speakers from the SNS States Representatives Group emphasised the complementary with national programmes in EU Member States, which are also very ambitious, amounting to several €100 million, partly funded out of Next-Generation EU recovery plans dedicated to 6G R&I.

These programmes cover a wide scope of strategic objectives ranging from fundamental technologies, over testbeds and intellectual property rights and up to specialised digital skills and sustainability solutions.

To read more: https://digital-strategy.ec.europa.eu/en/node/10789/printable/pdf

The pressing need to reform the European crisis management framework

Fernando Restoy, Chair, Financial Stability Institute, "Synergizing Multifaceted Regional and Global Perspectives" conference of Japan's Deposit Insurance Corporation, DICJ-IADI Round Table.

Thank you very much to the Japanese Deposit Insurance Corporation (DIC) and the International Association of Deposit Insurers (IADI) for the invitation to participate in this event.

At the FSI we really value our ongoing fruitful cooperation with the deposit insurance community.

This event gives me also the opportunity to share some views on the European crisis management framework with a very distinguished audience.

Introduction

The debate on how to improve the rules and procedures for dealing with bank failures in the European banking union already started a few years ago but gained momentum in 2017 when two significant banks – both of which were under the remit of the Single Supervisory Mechanism (SSM) and the Single Resolution Board (SRB) – failed.

Those episodes illustrated how difficult it can be for the existing rules to facilitate the orderly market exit of different types of institutions whose failure could create systemic distress.

It is somewhat paradoxical that those difficulties have become so evident in the EU, as this is probably the jurisdiction that has most deeply modernised its crisis management framework by adopting the new international standards on bank resolution (the FSB Key Attributes) in a timely, comprehensive and rigorous fashion.

As you all know, the FSB Key Attributes were one of the main regulatory reforms undertaken by the international community in the aftermath of the Great Financial Crisis (GFC) in order to reduce the probability and economic impact of financial crises. They aimed to put in place a bank resolution mechanism that would help maintain the critical functions of

failing systemic institutions without recurring to a massive deployment of public resources.

The EU had a clear motivation for embracing the new resolution framework based on its own experience during the GFC. Europe was the region where the GFC hit the banking sector most intensely and required voluminous public aid. Indeed, the net costs for European governments of supporting financial institutions between 2008 and 2014 exceeded €200 billion.

That of course put significant pressure on the public finances of most affected member states and triggered the adoption of procyclical fiscal austerity programmes that exacerbated the economic contraction that followed the outbreak of the crisis.

Even more importantly, that connection between banks' vulnerabilities and the need for public support initiated a destabilising spiral between financial and sovereign risk that gave rise to redenomination risks, thereby threatening the very continuation of the European monetary union.

Against that framework, in Europe developing crisis management tools that could minimise the dependence on public funds to safeguard financial stability, in line with the FSBs' Key Attributes, was deemed essential to preserve both the social cohesion within member countries and the robustness of the European integration project.

The features of the current framework

In response, as early as 2014 European authorities created a single resolution mechanism (SRM) as part of the banking union project. The SRM establishes rules, tools and procedures for managing the failure of those banks in the banking union that are considered systemic, ie those that meet public interest criteria, to use the legal jargon.

Those rules include an effective prohibition of government bailouts and a predominant reliance on creditors' bail-in to maintain the critical functions of failing institutions. Moreover, the new framework envisages the centralisation of resolution decisions in a European agency (the SRB) and the creation of a progressively mutualised fund (the Single Resolution Fund (SRF)) contributed by the industry.

That fund can be used to support resolution actions, although only after a large amount of creditors' claims have been bailed-in. Consistently with those minimum bail-in conditions, banks are generally required to issue large volumes of financial instruments that could become loss-absorbing at

the point of non-viability (the minimum requirement for own funds and eligible liabilities, MREL).

The rules that govern the SRM constitute a highly stringent transposition of the FSB Key Attributes. Arguably, no other jurisdiction has imposed more explicit and severe constraints on the use of external funds (whether public or private) to support resolution.

Moreover, outside the EU it is uncommon for authorities to generally require banks (and not only globally systemic ones) to meet MREL-type obligations. Again, the severity of those restrictions is largely a political response to the recent experience and the specific institutional constraints posed by the multinational character of the European banking union.

The issues

While the design of the EU resolution framework is internally consistent, it fails to provide a robust blueprint for managing the failure of a large part of the institutions in the banking union.

It is important to note in that respect that the common resolution framework coexists with a constellation of domestic insolvency regimes, embedded in national legislation, which have not changed much in the recent past.

National regimes – often consisting of the application of court-based general insolvency procedures – are still applied when failing institutions do not meet the public interest criteria required for resolution.

Interestingly, the availability of public support under insolvency (in the form of liquidation aid) is, in general, substantially less restricted than under resolution.

As bail-in becomes a key component of envisaged resolution actions, the current framework is not particularly effective for dealing with the failure of banks whose liabilities cannot be used – without a major disruption – for loss absorption or recapitalisation.

This is the case of medium-sized banks which are largely funded with deposits. Those institutions are typically too large to be subject to standard liquidation procedures under insolvency, but also too small and unsophisticated to issue large amounts of bail-in-able debt (such as subordinated bonds) which are required for resolution.

In the absence of those instruments on these banks' balance sheets, authorities would not be able to recapitalise the institutions by making use

of internal funds or by gaining access to the resolution funds as the minimum bail-in conditions for the latter would not be met. This is what we now generally call the "middle class" issue.

Authorities have addressed the challenges posed by the failure of mid-sized banks precisely by resorting to national insolvency regimes and taking advantage of their flexibility to use public funds to ensure a smooth market exit.

That has required delicate decisions regarding assessment of the systemic impact of banks' failures. In particular, those failures needed to fail the public interest test for resolution in order to be subject to national insolvency. But, at the same time, they had to be assessed as generating an adverse impact on the economic or financial system to justify the deployment of taxpayer funds.

That approach is suboptimal. It implies, somewhat ironically, that in order to activate the support required to avoid systemic stress, authorities have to avoid applying the framework designed precisely to deal with crises of systemic banks (resolution) and employ the regime envisaged for less significant institutions (insolvency).

Moreover, the extensive use of national insolvency regimes – funded fully with domestic resources – entails a departure from the principles that motivated the creation of the banking union, namely the urgent need to break the destabilising link between domestic financial risks and the sovereign. In fact, it would imply the renationalisation of bank failure management and, therefore, the renationalisation of banks' risks.

Some remedies

In order to fix the deficiencies of the current crisis management framework in the banking union, we first need more harmonisation of domestic insolvency regimes.

While a fully fledged common insolvency framework seems politically unfeasible at this stage, there should be scope to further harmonise those features of the domestic arrangements that have more potential to create frictions with the common resolution regime.

Importantly, when facing the failure of mid-sized banks, there is a need to avoid the perverse dilemma of having to choose between open bank bail-in under resolution and piecemeal liquidation under insolvency, as both options are potentially destabilising. Moreover, recourse to public support under insolvency cannot be assumed as a suitable fix for that dilemma.

A potentially useful formula for addressing the above challenges is to facilitate sale-of-business (SoB) (or purchase and assumption) transactions to engineer the orderly exit of failing banks.

Those strategies – in which deposits and other sensitive liabilities of failing banks are transferred to stronger institutions – have been successfully employed in other jurisdictions, like the US, for many years, but cannot be easily employed at present in the European context.

Logically, the success of SoB strategies requires the existence a suitable buyer. This depends very much on the value of transferable assets of the failing bank and the availability of external funding to compensate buyers for taking over failing banks' deposits if, as is often the case, the available assets do not suffice.

The amount of assets that can be transferred can be increased by requiring mid-sized banks to hold, as a counterpart, liabilities that could be written down or converted into capital as the banks fail. A reasonably calibrated MREL could therefore help make the transfer strategies more feasible6.

Yet, given the limited scope for mid-sized banks to issue and remunerate bail-in-able liabilities on a permanent basis, some external funds should be available to compensate buyers.

In several jurisdictions, that external funding can be provided by the deposit guarantee scheme (DGS). However, DGS funding is typically subject to a financial cap: it is available only if the expected cost of the intervention is not greater than that of paying out deposits under liquidation.

In the case of the EU, DGS support for SoB transactions is severely limited (if not made irrelevant) by legal provisions that stipulate that DGS claims are more senior than uncovered deposits in the creditors' hierarchy.

That "super-preference" of DGS claims protects them from assuming losses in liquidation. The result is that the financial cap makes European DGS unable to support SoB transactions, even if those would help avoid a potentially disruptive and value-destructing piecemeal liquidation.

Similarly, in the current framework the SRF is also not, at present, a suitable source of funding to generally support SoB transactions for mid-sized banks. The SRF is available only for failing institutions meeting the public interest condition required for resolution and only after a substantial creditors' bail-in has been executed. As discussed before, mid-sized banks will often find it very difficult to meet those conditions.

Therefore, the feasibility of SoB transactions requires significant changes to the current setup to facilitate sufficient coverage of their funding needs.

One possibility is to relax the financial cap for the deployment of DGS funds to support transfer transactions which is currently linked to the costs associated with payout deposits in liquidation. However, any action in that regard should preserve the DGS' ability to deliver on its main objective, ie to protect covered deposits.

A related discussion is whether the current super-priority of DGS claims in Europe is warranted on public policy grounds. It could be argued that there is no obvious policy rationale for DGS claims to become senior in relation to uncovered deposits.

Indeed, the super-preference of DGS claims implies that individuals holding deposits above the maximum amount covered by the DGS are less protected in insolvency than the indirect positions held by DGS-affiliated banks vis-à-vis the failing institution.

The logic of that privilege is not straightforward. Moreover, following the example of other jurisdictions like the US and replacing the super-preference of DGS claims with a general deposit preference rule could help to mitigate risks of bank runs, thereby protecting financial stability. Naturally, that alternative preference rule would automatically relax the currently tight constraint on the use of DGS funds to support SoB transactions, without unduly compromising the DGS' main objectives.

Another alternative source of funds could be the SRF. As I discussed earlier, that would entail alleviating the currently stringent minimum bail-in conditions for the use of those resources.

Indeed, there seems to be a clear case for considering that conditions for the SRF to facilitate an orderly market exit of failing banks, for example through an SoB transaction, should not be as restrictive as the ones imposed to ensure that the failing bank could keep operating and performing critical functions.

It could therefore be envisaged lower minimum bail-in conditions for (typically medium-sized) banks following an SoB resolution strategy.

Notice that while funding from the SRF would only be available for banks subject to resolution, DGS funding could support all bank failures regardless of whether the public interest test is passed or not.

It is therefore probably the case that we need to make both DGS and SRF funding more easily available for conducting an SoB transaction for all types of institutions.

We should keep in mind, however, that while the SRF would eventually be fully mutualised, DGS remain, at present, national.

That means that more intensive use of DGS funds, as proposed, to manage banking crises in the banking union may further contribute to a renationalisation of banks' risks.

Moreover, for banks subject to the common resolution framework, reliance on national DGS would also create inconsistencies between the centralised decision-making process and decentralised funding mechanisms.

That is why the proposed formulas to enhance the feasibility of SoB strategies as a key objective to improve the functioning of the European crisis management framework further strengthen the case for completing the banking union with the creation of a European deposit insurance scheme.

Furthermore, since support from a European DGS would be available under both resolution and insolvency, there is clear logic in entrusting the SRB with managing that fund and deciding on how best employ it to facilitate an orderly exit of all types of banks, and not only those which are currently under its remit.

Concluding remarks

To conclude, as I argued before, any successful attempt to strengthen the current crisis management framework in the banking union needs to facilitate appropriate funding sources that could be deployed to support an orderly market exit for most institutions at the point of non-viability.

What I mean by an appropriate funding mechanism should be fully consistent with the banking union's objectives and, in particular, with the denationalisation of banks' risks.

But it should also be compatible with different banks' business models. I have discussed in my presentation some formulas which could be considered to meet that politically complex, but also pressing, objective. Those formulas -which we have been supporting for long- fit some of the options included in the recent public consultation recently issued by the European Commission.

I hope that, as a follow-up to that consultation, authorities will soon move swiftly, if not to deliver a comprehensive blueprint soon, at least to put forward a clear and effective roadmap for continuous progress towards the desired objective.

Many thanks for your attention.

Finding the right sequence

Isabel Schnabel, Member of the Executive Board of the European Central Bank, at a virtual policy panel on "Unwinding QE" at the first annual Bank of England Agenda for Research (BEAR) conference, Frankfurt am Main.

The terrible act of aggression and the shock of war that we are witnessing in the heart of Europe overshadow today's conference. This is a sad day for Europe and the world. Our thoughts are with the Ukrainian people.

In such times of extreme uncertainty, central banks need to be a source of confidence and a reliable anchor for the economy. Therefore, we are monitoring the situation closely.

My remarks today reflect the macroeconomic situation predating the war.

In the euro area, inflation has proven more persistent and more broad-based than expected, labour market slack is being reabsorbed at a faster pace than anticipated and pipeline pressures continue to build up. At the same time, prospects are rising that the fast spread of the Omicron variant may herald a turning point in the coronavirus (COVID-19) pandemic.

In this environment, monetary policy needs to ensure that the forces pushing up prices today will not jeopardise price stability over the medium term. Households and firms count on the ECB to protect their purchasing power without putting at risk the current strong recovery from the crisis.

Our policy framework enables us to deliver on these expectations. Our forward guidance has explicitly defined the conditions that need to be met for policy rates to be raised. And the clear sequence with which we intend to remove monetary stimulus, if and when necessary, reduces the uncertainty about how our actions will affect financing conditions and the broader economy.

In the following, I will first discuss the current outlook for inflation. I will then explain the sequencing of policy measures that we will take once the Governing Council judges that policy should be normalised and will elaborate in more detail on three aspects that are more specific to the euro area.

The first regards the question as to how the inflation outlook affects the policy normalisation process. The second point relates to how the

monetary policy transmission mechanism in the euro area affects the choice of policy instruments at different stages of the normalisation process. And the third point provides thoughts on how our sequence may interact with conditions in sovereign bond markets and the risks of fragmentation.

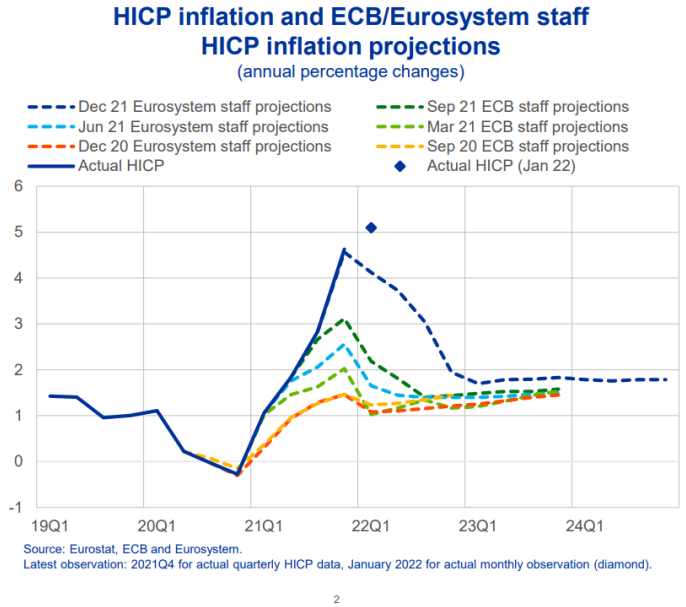
A qualitative and quantitative change in the euro area's inflation outlook

A year ago, there was a widely shared expectation that inflation would rise sharply in response to the reopening of our economies but would subside swiftly as the extraordinary factors related to the pandemic would fade.

There was a strong conviction that the combination of statistical base effects, slowing energy price inflation and the removal of one-off tax effects would mark a turning point in the euro area's inflation trajectory towards the end of last year.

These expectations have been disappointed.

Inflation has repeatedly surprised on the upside

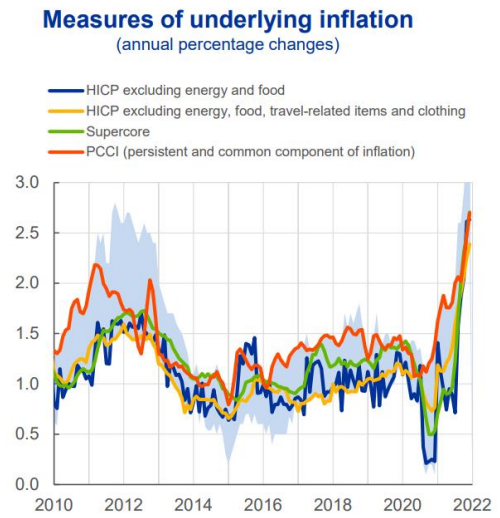


Headline inflation as measured by the Harmonised Index of Consumer Prices (HICP) continued to increase both in December 2021 and in January 2022, when it reached a new historical high of 5.1% (Slide 2). In January, euro area inflation surprised to the upside for the seventh consecutive month.

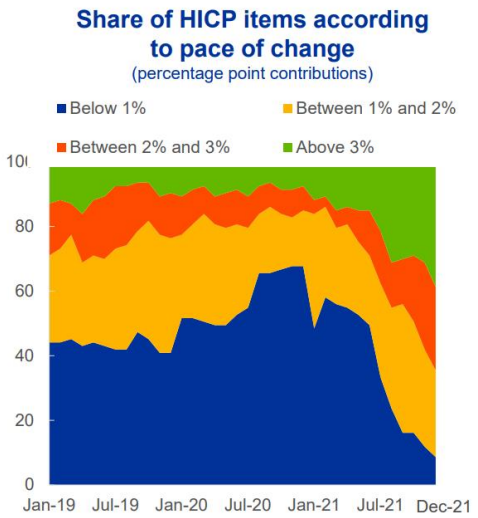
Today, inflation is not only higher than expected, but price pressures are also visibly broadening.

Measures of underlying inflation are following an unprecedented upward trend (Slide 3, left-hand chart). The prices of around two-thirds of the goods and services included in the HICP are currently increasing at an annual rate above 2% (Slide 3, right-hand chart). Less than a year ago, this share was close to 20%.

Underlying inflation is rising measurably as price pressures are broadening



Source: ECB and ECB staff calculations.
Latest observation: January 2022 for HICPX, December 2021 for the rest.



Source: ECB and ECB staff calculations.
Latest observation: December 2021.

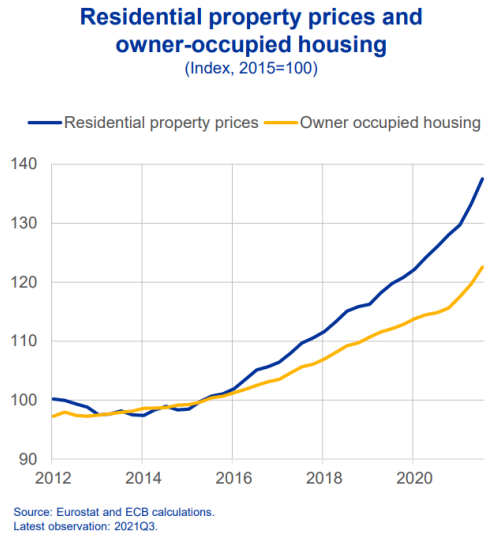
3

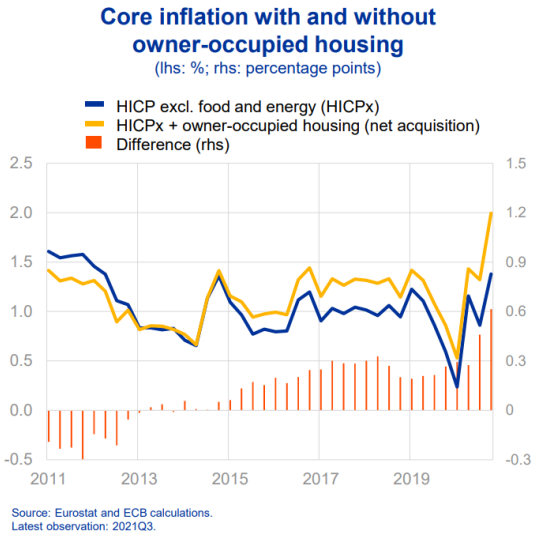
Current measured inflation would be even higher if the costs of owner-occupied housing were included. Residential real estate prices continued to increase at an alarming pace. In the third quarter of 2021, prices for houses and flats in the euro area increased by 9% year-on-year, an unprecedented rate of increase (Slide 4, left-hand chart).

If owner-occupied housing were included in the HICP, headline inflation in the third quarter of 2021 would have been 0.3 percentage points higher. For core inflation, the difference would have been twice as much – that is, core inflation would have been 2% rather than 1.4%, which is the largest difference observed since the start of the sample in 2012 (Slide 4, right-hand chart).

Looking forward, the broad-based nature of recent upward surprises, extending well beyond the energy component, implies that significant uncertainty remains as to when the inflation peak will eventually be reached.

Measured inflation would be higher if housing costs were included





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What is becoming increasingly clear is that inflation is unlikely to fall back below our 2% target this year. It may increase even further over the near term before declining gradually over the course of 2022 as energy price inflation should slow. But the decline is not going to be nearly as fast as we previously anticipated.

In addition, it is now becoming increasingly likely that, in the medium term, inflation will approach our 2% target from above, rather than from below.

The start of the year has seen three broad developments that corroborate this view.

From pandemic to endemic?

First, there are growing signs that the fast spread of the Omicron variant may bring forward the transition towards an endemic equilibrium.

Although hospitalisations are still increasing in some countries alongside elevated case counts, admissions to intensive care units and fatality rates are now only a fraction of what they were in previous waves.

There is a real chance that the Omicron variant could herald an inflection point after which the global community will be able to live with COVID-19 in spite of possible recurrent episodes of high case numbers.

As governments worldwide are easing contact restrictions, the remaining slack in the economy will likely be reabsorbed at a faster pace than

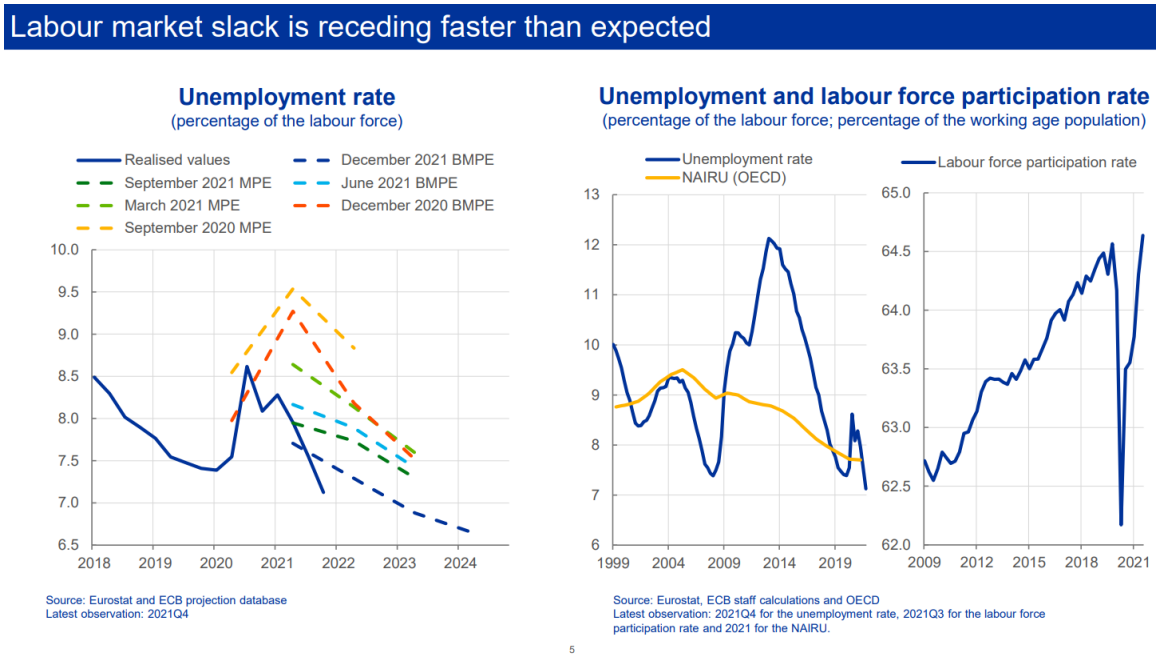
previously anticipated, in particular in contact-intensive services where the pandemic continues to weigh heavily on business and sentiment.

The most recent survey data corroborate this view for the euro area. In February, sentiment in the services sector improved sharply, back to levels seen before the discovery of the Omicron variant.

A faster and more frontloaded recovery, in turn, risks increasing pressure on wages at a time when the labour market in the euro area is already showing first signs of strain.

This brings me to the second point – the recovery in the labour market.

Strong recovery in the labour market



Although the pandemic is still raging through the economy, slack in the labour market has continued to decline at a notably faster pace than projected (Slide 5, left-hand chart). A year ago, our central forecast was that the euro area unemployment rate would decline, on average, to 8.1% in 2022. In December 2021, the unemployment rate stood already at 7%.

We are currently witnessing the strongest labour market in the history of the single currency. The unemployment rate is at a record low and below estimates of the non-accelerating inflation rate of unemployment (NAIRU), while the participation rate is at a record high (Slide 5, right-hand chart).

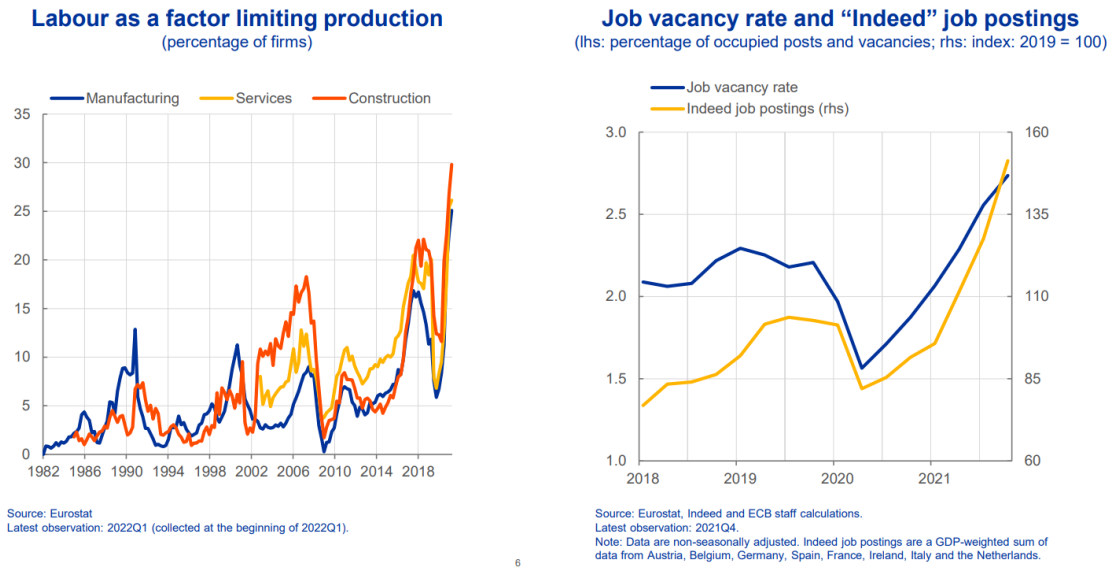
Broader labour market slack, too, for which data are lagging, was already reabsorbed, by and large, by the end of the summer of last year, as strong

demand is bringing more and more people – also those at the fringes of the labour market – back into work.

While total hours worked still remained below pre-pandemic levels in the third quarter of last year, there are good reasons to believe that the widespread easing of contact restrictions will help accelerate progress on that front too.

Survey evidence confirms the picture of a tightening labour market.

Strains in the labour market can be expected to put upward pressure on wages



A rapidly rising share of firms across all economic sectors report shortages of labour as a factor limiting production. This is now the case for about a quarter to a third of all firms, a level never before observed in the euro area (Slide 6, left-hand chart).

Vacancy rates across the euro area are significantly higher than before the pandemic, which is consistent with firms reporting continued strong employment demand ahead (Slide 6, right-hand chart).

These developments will add to pressure on wages as our economies continue to reopen.

Although negotiated wage growth remains moderate, our latest corporate telephone survey among larger firms showed that wage pressures are expected to build up fast. Euro area firms anticipate considerably higher wage increases in the near term. For 2022, their average expected wage increase is 3.5%.

The survey also showed that higher input costs, such as wages, are being passed through to consumer prices at a faster pace and to a larger extent than in the past, as strong pent-up demand creates a favourable environment for protecting or boosting profit margins.

A faster pass-through, in turn, implies that for medium-term price pressures it is less relevant how fast wages expand today than how fast they will grow this year and next.

To read more:
https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220224~232cb567cd.en.html

Accompanying slides:
https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220224_annex~4129c96fcb.en.pdf

S.3600 - Strengthening American Cybersecurity Act of 2022
117th Congress (2021-2022)

CONGRESS.GOV

117TH CONGRESS
2D SESSION

S. 3600

AN ACT

To improve the cybersecurity of the Federal Government, and for other purposes.

TITLE II—CYBER INCIDENT REPORTING FOR CRITICAL INFRASTRUCTURE ACT OF 2022

TITLE III—FEDERAL SECURE CLOUD IMPROVEMENT AND JOBS ACT OF 2022

The bill also updates current federal cybersecurity laws to improve coordination between federal agencies, as well as requires all federal civilian agencies to report all substantial cyberattacks to CISA.

In addition, the bill would provide new authorities to CISA and authorize the Federal Risk and Authorization Management Program (FedRAMP) for five years to ensure federal agencies can quickly and securely adopt cloud-based technologies that improve government efficiency and save taxpayer dollars.

An interesting section:

SEC. 114. IMPLEMENTING ZERO TRUST ARCHITECTURE.

(a) Guidance.—Not later than 18 months after the date of enactment of this Act, the Director shall provide an update to the appropriate congressional committees on progress in increasing the internal defenses of agency systems, including—

(1) shifting away from “trusted networks” to implement security controls based on a presumption of compromise;

(2) implementing principles of least privilege in administering information security programs;

(3) limiting the ability of entities that cause incidents to move laterally through or between agency systems;

(4) identifying incidents quickly;

(5) isolating and removing unauthorized entities from agency systems as quickly as practicable, accounting for intelligence or law enforcement purposes;

(6) otherwise increasing the resource costs for entities that cause incidents to be successful; and

(7) a summary of the agency progress reports required under subsection (b).

(b) Agency Progress Reports.—Not later than 270 days after the date of enactment of this Act, the head of each agency shall submit to the Director a progress report on implementing an information security program based on the presumption of compromise and least privilege principles, which shall include—

(1) a description of any steps the agency has completed, including progress toward achieving requirements issued by the Director, including the adoption of any models or reference architecture;

(2) an identification of activities that have not yet been completed and that would have the most immediate security impact; and

(3) a schedule to implement any planned activities.

The Act:
https://www.hsgac.senate.gov/imo/media/doc/BillText_PetersStrengthningAmericanCybersecurityAct.pdf

Recollections on financial stability

Sir Jon Cunliffe, Deputy Governor for Financial Stability of the Bank of England, at The Oxford Union, Oxford

Almost exactly 25 years ago, on the day after a general election, I was handed the incoming government's surprise, detailed plan for giving the Bank of England operational independence in monetary policy making.

I was a Treasury official at the time. I was allowed to tell only a couple of colleagues and together we worked through that night and over the subsequent Bank Holiday weekend so that, three days after taking office, the new Chancellor could announce not just that he was giving the Bank monetary policy independence from that day but the key details of how the new system would work.

Over subsequent months, we prepared the necessary legislation, redrawing the functions of the Bank of England, and managed its passage through Parliament until the Bank of England Act 1998 was on the statute book.

The Act did not mention financial stability, even though the legislation transferred the Bank's responsibility for the supervision and surveillance of banks to a new authority, the Financial Services Authority.

The reforms to the Bank were focussed on the pressing issue of the time – the UK's high and volatile record on inflation.

There was, it is true, some consideration at the time of how the Bank, the Financial Services Authority and the Treasury should work together on financial stability issues.

This was codified in a memorandum of understanding between the three authorities later that year, clarifying the roles of each and setting up the so called 'Tripartite Committee' to pursue "the common objective of financial stability in the UK".

But there was no statutory backing for this objective – nor was the Bank or the Financial Services Authority given any specific powers to secure it.

The Bank did not get a financial stability objective until 2009. I should emphasise at this point that this was not some idiosyncratic UK blind-spot.

As the Global Financial Crisis was to reveal brutally, some 10 years later, the increasing integration and liberalisation of the global financial system that had been in train since the last decades of the 20th century had not been accompanied by anything like a commensurate attention to financial stability.

Warning signs were not recognised. And when the crisis struck, institutional arrangements were found sorely lacking in all of the key jurisdictions.

The depth and duration of the economic damage done by the near death of the global financial system over 10 years ago, led to a general realisation of the cost of losing financial stability and the need for greatly reinforced mechanisms to prevent it happening again.

In the UK, following the model of the monetary policy reforms ten years before, an independent committee of the Bank of England – the Financial Policy Committee (the FPC) – was established, armed with serious powers and charged with the responsibility of ensuring financial stability. And, shortly after its formal establishment, in 2013, I was appointed Deputy Governor for Financial Stability.

I have often, by the way, wondered whether this twist of fate was poetic justice for the failure of my younger self to understand the fundamental importance of financial stability back in 1997.

I have, in any event, spent the last 8 years, trying to embed and develop the domestic and international machinery to ensure we can have a vibrant and innovative financial system – but without periodic financial stability crises.

I want this evening to set out some of the key lessons over that period I have learned about financial stability – about the FPC's objectives and its scope and also to talk a little about some of the challenges it currently faces.

The objective: what are we trying to achieve?

I'll start with a question that I have been asked many times over the last 8 years: "what exactly are you trying to achieve?" It is a very reasonable and a rather awkward question.

While there are many indicators of financial activity, there is no single metric, no quantified objective for financial stability.
My answer is rooted in the human characteristic that makes financial activity – and indeed, economic growth – possible: our ability to envisage the future.

Human beings are probably unique in being able to imagine the future. I say 'probably' because there may be evidence that suggests that some animals may share, to a limited degree, our ability to engage in what has been termed 'mental time travel' – the ability we have in our minds not only to recall the past but to use past experience to form expectations of the future.

Mental time travel no doubt evolved because it gave us advantages as a species. It is fundamental to the development of economic life which is inextricably bound up with our ability to form expectations about the future and to make claims upon it.

However, though we can envisage the future, we cannot know it. Whether we form our expectations by extrapolating our memory of the past or whether they are rationally formed on the basis of all available evidence, they are expectations, no more. And when, for whatever reason, the future does not match those expectations there has to be a correction.

To read more: https://www.bankofengland.co.uk/-/media/boe/files/speech/2022/the-state-of-financial-stability-speech-by-jon-cunliffe.pdf?la=en&hash=10A3B7B12901EAA7CDD3B2F4970FA27F97477BFB

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