



*Monday, June 21, 2021*

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

Dear members and friends,

I read an interesting paper from RAND Corporation in 2018, with title “Speed and Security - Promises, Perils, and Paradoxes of Accelerating Everything”. I remember the words “Speed can make life exhilarating - and unpredictable”.



Today we can read FSB’s effort for *faster, cheaper, more transparent and more inclusive* cross-border payment services, including remittances, while *maintaining their safety and security*.

The G20 has made enhancing cross-border payments a priority during the Saudi Arabian Presidency. In October 2020, the FSB published the Roadmap for enhancing cross-border payments. The Roadmap was developed in coordination with the Committee on Payments and Market Infrastructures (CPMI) and other relevant international organisations and standard-setting bodies.

The Roadmap was endorsed by the G20 at the October 2020 Summit and the G20 has committed to its timely and effective implementation. The Roadmap described four challenges to be addressed:

1. *High costs*: the challenge of cost comprises various elements including transaction fees, account fees, compliance costs, applied FX conversion rates and fees, fees along the payment chain, and liquidity cost for prefunding;
2. *Low speed*: the challenge of speed involves the processing time of a payment from end to end, including factors such as the time required for dispute resolutions, reconciliations and searches, possible slow processes

for funding and defunding, daily cut-off times and closing times, as well as Anti-Money Laundering/ Combating the Financing of Terrorism (AML/CFT) checks;

3. *Limited access*: the challenge includes limitations for users in accessing services and for PSPs in accessing payment systems and other arrangements;

4. *Limited transparency*: limited transparency about costs, speed, processing chain, and payments status present challenges for end-users and (other than single-platform proprietary services) for providers alike.

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

*Best regards,*

*George Lekatis*

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

*Number 1 (Page 6)*

[Euro area insurance corporation statistics: first quarter of 2021](#)



*Number 2 (Page 9)*

[Presentation of the 2020 Annual Report of the Autorité de contrôle prudentiel et de résolution \(ACPR\)](#)

François Villeroy de Galhau, Governor of the Banque de France, Chairman of the ACPR



*Number 3 (Page 12)*

[Remaining Steady as the Economy Reopens](#)

Governor Lael Brainard, at The Economic Club of New York, New York



*Number 4 (Page 20)*

BIS Working Papers No 946

[The pricing of carbon risk in syndicated loans: which risks are priced and why?](#)

Torsten Ehlers, Frank Packer and Kathrin de Greiff, Monetary and Economic Department, June 2021



BANK FOR INTERNATIONAL SETTLEMENTS

*Number 5 (Page 25)*

**PUBLIC CONSULTATION ON THE DRAFT CANDIDATE EUCC SCHEME**



*Number 6 (Page 27)*

**Targets for Addressing the Four Challenges of Cross-Border Payments: Consultative document**



*Number 7 (Page 30)*

**SEC Awards More Than \$23 Million to Whistleblowers**



*Number 8 (Page 32)*

**Inflation Considerations and the Monetary Policy Responses**

Charlie L. Evans, President & CEO, Federal Reserve Bank of Chicago  
2021 Bank of Japan–Institute for Monetary and Economic Studies  
Conference, Adapting to the New Normal: Perspectives and Policy  
Challenges after the COVID-19 Pandemic.



**FEDERAL RESERVE BANK of CHICAGO**

*Number 9 (Page 36)*

**How AI Could Alert Firefighters of Imminent Danger**



*Number 10 (Page 40)*

## World's smallest, best acoustic amplifier emerges from 50-year-old hypothesis

Acousto-electric devices reveal new road to miniaturizing wireless tech

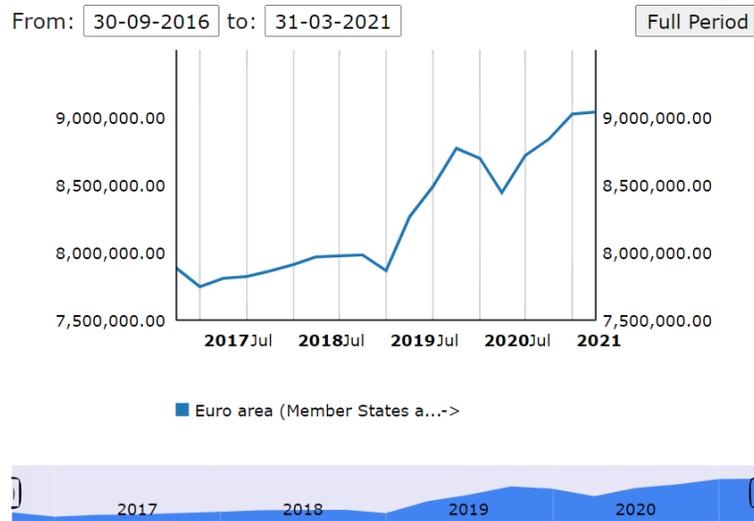


*Number 1*

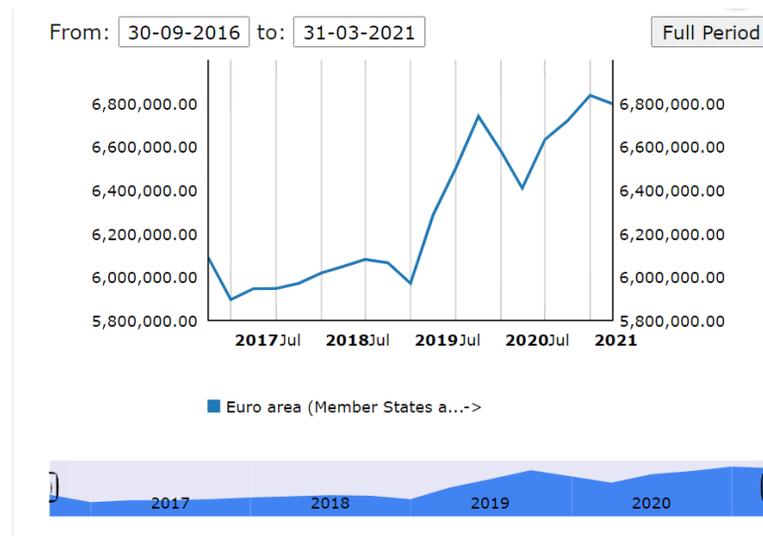
## Euro area insurance corporation statistics: first quarter of 2021



- Total assets of euro area insurance corporations amounted to €9,040 billion in first quarter of 2021, €14 billion higher than in fourth quarter of 2020



- Total insurance technical reserves of euro area insurance corporations dropped to €6,797 billion in first quarter of 2021, down €39 billion from fourth quarter of 2020



Total assets of euro area insurance corporations increased to €9,040 billion in the first quarter of 2021, from €9,026 billion in the fourth quarter of 2020. Debt securities accounted for 39.6% of the sector's total assets in the first quarter of 2021. The second largest category of holdings was investment fund shares (28.1%), followed by equity (11.1%) and loans (7.3%).

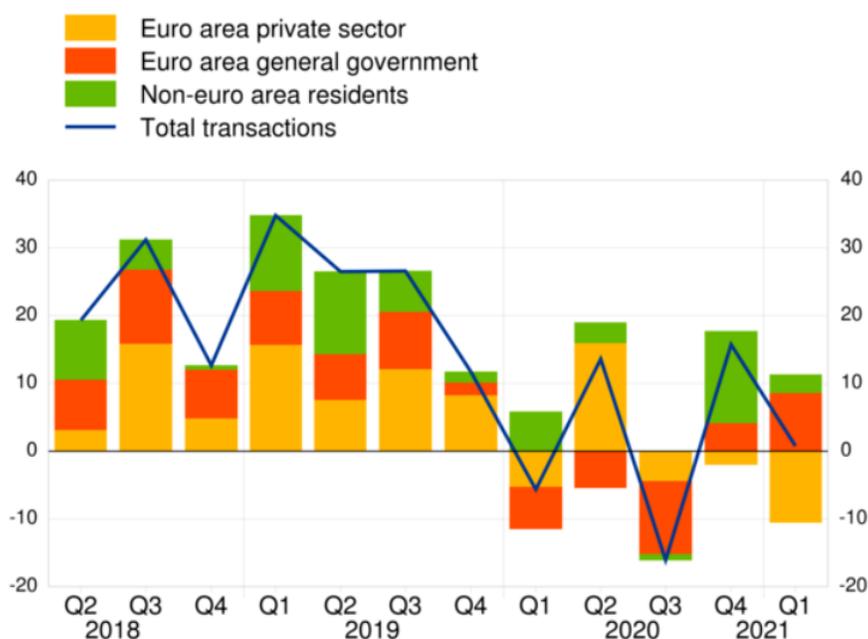
Holdings of debt securities decreased to €3,578 billion at the end of the first quarter of 2021 from €3,653 billion at the end of the previous quarter. Net purchases of debt securities amounted to €1 billion in the first quarter of 2021; price and other changes amounted to -€76 billion (see Chart 1). The year-on-year growth rate of debt securities held was 0.4%.

Looking at holdings by issuing sector, the annual growth rate of debt securities issued by euro area general government was -0.2% in the first quarter of 2021, with net purchases in the quarter amounting to €9 billion. As regards debt securities issued by the private sector, the annual growth rate was -0.1%, and quarterly net sales amounted to €11 billion. For debt securities issued by non-euro area residents, the annual growth rate was 2.7%, with quarterly net purchases of €3 billion.

### Chart 1

#### Insurance corporations' holdings of debt securities by issuing sector

(quarterly transactions in EUR billions; not seasonally adjusted)



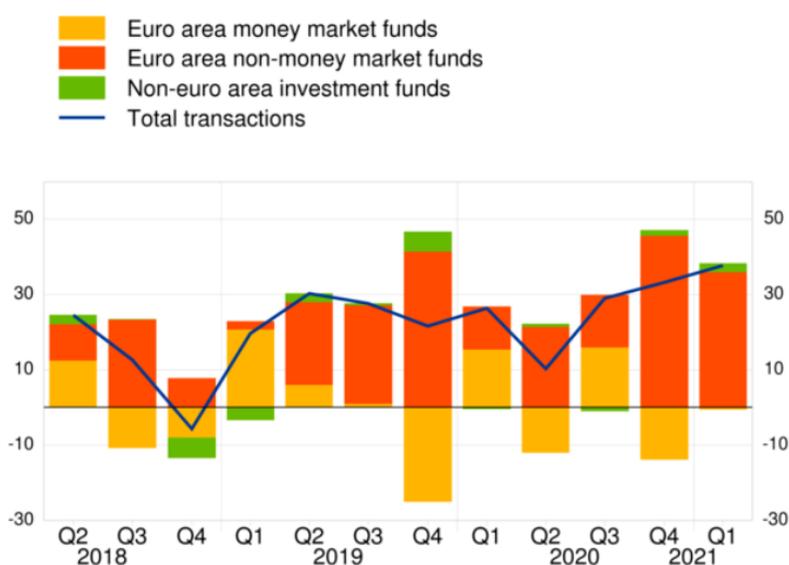
Turning to insurance corporations' holdings of investment fund shares, these increased to €2,536 billion in the first quarter of 2021, from €2,472 billion in the previous quarter, with net purchases of €38 billion and price and other changes of €26 billion (see Chart 2). The year-on-year growth rate in the first quarter of 2021 was 4.8%.

The annual growth rate of euro area money market fund shares held by insurance corporations was -7.5% in the first quarter of 2021, with net sales in the quarter amounting to €1 billion. As regards holdings of euro area non-money market fund shares, the annual growth rate was 5.6%, with quarterly net purchases amounting to €36 billion. For investment fund shares issued by non-euro area residents, the annual growth rate was 5.7%, with quarterly net purchases of €2 billion.

### Chart 2

#### Insurance corporations' holdings of investment fund shares by issuing sector

(quarterly transactions in EUR billions; not seasonally adjusted)



To read more:

<https://www.ecb.europa.eu/press/pr/stats/icb/html/ecb.icb2021q1~a339b7b560.en.html>



*Number 2***Presentation of the 2020 Annual Report of the Autorité de contrôle prudentiel et de résolution (ACPR)**

François Villeroy de Galhau, Governor of the Banque de France, Chairman of the ACPR



Ladies and Gentlemen,

It gives me great pleasure to be with you again for the presentation of the 2020 Annual Report of the Autorité de contrôle prudentiel et de résolution (ACPR – Prudential Supervision and Resolution Authority), in the company of the new Vice-Chairman, Jean-Paul Faugère, Dominique Laboureix, Secretary General of the ACPR, and Alain Ménéménis, President of the Sanctions Committee.

I would first like to pay tribute to the staff at the ACPR – more than 1,050 men and women whose professionalism is exemplary and recognised – who have worked especially hard, both on-site and remotely, to monitor closely the effects of the economic crisis on financial stability.

Exactly a year ago, when we were just at the start of the Covid crisis, I pointed out to you, in this exact same setting, how vigilant we were being and how confident I was, both in the competence of our supervisor and in the resilience of the financial system.

Looking back, we haven't done too badly at all: at this stage, the financial risks are, on the whole, under control, thanks to resilient financial institutions with solid fundamentals (I).

This reassuring picture should not, however, mask the short-term challenges of the emergence from the crisis, and the more structural challenges that our financial institutions will face over the coming decade (II).

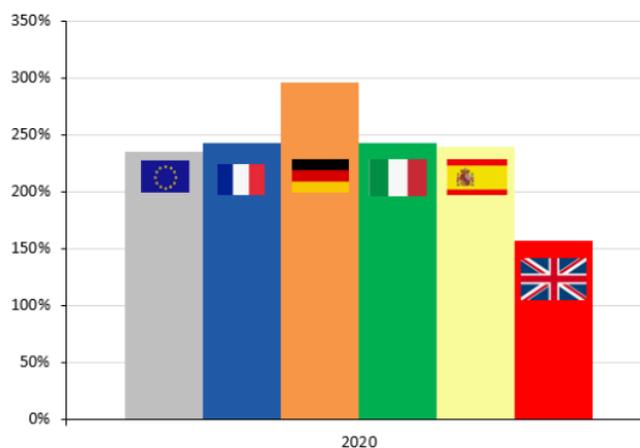
*I. Financial institutions have proved more resilient than expected during the Covid crisis*

Just a short word, to start with, on the situation for insurers, which Jean-Paul Faugère will go into in greater depth.

Despite a fall in profits, France's insurance sector is holding up well and remains the leading market in Europe in terms of balance sheet size:

## LA SOLVABILITÉ DES ASSUREURS FRANÇAIS RESTE SOLIDE EN COMPARAISON EUROPÉENNE

Taux de couverture du capital de solvabilité requis des principaux pays européens en 2020



Source : ACPR et EIOPA  
Données 2020 provisoires issues des remises trimestrielles



Présentation du rapport d'activité de l'Autorité de contrôle prudentiel et de résolution

Insurers have managed to keep their solvency ratios on the whole solid, at around 243 %, which is one of the highest levels in Europe.

But we need to be careful not to become complacent: the solvency of insurers is still a major focus of attention.

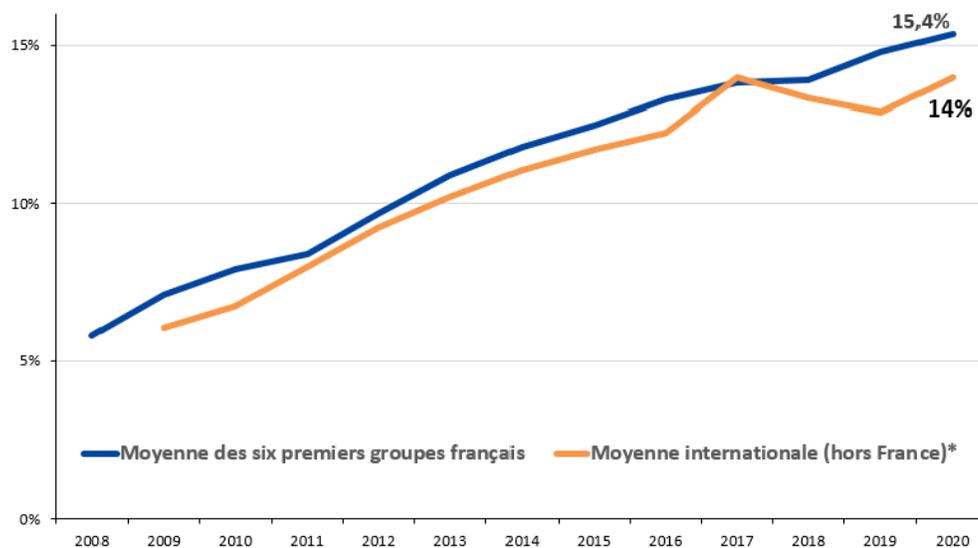
Consequently, as one of its control priorities, the ACPR will carry out reinforced supervision in 2021, which will take the form of regular, targeted interviews, in parallel with the resilience exercises conducted jointly with the EIOPA.

French banks, for their part, are continuing to display solid fundamentals, thanks to a high level of own funds, which has stabilised at around 15 %:



DEPUIS 2008, LES BANQUES FRANÇAISES AFFICHENT DES FONDAMENTAUX SOLIDES GRÂCE À UN NIVEAU DE FONDS PROPRES ÉLEVÉ

### Ratio de solvabilité (CET1) des six principaux établissements bancaires français et moyenne internationale



\*Pour 2009 et 2010, estimations issues des Quantitative Impact Studies et incluant les données des banques françaises.  
Source : ACPR

Présentation du rapport d'activité de l'Autorité de contrôle prudentiel et de résolution

In this respect, the main euro area banks have fortunately defied certain – fairly pessimistic – predictions, which forecast that CET1 ratios would have deteriorated significantly by the end of 2020.

This better than expected resilience among financial institutions, particularly in France, has played a decisive role in determining our economy's capacity to weather the crisis.

Banks already financed three quarters of the European economy, and more than 60 % of the French economy.

To read more:

[https://publications.banque-france.fr/sites/default/files/medias/documents/2021.05.28\\_ra\\_acpr\\_mise\\_en\\_ligne\\_en\\_cl.pdf](https://publications.banque-france.fr/sites/default/files/medias/documents/2021.05.28_ra_acpr_mise_en_ligne_en_cl.pdf)



*Number 3***Remaining Steady as the Economy Reopens**

Governor Lael Brainard, at The Economic Club of New York, New York



It is a pleasure to join the Economic Club of New York for this discussion. Consumer demand is strong, vaccine coverage is expanding, and pandemic-affected sectors are reopening in fits and starts.

As was the pandemic shutdown with its ebbs and flows, the reopening is without precedent, and it is generating supply–demand mismatches at the sectoral level that are temporary in nature. Separating signal from noise in the high-frequency data may be challenging for a stretch.

The supply–demand mismatches at the sectoral level are making it difficult to precisely assess inflationary developments and the amount of resource slack from month to month.

Looking through the noise, I expect we will see further progress in coming months, but the economy is far from our goals, and there are risks on both sides.

The best way to achieve our maximum-employment and average-inflation goals is to be steady and transparent in our outcome-based approach to monetary policy while remaining attentive to the evolution of the data and prepared to adjust as needed.

*Pent-Up Demand and Supply Constraints*

Last week's updated estimate of first-quarter real gross domestic product continued to show strong annualized growth of 6.4 percent. I expect a further acceleration in output growth driven by consumer demand during the current quarter as the reopening of the economy broadens.

Looking through the month-to-month variation, the data suggest that very strong underlying spending growth is continuing this quarter, fueled by recent fiscal support and continued reopening.

Real personal consumption expenditures (PCE) stepped down slightly in April after surging 4.1 percent month over month in March due to a strong

spend-out that month of fiscal support from the American Rescue Plan. A similar pattern of moderation in April following outsized strength in March is also evident at the level of individual goods categories, including clothing and general merchandise, as well as spending at sporting goods, hobby, books, and music stores.

Spending growth is strong in the pandemic-affected services sectors that are reopening, with spending at restaurants and bars increasing 3 percent in April after surging 13.5 percent in March.

The shift in the spending data from March to April provides a useful reminder to exercise caution in extrapolating from individual data points in the current environment. Growth this year is expected to be the strongest in decades as the economy bounces back from the depressed level associated with the pandemic.

The supplemental savings accumulated over the course of the pandemic from fiscal support and constrained services consumption hold the potential for a substantial amount of additional spending, but there is uncertainty about how much of it is likely to be spent out this year as opposed to being spent out more slowly over time.

While the early spend-out from fiscal support in the first quarter of this year was exceptionally strong, whether that strength will be maintained depends in part on the distribution of the remaining additional savings.

Spending could moderate, for instance, if the additional savings is concentrated among higher-income households that may have already completed many of their durable goods purchases and may return to pre-pandemic consumption of discretionary services rather than making up for the underconsumption during the shutdown.

The timing of household consumption out of the accumulated savings will be very important for the strength of demand not just this year, but also next. Today's fiscal tailwinds are projected to shift to headwinds next year.

So an important question is how much household spending will continue to support growth into next year as opposed to settling back to pre-pandemic trends, which would be an additional headwind relative to the strong makeup consumption we have seen so far this year.

During the current reopening phase, the surge in demand is hitting some sectors before the supply side has had a chance to catch up. Many businesses shrank in order to survive the pandemic and now may be struggling or moving cautiously to expand capacity.

These mismatches are exacerbated in some sectors by idiosyncratic supply disruptions, such as in semiconductors, steel, and lumber. Importantly, the reopening pains associated with mismatches between demand and supply in most sectors are temporary in nature and are likely to be resolved as pent-up demand moderates and businesses hire and expand.

These temporary reopening mismatches are evident in recent data on both the employment and inflation sides of our mandate.

### *Supply–Demand Mismatches in Inflation*

The reopening dynamics are evident in the April inflation readings. I had been anticipating a notable move up in inflation beginning in April and lasting several months due to a combination of base effects and temporary reopening supply and demand mismatches.

Core PCE inflation moved up to 3.1 percent on a 12-month basis in April, while 12-month total PCE inflation rose to 3.6 percent amid high energy prices. A significant portion of these 12-month readings reflect contributions from base effects that resulted from the pandemic-related price declines in March 2020 dropping out of the 12-month calculation.

Core PCE inflation is estimated to be 2.4 percent in April after adjusting for base effects. Apart from base effects, the underlying factors driving the increase in inflation are consistent with my expectations that we would see temporary price increases associated with sectoral supply–demand imbalances, and that the timing and sectoral incidence of these increases would be difficult to predict.

While the level of inflation in my near-term outlook has moved somewhat higher, my expectation for the contour of inflation moving back towards its underlying trend in the period beyond the reopening remains broadly unchanged.

The increases in a few categories that were prominent contributors to the month-over-month April core PCE reading of 0.66 percent illustrate the role of temporary frictions associated with the economy's unprecedented reopening.

Used vehicles, airfares, and accommodations together contributed nearly one-third of month-over-month core PCE inflation in April even though the cumulative weight of all three components in the core PCE basket is only 3 percent. The major contributors to the April core PCE inflation increase are not significant drivers of core inflation historically.

The used vehicles category contributed just over 0.1 percentage point to the April core PCE reading. On the demand side, stimulus payments and low borrowing rates have given households additional capability to purchase vehicles, and the pandemic appears to have increased the relative value of private transportation.

On the supply side, with the limited production of new cars due to the semiconductor shortage, rental car companies have become buyers in the used vehicles market in order to restore the capacity they had shuttered during the pandemic, whereas they would normally be net sellers in this market.

As a result, used car prices, which had followed a slight downward trend in the years leading up to the pandemic, jumped a record 10 percent in April. While these pressures may persist over the summer months, I expect them to fade and likely reverse somewhat in subsequent quarters.

Similarly, the travel-related accommodations and airfare sectors also contributed nearly 0.1 percentage point to month-over-month core PCE inflation. Prices in these categories are recovering from depressed values well below their pre-COVID levels.

Prices are expected to continue to rise amid renewed summer travel, but the natural limitations to making up spending on foregone travel are likely to result in a normalization of demand growth after a few quarters, and the capacity in these sectors will likewise increase from their depressed pandemic levels as hiring proceeds.

In assessing the risk that such transitory pricing pressures get embedded in persistently high inflation, it is critical to remember that inflation averaged less than 2 percent over the past quarter-century, and that statistical measures of trend inflation ran consistently below 2 percent for decades before the pandemic.

Relative to the entrenched inflation dynamics that existed before the pandemic, the sharp temporary increases in some categories of goods and services seem unlikely to leave an imprint on longer-run inflation behavior.

To be sure, I will keep a close watch on a range of indicators for any signs of an unwelcome change in longer-term inflation expectations.

The measure of breakeven inflation compensation based on Treasury Inflation-Protected Securities (TIPS) suggests that the recent inflation data have not disturbed longer-run inflation expectations.

Indeed, since the April consumer price index data were released, TIPS-based breakeven inflation compensation for the next five years, as well as those for the five-year, five-year-forward, have moved down, not up.

The TIPS measures suggest that market participants are demanding less compensation for expected longer-term inflation than they were before the April inflation data were released, rather than more.

Survey-based measures of inflation expectations are mixed. The most recent Survey of Professional Forecasters showed an increase in median PCE inflation expectations over the next five years from 2 percent to 2.2 percent, and a smaller increase for inflation expectations over the next 10 years, from 2 percent to 2.1 percent.

Similar to the market-based measures, this survey measure implies a slight decline in the forward inflation measure used to proxy for longer-term inflation expectations relative to medium-term expectations. In contrast, the median response in May to the University of Michigan Survey of Consumers regarding inflation over the next 5 to 10 years moved up to a level last reached in 2013.

The Board staff's Index of Common Inflation Expectations, which combines the most recent signals from both market- and survey-based indicators, edged up a few basis points, reaching the bottom end of its range of values before the 2014 decline.

The inflation dynamics seen over the past few decades have led to inflation that is somewhat below target and relatively stable. Inflation dynamics have generally evolved very gradually.

Longer-term inflation expectations have been well anchored, so when some developments have pushed inflation above or below target, the rise has not been embedded in the ongoing inflation rate.

### *Supply–Demand Mismatches in Employment*

A temporary mismatch between the surge in demand and a fitful supply response at the sectoral level is also evident in recent employment data. While job openings are at the top of their range, the payroll data in April were surprisingly weak.

In part, the weak payrolls reflected some sectors where supply chain disruptions are limiting production despite strong demand. While motor vehicle sales were robust through April, a semiconductor shortage has resulted in production limits and the idling of a number of U.S. auto plants.

These plant closings were evident in a decline of 27,000 jobs in the manufacturing of motor vehicles and parts in April, more than accounting for the 18,000 decline in manufacturing employment overall.

Similarly, employment in construction was flat in April after increasing notably in March, as single-family housing starts dropped 13 percent over the month amid shortages of lumber that constrained contractors' activity.

The lackluster 218,000 increase in private payrolls in April also reflects post-pandemic sectoral reallocation. Sectors that expanded employment substantially in response to COVID-related demand appear to be shedding jobs in preparation for a post-pandemic world, with delivery services jobs declining by 77,000 and grocery store jobs declining by 50,000.

With the most recent Job Openings and Labor Turnover Survey data showing a record 8.1 million job openings at the end of March, it appears that labor supply is lagging behind labor demand in several sectors, in part reflecting ongoing concerns about the virus and caregiving responsibilities.

At the time of the April survey, 2.8 million people reported being out of the labor force because of the pandemic, and only 23 percent of the 18-to-64-year-old population were fully vaccinated. The vaccinated fraction of the working-age population had increased to 40 percent by mid-May.

Constraints related to schooling and childcare are ongoing, and these have disproportionately affected Black and Hispanic mothers and mothers in lower-income households.

While it is now rare for a school district to be fully remote, recent estimates indicate that just over one-half of U.S. students are in school districts that continue to operate in a hybrid learning environment rather than fully in person.

There is some debate about whether the supplemental funds provided by unemployment insurance (UI) benefits are leading workers to stay on the sidelines.

The high level of employment gains in the lowest-wage sector and the reduction in continued claims seem inconsistent with supplemental UI benefits playing a large role in the April employment report.

The largest employment gains in the otherwise tepid April employment report were in the low-wage leisure and hospitality sector, where UI replacement rates are among the highest.

In addition, between the March and April reference weeks, continued UI claims, inclusive of Pandemic Emergency Unemployment Compensation and Extended Benefits, fell by about 1.3 million—indicating that many workers returned to work despite previously receiving UI benefits.

It is difficult to disentangle the effects of concerns about contracting the virus or caregiving responsibilities brought on by the pandemic from those of UI benefits.

All of these factors are likely to diminish by autumn with the return to fully in-person school, continued progress on vaccinations, and the expiration of supplemental UI benefits in early September—or earlier, in many states.

For all these reasons, the supply–demand mismatches in the labor market are likely to be temporary, and I expect to see further progress on employment in coming months.

That said, today employment remains far from our goal. Jobs are down by over 8 million relative to their pre-pandemic level, and the shortfall is over 10 million jobs if we take into account the secular job growth that would have occurred over the past year in normal circumstances.

As of April, the overall prime-age employment-to-population (EPOP) ratio is 76.9 percent, more than 3 percentage points below its pre-pandemic level. The shortfall in the prime-age EPOP ratio is around 5 percentage points for Black and Hispanic workers relative to their October 2019 peaks.

### *Policy*

Although continued vigilance is warranted, the inflation and employment data thus far appear to reflect a temporary misalignment of supply and demand that should fade over time as the demand surge normalizes, reopening is completed, and supply adapts to the post-pandemic new normal.

Under our guidance, adjustments in the path of monetary policy are transparently tied to realized progress on our maximum-employment and 2 percent average-inflation goals. Jobs are down by between 8 and 10 million compared with the level we would have seen in the absence of the pandemic.

And it will be important to see sustained progress on inflation given the preceding multiple year trend of inflation below 2 percent. While we are far from our goals, we are seeing welcome progress, and I expect to see further progress in coming months.

I am attentive to the risks on both sides of this expected path. I will carefully monitor inflation and indicators of inflation expectations for any signs that longer-term inflation expectations are evolving in unwelcome ways.

Should inflation move materially and persistently above 2 percent, we have the tools and experience to gently guide inflation back down to target, and no one should doubt our commitment to do so.

Just as it is important to be attentive to upside risks, it is also important to be attentive to the risks of pulling back too soon.

In the previous monetary policy framework, the customary preemptive tightening based on the outlook to head off concerns about future high inflation likely curtailed critical employment opportunities for many Americans and embedded persistently below-target inflation.

The entrenched pre-pandemic combination of low equilibrium interest rates, low underlying trend inflation, and a flat Phillips curve is likely to reassert itself after reopening is complete.

This type of environment creates asymmetric risks, since the lower bound constraint means that policy can respond more readily when inflation surprises to the upside than to the downside.

Remaining steady in our outcomes-based approach during the transitory reopening surge will help ensure the economic momentum that will be needed as current tailwinds shift to headwinds is not curtailed by a premature tightening of financial conditions.

The best way to achieve and sustain our maximum-employment and average-inflation goals is by remaining steady and clear in our approach while also being attentive to changing conditions.



*Number 4*

BIS Working Papers No 946

## The pricing of carbon risk in syndicated loans: which risks are priced and why?

Torsten Ehlers, Frank Packer and Kathrin de Greiff, Monetary and Economic Department, June 2021



BANK FOR INTERNATIONAL SETTLEMENTS

### *Abstract*

Do banks price the risks of climate policy change? Combining syndicated loan data with carbon intensity data (CO<sub>2</sub> emissions relative to revenue) of borrowers across a wide range of industries, we find a significant “carbon premium” since the Paris Agreement.

The loan risk premium related to CO<sub>2</sub> emission intensity is apparent across industries and broader than that due simply to “stranded assets” in fossil fuel or other carbon-intensive industries.

The price of risk, however, appears to be relatively low given the material risks faced by borrowers. Only carbon emissions directly caused by the firm (scope 1) are priced, and not the overall carbon footprint including indirect emissions.

“Green” banks do not appear to price carbon risk differently from other banks.

### *1. Introduction*

Both the physical risks from climate events, and even more, the transition risks from a tightening of environmental regulations, can lead to potentially large revaluations of financial assets if not anticipated (Carney (2015), Dietz et al (2016)).

The more informed investors and creditors are of the financial risks of climate change, the more they will reallocate from investments with high climate-related financial risks to more environmentally beneficial investments with lower risks.

The pricing of climate-related financial risks, therefore, is an important factor in climate change mitigation.

We concentrate on carbon emissions as a source of financial risk for firms, often referred to in the literature as “carbon risk” (eg Bolton and Kacperczyk (2021), Goergen et al (2020), Andersson et al (2016)).

In December 2015, 195 states and the European Union agreed in Paris to adopt a goal of limiting global warming to well below 2 degree Celsius, preferably to 1.5 degrees, above pre-industrial levels and pursue efforts consistent with that goal.

Achieving this goal implies a very rapid reduction of CO<sub>2</sub> emissions (Rogelj et al (2016), IPCC (2015)).

Very carbon intensive firms therefore face relatively high financial risks if, and when, governments take measures to comply with their commitments to reduce carbon emissions.

One instance of carbon risk that has received early attention in the literature is the case of stranded assets in the fossil fuel industry (Ansar et al (2013)).

Stranded assets are physical assets whose value declines substantially due to the effects of climate change or climate change policies.

The carbon reduction requirements in the Paris Agreement and related policies imply that some fossil fuel firms might not be able to fully utilize their existing fossil fuel reserves (McGlade and Ekins (2015)), leading to a decline in the financial value of those reserves.

Under given climate policy scenarios, the carbon risk from stranded assets in the fossil fuel industry can be directly measured, making it a natural approach for studying climate-related financial risks.

Carbon risk, however, goes beyond stranded assets.

Firms with relatively high emissions are at a greater risk of suffering financial penalties if environmental policies tighten.

Direct penalties can result, for instance, from the extra costs of carbon taxes on firm emissions.

These can apply to firms in all industries with a carbon footprint and are not limited to fossil fuel producers.

Our main contribution to the literature is to consider pricing of carbon risk in the context of syndicated bank loans.

Lead banks in a loan syndicate have a strong incentive (and the means) to consider all relevant risk when pricing a loan – in particular when it is of large value and long maturity as is typical in the syndicated loan market.

We document that for a significant share of firms in our sample, carbon risk is financially material.

Hence, banks should be expected to price such risks. We use carbon intensity – carbon emissions relative to revenue – as a proxy for carbon risk.

We argue that carbon intensity can capture the severity of the potential financial impact of a tightening of carbon emission policies, such as an imposition of a carbon tax.

Ultimately, costs related to carbon emissions are balanced against revenue, and firms with greater carbon emissions relative to revenue will find transition costs (such as carbon taxes) to be more burdensome.

The analysis of carbon risk across a broad set of industries is enabled by the increasing availability of carbon emissions data for a broad range of firms. We use carbon emissions data from S&P Trucost that covers listed firms in all major advanced and emerging economies.

The availability of such data allows us to distinguish between inter- and intra-industry differences in carbon emissions.

Also, the firm-level physical measures of carbon emissions enable us to analyze emissions directly attributable to the firm (scope 1), and those more broadly measured to include indirect emission from consumed energy (scope 2) and production inputs of the firm (“upstream” scope 3).

To preview our results, we find that the pricing of carbon risk in the syndicated loan market changed significantly after the Paris Agreement.

The difference in risk premia due to CO<sub>2</sub> emission intensity is apparent across industry sectors.

It is not driven by any specific industry sectors and therefore reflects a phenomenon broader than simply “stranded assets” in fossil fuel or other carbon-intensive industries.

These results are robust to including loan fees, and the premium is not prevalent in the years before the Paris Agreement.

We argue that the Paris Agreement increased the awareness of banks to carbon risk, analogous to survey evidence for institutional investors (Krueger et al (2020)).

While our results suggest that banks have started to internalize possible risks from the transition to a low-carbon economy across a broad range of industries, we find that they have done so only for the narrowly defined scope 1 carbon emissions (ie those directly caused by the firm).

Our results suggest that carbon emissions indirectly caused by production inputs were not priced at the margin, implying that the overall carbon footprint is less of a concern to banks than direct emissions caused by the firms' activities.

This seeming indifference of banks to higher scope emissions of borrowers parallels one finding of Bolton and Kacperczyk (2021), who show that the likelihood of divestment by institutional investors significantly increases with the degree and intensity of scope 1 emissions of the target firm, but not with emissions of other broader scopes.

This suggests potential for “green-washing”: scope 1 emissions of a firm can be reduced by simply outsourcing carbon intensive activities (Ben-David et al (2021)), without reducing the firm's broader carbon footprint.

Apart from the narrow scope of carbon risk that we find to be priced in syndicated bank loans, the price of risk also appears to be relatively low.

On average, our regression results imply a carbon risk premium since 2016 of about 3-4 basis points (ie a 0.03-0.04% loan rate premium).

For the high emitters (the 90th percentile in our sample), the premium increases to 7 basis points.

High carbon emitters are firms with a carbon intensity of >1000 tonnes of CO<sub>2</sub> per \$ million of revenue in our sample.

Ceteris paribus, the introduction of a carbon price of \$100 per tonne of CO<sub>2</sub> would imply that these firms would have to spend at least 10% of total revenues on carbon taxes alone.

Carbon risk would hence be highly material for such firms and the potential financial impact is unlikely to be fully internalized by a 7 basis points premium.

We further investigate whether syndicated loans arranged by “green

banks” (as lead arrangers) price climate change risks more than other banks. We look at both banks that signal they are green (as members of the United Nations Environmental Programme Finance Initiative (UNEP FI) or parties to the Equator Principles (EP)) and “de facto” green banks that lend less to carbon-intensive sectors.

We cannot find any evidence that green banks put a higher price on carbon risk, though there is some evidence that green banks belonging to the UNEP FI or adopting the EP screen out companies with high carbon exposure – analogous to the evidence for asset managers in Bolton and Kacperczyk (2021).

Academic research to date on the pricing of climate change risk, including on carbon risk, has tended to focus on the pricing of climate-related risks in equity markets.

Existing research indicates a transition risk premium in equity and option markets which seems to be more pronounced in times of high public climate change awareness (Ilhan et al (2021), Bolton and Kacperczyk (2021), Goergen et al (2020), Ramelli et al (2018), among others).

To read more:

<https://www.bis.org/publ/work946.pdf>



*Number 5***PUBLIC CONSULTATION ON THE DRAFT CANDIDATE EUCC SCHEME**

Following the request from the European Commission in accordance with Article 48.2 of the Cybersecurity Act (hereinafter referred to as CSA as indicated in the glossary), ENISA has set up an Ad Hoc Working Group (AHWG) to support the preparation of a candidate EU cybersecurity certification scheme to serve as a successor to the existing ICT products certification schemes operating under the SOG-IS MRA (Senior Officials Group Information Systems Security Mutual Recognition Agreement).

As stipulated by Article 49.3 of the Cybersecurity Act, “When preparing a candidate scheme, ENISA shall consult all relevant stakeholders by means of a formal, open, transparent and inclusive consultation process.”

ENISA has therefore organised a public consultation from July, 2 to July, 31 2020. This report presents the outcome of this consultation.

### *1. The contributors*

- Important fact is that the contributors represent a broad spectrum of actors involved in ICT products certification ensuring that input is received from all different angles.
- Manufacturers/developers represented 37 % and the conformity assessment bodies (certification bodies and ITSEFs/testing laboratories) 24 % of the total number of respondents.
- 77% of the participants indicated EU/EEA as their country of establishment and 20% as non-EU/EEA. Further to that, 32% indicated that their country of establishment participates in the SOG-IS MRA and 33% that their country of establishment is a member of the Common Criteria Recognition Arrangement (CCRA).

2. The intend to use the draft candidate EUCC scheme: 33% of the respondents indicated to envisage having ICT products certified under the EUCC scheme (manufacturers/producers/developers and trade organisations) and 25% indicated to have their products certified; generating a demand side that is more or less in balance with the activity of contributors.

3. The transition from current scheme (SOG-IS or national schemes) to EUCC scheme; 64% of the survey participants agreed that the choices made in the EUCC scheme will have a positive impact on the transition from current activities. 32% were neutral and only 4% were of the opinion that the impact will not be positive. The need of guidance to support transition was noted.

To read more:

[https://www.enisa.europa.eu/publications/enisa-report-public\\_consultation-on-the-draft-candidate-eucc-scheme](https://www.enisa.europa.eu/publications/enisa-report-public_consultation-on-the-draft-candidate-eucc-scheme)



*Number 6***Targets for Addressing the Four Challenges of Cross-Border Payments: Consultative document**

The G20 has made enhancing cross-border payments a priority. Faster, cheaper, more transparent and more inclusive cross-border payment services, including remittances, which would have widespread benefits for citizens and economies worldwide, support economic growth, international trade, global development and financial inclusion.

A roadmap was developed by the FSB, in coordination with the Committee on Payments and Market Infrastructures (CPMI) and other relevant international organisations and standard-setting bodies to address these challenges.

Financial innovation is creating opportunities to make payments more efficient. Innovation in technology and business models in payments has put the focus on further enhancements in payments systems.

New technologies have the potential to facilitate fast, low cost, transparent and scalable payments for a broad range of users through the banking system.

Public authorities have an important role to play, working with the private sector to leverage opportunities and address challenges in both existing and new arrangements supporting cross-border payments.

The G20 Leaders endorsed the Roadmap in the form of 19 Building Blocks and related Actions for Enhancing Cross-border Payments<sup>1</sup> at their November 2020 Summit.

A foundational step in the Roadmap consists of setting quantitative targets at the global level for addressing the challenges of cost, speed, transparency and access faced by cross-border payments, which will play an important role in defining the ambition of the work and creating accountability.

They are intended to provide a common vision for the improvements that are being sought through the collaborative work of the private and public sectors.

These targets are being set in an inclusive manner, including through this public consultation.

This consultation document:

- (i) describes the principles, and key design features underpinning, the targets and target metrics;
- (ii) proposes three market segments for which targets be set across the four challenges;
- (iii) considers factors in setting the targets; and
- (iv) proposes a set of targets that are high-level, simple, small in number and focused on end-users.

The FSB is inviting comments on this consultation document and the questions set out below.

Responses should be sent to [fsb@fsb.org](mailto:fsb@fsb.org) by Friday 16 July 2021. Responses will be published on the FSB's website unless respondents expressly request otherwise.

1. What are your comments on the key design features applied in designing the targets (section 1)? Are there any design features that you consider are missing?
2. Do you agree with the market segments as described? Are they sufficiently clear? Do they reflect the diversity of cross-border payments markets, while providing a high-level common vision for addressing the four roadmap challenges?
3. Do you have any comments on the target metrics proposed?
4. Do you agree with the proposal in the definition of the market segments to separate remittance payments from other types of cross-border person-to-person (P2P) payments because of the greater challenges that remittances in some country corridors face? If so, can you suggest data sources that can distinguish between the two types?
5. Are the proposed numerical targets suitable? Are they objective and measurable, so that accountability can be ensured by monitoring progress against them over time?
6. What are your views on the cost target for the retail market segment? Does it reflect an appropriate level of ambition to improve on current costs while taking into consideration the variety of payment types within the segment? Should reference transaction amounts be set for the target (in the

same way as \$200 has been set for the current UN Sustainable Development Group targets for remittances) and, if so, what amount would you suggest?

7. What are your views on the speed targets across the three market segments? Are the proposed targets striking the right balance between the ambition of having a large majority of users seeing significant improvements, the recognition that different types of user will have different speed requirements, and the extent of improvements that can be envisaged from the actions planned under the roadmap?

8. Are the dates proposed for achieving the targets (i.e. end-2027 for most targets) appropriately ambitious yet achievable given the overall time horizon for the Actions planned under the Roadmap? Would an alternative and more ambitious target date of end-2026 be feasible?

9. What data sources exist (or would need to be developed) to monitor the progress against the targets over time and to develop and set key performance indicators? Do you have relevant data that you would be willing to share for this purpose either now or during the future monitoring?

10. Do you have further suggestions or questions about the detailed definition and measurement of the targets and their implementation? Which types of averages can be constructed to help to measure progress?

11. Do you have any suggestions for more qualitative targets that could express ambitions for the benefits to be achieved by innovation that would be in addition to the proposed quantitative targets for the payments market as a whole?



*Number 7***SEC Awards More Than \$23 Million to Whistleblowers**

The Securities and Exchange Commission announced awards of approximately \$13 million and \$10 million to two whistleblowers whose information and assistance led to successful SEC and related actions.

The whistleblowers' substantial assistance, provided to the SEC and another federal agency, included submitting information and documents, participating in interviews, and identifying key individuals who engaged in the misconduct at issue.

“The whistleblowers' information and assistance led to multiple successful enforcement actions related to a complex and fraudulent scheme involving multiple individuals and tens of millions of dollars in ill-gotten gains,” said Emily Pasquinelli, Acting Chief of the SEC's Office of the Whistleblower.

“Today's awards demonstrate the SEC's continuing commitment to making awards to individuals who provide high-quality information that assists the SEC and other government agencies in bringing successful enforcement actions.”

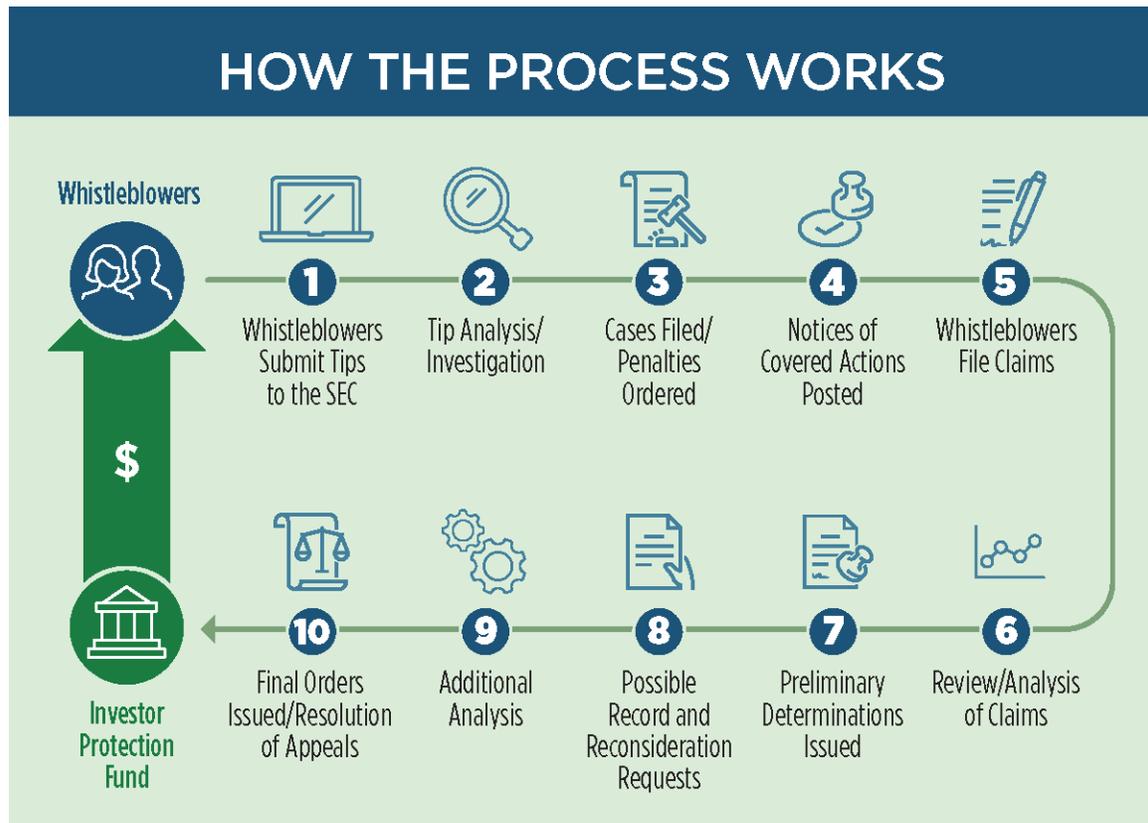
The SEC has awarded more than \$928 million to 166 individuals since issuing its first award in 2012. All payments are made out of an investor protection fund established by Congress that is financed entirely through monetary sanctions paid to the SEC by securities law violators.

No money has been taken or withheld from harmed investors to pay whistleblower awards. Whistleblowers may be eligible for an award when they voluntarily provide the SEC with original, timely, and credible information that leads to a successful enforcement action.

Whistleblower awards can range from 10 percent to 30 percent of the money collected when the monetary sanctions exceed \$1 million.

As set forth in the Dodd-Frank Act, the SEC protects the confidentiality of whistleblowers and does not disclose any information that could reveal a whistleblower's identity.

For more information about the whistleblower program and how to report a tip, visit [www.sec.gov/whistleblower](http://www.sec.gov/whistleblower)



*Number 8***Inflation Considerations and the Monetary Policy Responses**

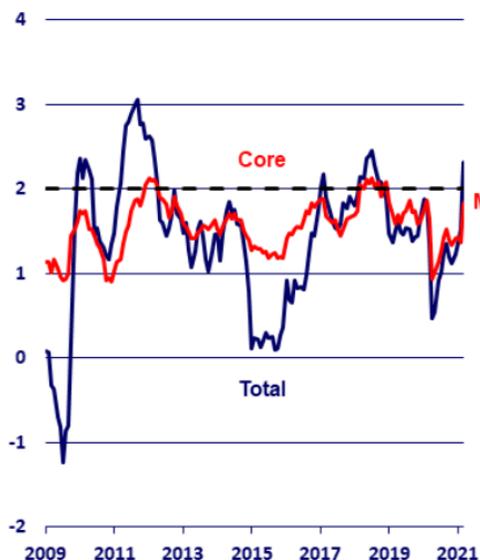
Charlie L. Evans, President & CEO, Federal Reserve Bank of Chicago  
 2021 Bank of Japan–Institute for Monetary and Economic Studies  
 Conference, Adapting to the New Normal: Perspectives and Policy  
 Challenges after the COVID-19 Pandemic.

**FEDERAL RESERVE BANK of CHICAGO***Introduction and disclaimer*

Thank you for that introduction and the opportunity to participate alongside these distinguished panelists in today's important discussion on the monetary policy challenges ahead. Before I begin, let me note that these views are my own and do not necessarily represent those of my colleagues on the Federal Open Market Committee (FOMC) or others in the Federal Reserve System.

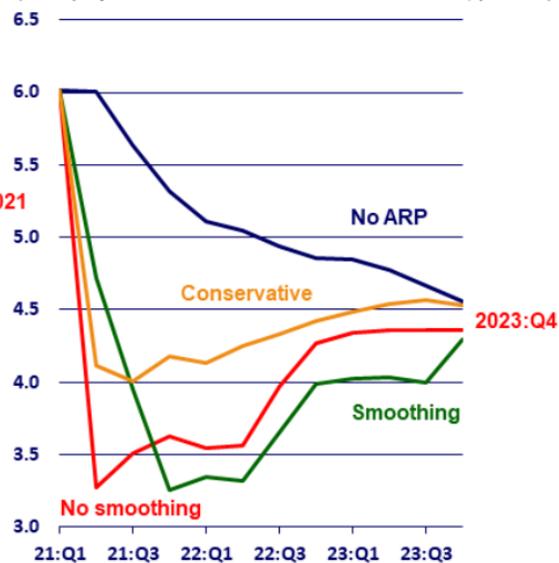
**Inflation History; Unemployment Scenarios**

**Inflation Below 2% for Long Time**  
 (PCE price indexes; 12-month percent change)



Source: Bureau of Economic Analysis from Haver Analytics

**Unemployment Falling Rapidly with American Rescue Plan (ARP)**  
 (unemployment rate in alternative ARP scenarios, percent)



Source: Francesco Bianchi, Jonas D. M. Fisher, and Leonardo Melosi. Authors' calculations based on data from the Congressional Budget Office, Edelberg and Sheiner (2021). Chicago Fed Letter available at [www.chicagofed.org/publications/chicago-fed-letter/2021/453](http://www.chicagofed.org/publications/chicago-fed-letter/2021/453)

Many commentators have warned that the U.S. economy is on a path to high inflation and that monetary policy should be repositioning to counter that. Yet this commentary often is pretty loose on the exact mechanisms generating the inflation.

Analysts cite the risk of a seriously overheating U.S. economy and then invoke the specter of high inflation. But just how high and how persistent might these feared increases be? These obviously are crucial things for policymakers to understand and assess.

So I want to talk about them today—in particular the roles that resource pressures and inflation expectations might play in the path for inflation over the next few years.

To set the stage, the FOMC has an average inflation target of 2 percent as measured by the Price Index for Personal Consumption Expenditures (PCE), which is shown in the left-hand panel of this chart.

As you well know, following the Great Financial Crisis, PCE inflation had only briefly reached 2 percent a couple of times prior to the pandemic.

Inflation then plummeted as the pandemic depressed demand for many goods and services. Recently, in March, core inflation popped up to 1.8 percent,<sup>1</sup> and given the latest Consumer Price Index (CPI) reading, we're likely to see a big move up in April's PCE inflation report.

The factors behind these increases are well known: the base effects of last year's price declines dropping out of the 12-month calculation; the normalizing rebound of prices in sectors hard hit by the pandemic; and supply-side cost pressures associated with a fast-growing economy. And we certainly are hearing a lot about these cost pressures today.

However, as challenging as they are for certain households and businesses, these developments largely reflect relative price changes to new equilibrium levels—and relative price changes by themselves have only transitory effects on inflation.

How should we assess the risks of a serious, longer-lasting inflation problem? Many commentators who argue that this higher inflation danger is right around the corner are doing so in reference to the recently enacted American Rescue Plan Act, or ARP.

For example, Larry Summers (2021a, 2021b) has said the fiscal support is too big and will overheat the economy. But the precise inflation mechanisms and magnitudes are often left unstated.

Two economists on my staff, Jonas Fisher and Leo Melosi, along with Francesco Bianchi at Duke, went through an exercise to flesh out some representative mechanisms.

They first considered the potential impact of the American Rescue Plan Act on the unemployment rate under a few scenarios regarding how much and how quickly appropriations from the plan might be spent.

Their results are shown in the right-hand panel of the slide, along with the February 2021 baseline CBO forecast, which did not include the fiscal package. In each scenario, the unemployment rate falls quickly and significantly below baseline.

The largest and most persistent impact is in what they call the smoothing scenario—in which the unemployment rate falls somewhat below its pre-pandemic level of 3.5 percent for three consecutive quarters, starting in the fourth quarter of 2021.

### *Resource pressures and inflation*

What are the consequences for inflation? Well, here you need a model that relates resource pressures to inflation. So Francesco, Jonas, and Leo ran each scenario through different versions of the workhorse inflation-expectations-augmented Phillips curve.

The first version is the New Keynesian Phillips Curve, which in addition to slack includes short-run inflation expectations, but has no lagged inflation in it. The second is a model from 2015 that Janet Yellen liked to use in her public discourse when she was Fed Chair.

Its key differences from the New Keynesian model is its dependence on long-run inflation expectations and inclusion of lagged values of inflation. Francesco, Jonas, and Leo consider a linear version and a simple nonlinear specification in which resource pressures have larger effects on inflation at very low levels of unemployment.

Their last specification is a behavioral model in which inflation expectations are adaptive—so higher actual inflation will boost expectations. The model also incorporates “speed effects,” in which not only the level of, but the change in, the unemployment gap influences inflation. This arguably proxies for things like supply-side bottlenecks that arise as an economy recovers quickly.

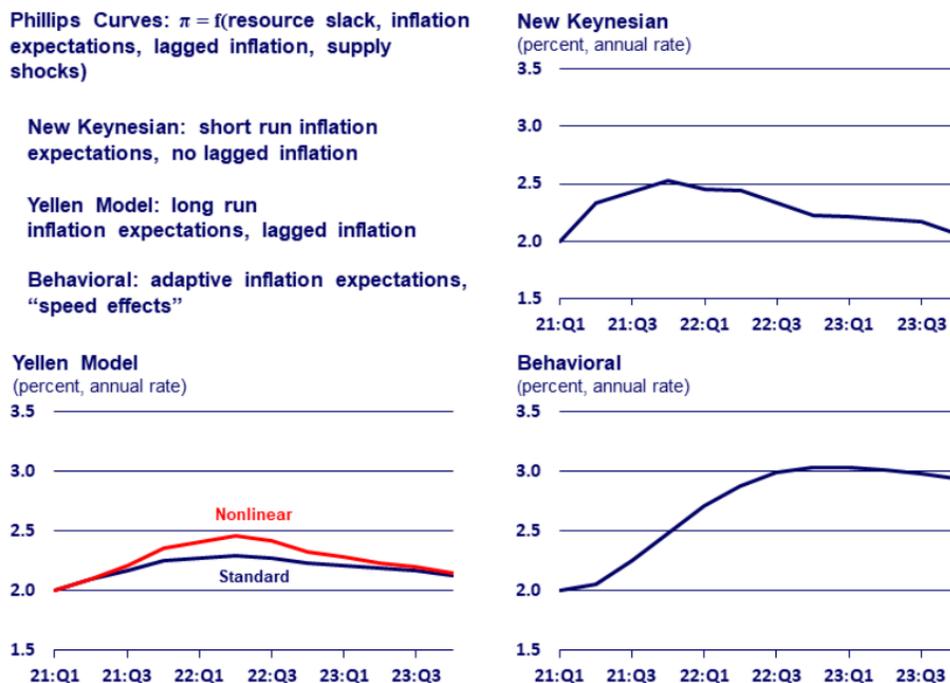
So, what did they find? Because the smoothing scenario generates a larger and more persistent output gap than the others, I’m going to concentrate on

that case. If we had started off with inflation at our 2 percent average objective in the first quarter of 2021 rather than below it, in both the New Keynesian and Yellen models, PCE inflation tops out somewhere around 2-1/2 percent. And this modestly higher level doesn't last that long, largely reverting to target in two or three years.

Only the behavioral model yielded some larger and persistently higher numbers. Here, PCE inflation increases to about 3 percent, and a feedback loop between higher actual inflation and inflation expectations meant the higher rate was largely maintained several years out.

## Inflation Outcomes from Three Models

### Smoothed American Rescue Plan Effects Scenario



Source: Francesco Bianchi, Jonas D. M. Fisher, and Leonardo Melosi. Authors' calculations based on data from the Congressional Budget Office, Edelberg and Sheiner (2021). Chicago Fed Letter available at [www.chicagofed.org/publications/chicago-fed-letter/2021/453](http://www.chicagofed.org/publications/chicago-fed-letter/2021/453)

To read more:

<https://www.chicagofed.org/publications/speeches/2021/may-25-bank-of-japan-conference>



*Number 9*

## How AI Could Alert Firefighters of Imminent Danger



Firefighting is a race against time. Exactly how much time? For firefighters, that part is often unclear. Building fires can turn from bad to deadly in an instant, and the warning signs are frequently difficult to discern amid the mayhem of an inferno.

Seeking to remove this major blind spot, researchers at the National Institute of Standards and Technology (NIST) have developed P-Flash, or the Prediction Model for Flashover.

The artificial-intelligence-powered tool was designed to predict and warn of a deadly phenomenon in burning buildings known as flashover, when flammable materials in a room ignite almost simultaneously, producing a blaze only limited in size by available oxygen.

The tool's predictions are based on temperature data from a building's heat detectors, and, remarkably, it is designed to operate even after heat detectors begin to fail, making do with the remaining devices.

The team tested P-Flash's ability to predict imminent flashovers in over a thousand simulated fires and more than a dozen real-world fires.

Research, just published in the *Proceedings of the AAAI Conference on Artificial Intelligence*, suggests the model shows promise in anticipating simulated flashovers and shows how real-world data helped the researchers identify an unmodeled physical phenomenon that if addressed could improve the tool's forecasting in actual fires. You may visit:

<https://ojs.aaai.org/index.php/AAAI/article/view/17736>

With further development, P-Flash could enhance the ability of firefighters to hone their real-time tactics, helping them save building occupants as well as themselves.

Flashovers are so dangerous in part because it's challenging to see them coming. There are indicators to watch, such as increasingly intense heat or flames rolling across the ceiling. However, these signs can be easy to miss in many situations, such as when a firefighter is searching for trapped victims with heavy equipment in tow and smoke obscuring the view. And from the outside, as firefighters approach a scene, the conditions inside are even less clear.

“I don't think the fire service has many tools technology-wise that predict flashover at the scene,” said NIST researcher Christopher Brown, who also serves as a volunteer firefighter. “Our biggest tool is just observation, and that can be very deceiving. Things look one way on the outside, and when you get inside, it could be quite different.”

Computer models that predict flashover based on temperature are not entirely new, but until now, they have relied on constant streams of temperature data, which are obtainable in a lab but not guaranteed during a real fire.

Heat detectors, which are commonly installed in commercial buildings and can be used in homes alongside smoke alarms, are for the most part expected to operate only at temperatures up to 150 degrees Celsius (302 degrees Fahrenheit), far below the 600 degrees Celsius (1,100 degrees Fahrenheit) at which a flashover typically begins to occur. To bridge the gap created by lost data, NIST researchers applied a form of artificial intelligence known as machine learning.

“You lose the data, but you've got the trend up to where the heat detector fails, and you've got other detectors. With machine learning, you could use that data as a jumping-off point to extrapolate whether flashover is going to occur or already occurred,” said NIST chemical engineer Thomas Cleary, a co-author of the study.

Machine-learning algorithms uncover patterns in large datasets and build models based on their findings. These models can be useful for predicting certain outcomes, such as how much time will pass before a room is engulfed in flames.

To build P-Flash, the authors fed their algorithm temperature data from heat detectors in a burning three-bedroom, one-story ranch-style home — the most common type of home in a majority of states. This building was of a digital rather than brick-and-mortar variety, however.

Because machine learning algorithms require great quantities of data, and conducting hundreds of large-scale fire tests was not feasible, the team burned this virtual building repeatedly using NIST's Consolidated Model of Fire and Smoke Transport, or CFAST, a fire modeling program validated by real fire experiments, Cleary said.

The authors ran 5,041 simulations, with slight but critical variations between each. Different pieces of furniture throughout the house ignited with every run. Windows and bedroom doors were randomly configured to be open or closed. And the front door, which always started closed, opened

up at some point to represent evacuating occupants. Heat detectors placed in the rooms produced temperature data until they were inevitably disabled by the intense heat.

To learn about P-Flash's ability to predict flashovers after heat detectors fail, the researchers split up the simulated temperature recordings, allowing the algorithm to learn from a set of 4,033 while keeping the others out of sight. Once P-Flash had wrapped up a study session, the team quizzed it on a set of 504 simulations, fine-tuned the model based on its grade and repeated the process. After attaining a desired performance, the researchers put P-Flash up against a final set of 504.

The researchers found that the model correctly predicted flashovers one minute beforehand for about 86% of the simulated fires. Another important aspect of P-Flash's performance was that even when it missed the mark, it mostly did so by producing false positives — predictions that an event would happen earlier than it actually did — which is better than the alternative of giving firefighters a false sense of security.

“You always want to be on the safe side. Even though we can accept a small number of false positives, our model development places a premium on minimizing or, better yet, eliminating false negatives,” said NIST mechanical engineer and corresponding author Wai Cheong Tam.

The initial tests were promising, but the team had not grown complacent.

“One very important question remained, which was, can our model be trusted if we only train our model using synthetic data?” Tam said.

Luckily, the researchers came across an opportunity to find answers in real-world data produced by Underwriters Laboratories (UL) in a recent study funded by the National Institute of Justice. UL had carried out 13 experiments in a ranch-style home matching the one P-Flash was trained on, and as with the simulations, ignition sources and ventilation varied between each fire.

The NIST team trained P-Flash on thousands of simulations as before, but this time they swapped in temperature data from the UL experiments as the final test. And this time, the predictions played out a bit differently.

P-Flash, attempting to predict flashovers up to 30 seconds beforehand, performed well when fires started in open areas such the kitchen or living room. But when fires started in a bedroom, behind closed doors, the model could almost never tell when flashover was imminent.

The team identified a phenomenon called the enclosure effect as a possible explanation for the sharp drop-off in accuracy. When fires burn in small, closed-off spaces, heat has little ability to dissipate, so temperature rises quickly. However, many of the experiments that form the basis of P-Flash's training material were carried out in open lab spaces, Tam said. As such, temperatures from the UL experiments shot up nearly twice as fast as the synthetic data.

Despite revealing a weak spot in the tool, the team finds the results to be encouraging and a step in the right direction. The researchers' next task is to zero in on the enclosure effect and represent it in simulations. To do that they plan on performing more full-scale experiments themselves.

When its weak spots are patched and its predictions sharpened, the researchers envision that their system could be embedded in hand-held devices able to communicate with detectors in a building through the cloud, Tam said.

Firefighters would not only be able to tell their colleagues when it's time to escape, but they would be able to know danger spots in the building before they arrive and adjust their tactics to maximize their chances of saving lives.



*Number 10***World's smallest, best acoustic amplifier emerges from 50-year-old hypothesis**

Acousto-electric devices reveal new road to miniaturizing wireless tech



Scientists at Sandia National Laboratories have built the world's smallest and best acoustic amplifier. And they did it using a concept that was all but abandoned for almost 50 years.

According to a paper published May 13 in Nature Communications, the device is more than 10 times more effective than the earlier versions. You may visit: <https://www.nature.com/articles/s41467-021-22935-1>

The design and future research directions hold promise for smaller wireless technology.

Modern cell phones are packed with radios to send and receive phone calls, text messages and high-speed data. The more radios in a device, the more it can do.

While most radio components, including amplifiers, are electronic, they can potentially be made smaller and better as acoustic devices. This means they would use sound waves instead of electrons to process radio signals.

“Acoustic wave devices are inherently compact because the wavelengths of sound at these frequencies are so small — smaller than the diameter of human hair,” Sandia scientist Lisa Hackett said. But until now, using sound waves has been impossible for many of these components.

Sandia's acoustic, 276-megahertz amplifier, measuring a mere 0.0008 square inch (0.5 square millimeter), demonstrates the vast, largely untapped potential for making radios smaller through acoustics.

To amplify 2 gigahertz frequencies, which carry much of modern cell phone traffic, the device would be even smaller, 0.00003 square inch (0.02 square millimeter), a footprint that would comfortably fit inside a grain of table salt and is more than 10 times smaller than current state-of-the-art technologies.

The team also created the first acoustic circulator, another crucial radio component that separates transmitted and received signals. Together, the petite parts represent an essentially uncharted path toward making all

technologies that send and receive information with radio waves smaller and more sophisticated, said Sandia scientist Matt Eichenfield.

“We are the first to show that it’s practical to make the functions that are normally being done in the electronic domain in the acoustic domain,” Eichenfield said.

To read more:

[https://share-ng.sandia.gov/news/resources/news\\_releases/acoustic\\_amplifier/](https://share-ng.sandia.gov/news/resources/news_releases/acoustic_amplifier/)



## Disclaimer

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

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

This information:

- is of a general nature only and is not intended to address the specific circumstances of any individual or entity;
- should not be relied on in the context of enforcement or similar regulatory action;
- is not necessarily comprehensive, complete, or up to date;
- is sometimes linked to external sites over which the Association has no control and for which the Association assumes no responsibility;
- is not professional or legal advice (if you need specific advice, you should always consult a suitably qualified professional);
- is in no way constitutive of an interpretative document;
- does not prejudice the position that the relevant authorities might decide to take on the same matters if developments, including Court rulings, were to lead it to revise some of the views expressed here;
- does not prejudice the interpretation that the Courts might place on the matters at issue.

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

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

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

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

## International Association of Risk and Compliance Professionals

You can explore what we offer to our members:

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

You may visit:

[https://www.risk-compliance-association.com/How\\_to\\_become\\_member.htm](https://www.risk-compliance-association.com/How_to_become_member.htm)

2. *Weekly Updates* - Visit the *Reading Room* of the association at:

[https://www.risk-compliance-association.com/Reading\\_Room.htm](https://www.risk-compliance-association.com/Reading_Room.htm)

3. *Training and Certification* – Become a Certified Risk and Compliance Management Professional (CRCMP), a Certified Information Systems Risk and Compliance Professional (CISRCP), a Certified Cyber (Governance Risk and Compliance) Professional - CC(GRC)P, and / or a Certified Risk and Compliance Management Professional in Insurance and Reinsurance - CRCMP(Re)I.

www.simplyhired.com/search?q=crcmp&job=BY\_s7GxAbt4KwSJ\_aJA\_4KaruYRQSQ



### Crcmp jobs

Sort by    Date Added    More Filters

Relevance ▾

Anytime ▾

None Selected ▾

#### Risk Science Business Process Lead, Senior Associate

Capital One - McLean, VA

Est. \$110,000 - \$150,000 a year ⓘ

Lean, Six Sigma, BPM, PMP, PRM, or CRCMP. McLean 1 (19050), United States of America, McLean, Virginia....

#### Application Security Advisor-Penetration Tester

USAA - San Antonio, TX

Est. \$100,000 - \$140,000 a year ⓘ

Professional designation in CISSP, CISA, CRISC, CISM, CEH, GWAPT, GWEB, or CRCMP. Purpose of Job IMPORTANT:....

#### Senior Information Security Risk Analyst

Public Company Accounting Oversight Board - ★★★★★ 10 reviews -

Washington, DC

Professional designation in CISSP, CISA, CRISC, or CRCMP preferred. The PCAOB is a nonprofit corporation established by Congress to oversee the audits of public...



## Senior Manager Vendor Risk Management

Johnson & Johnson Family of Companies ★★★★★ 3,153 reviews -

New Brunswick, NJ

[Apply On Company Site](#)

- requirements.
- Stay abreast of regulatory environment regarding VRM.

### Qualifications

- A minimum of a Bachelor's degree or equivalent is required.
- Compliance Certification (CRCMP) designation is preferred.
- A minimum of 6 years experience in IT compliance, finance compliance and/or payroll compliance is required.
- Experience leading & executing SOX 404 compliance programs is required.
- Prior experience with vendor risk management preferred.
- Experience working with 3rd party vendors is preferred.

Companies and organizations like Accenture, American Express, USAA etc. consider the Certified Risk and Compliance Management Professional (CRCMP) program a preferred certificate. There are CRCMPs in 32 countries.

You can find more about the demand for CRCMPs at:

[https://www.risk-compliance-association.com/CRCMP\\_Jobs\\_Careers.pdf](https://www.risk-compliance-association.com/CRCMP_Jobs_Careers.pdf)

For the Certified Risk and Compliance Management Professional (CRCMP) distance learning and online certification program, you may visit:

[https://www.risk-compliance-association.com/Distance\\_Learning\\_and\\_Certification.htm](https://www.risk-compliance-association.com/Distance_Learning_and_Certification.htm)

For the Certified Information Systems Risk and Compliance Professional (CISRCP) distance learning and online certification program, you may visit:

[https://www.risk-compliance-association.com/CISRCP\\_Distance\\_Learning\\_and\\_Certification.htm](https://www.risk-compliance-association.com/CISRCP_Distance_Learning_and_Certification.htm)

For the Certified Cyber (Governance Risk and Compliance) Professional - CC(GRC)P distance learning and online certification program, you may visit:

[https://www.risk-compliance-association.com/CC\\_GRC\\_P\\_Distance\\_Learning\\_and\\_Certification.htm](https://www.risk-compliance-association.com/CC_GRC_P_Distance_Learning_and_Certification.htm)

For the Certified Risk and Compliance Management Professional in Insurance and Reinsurance - CRCMP(Re)I distance learning and online certification program, you may visit:

[https://www.risk-compliance-association.com/CRCMP\\_Re\\_I.htm](https://www.risk-compliance-association.com/CRCMP_Re_I.htm)

---

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