



Harvard Law School Program on International Financial Systems

Symposium on Building the Financial System of the 21st Century:

An Agenda for Europe and the United States

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Final Report



SYMPOSIUM ON BUILDING THE FINANCIAL SYSTEM OF THE 21ST CENTURY: AN AGENDA FOR EUROPE AND THE UNITED STATES

The 22st Europe-U.S. Symposium of the Program on International Financial Systems was held in Washington, DC on May 18-20, 2022. Topics included the role of banks and financial markets in advancing environmental and climate sustainability, the development of capital markets, the implications of the reemergence of inflation in the U.S. and EU, and regulation of international banks. Concerns and questions about crypto and digital assets also surfaced in many of the Symposium discussions.

Topic 1: Sustainable Finance—Capital Markets and the Banking System

In Topic 1, participants discussed the development of sustainable finance, looking at both banks and capital markets. Topics included the nature of the climate challenge, the appropriate role of finance in addressing the challenge, the relationship between climate risk and policy, and how to facilitate international cooperation in sustainable finance. Participants expressed a variety of viewpoints regarding each of these issues, but one point of agreement was about the importance of standardizing and improving the quality of data about investments and their impacts.

The Nature of the Climate Challenge

Participants disagreed about the nature of the climate challenge for financial institutions and public policy. While a few expressed skepticism about whether climate change should be considered a problem at all, most participants were split between perceiving it as a systemic risk versus as a gradual shift to which economies and investors would gradually adjust.

Those participants who were most concerned about climate change as a systemic risk made several interrelated claims, following the analysis of bodies like the United Nations' Intergovernmental Panel on Climate Change (IPCC) and the EU. They highlighted both long- and short-term impacts of climate change and the risks associated with it. In the long-term, they cited predictions of catastrophic change for populations and economies. These included the unsustainability of current modes of agriculture in some areas, mass extinctions that could threaten the resilience of natural systems, and access to fresh water, among others. It was argued that some areas would become uninhabitable due to heat and lack of access to fresh water, while some territories could be lost altogether to ocean level rises. In addition to such long-term changes, these participants argued that short-term hazards—such as wildfires, hurricanes, and flooding—would become more prevalent and more devastating, increasing the scale of economic losses from natural disasters. Finally, they argued that further delaying efforts to reduce greenhouse gases or to mitigate the effects of climate change would only exacerbate climate change and necessitate more severe responses over the long run. In the systemic risk scenario, participants foresaw massive stranded assets—ranging from coal plants that would have to be shut down to infrastructure that would not be viable in a hotter, wetter world to agricultural and industrial investments in areas that would be lost to rising oceans. These participants called both for proactive government policies to shift energy sources and consumption and for financial institutions and investors to more fully take into account climate risk when making decisions about long-lived investments and infrastructure.

In contrast to the systemic risk view, other participants argued that climate change should rather be seen as a condition that would develop incrementally over a long period of time. They acknowledged that long-term effects might be large, but pointed out that they would play out over the course of decades. Thus, they argued, financial markets and public policy would be able to adjust over time. They likened the situation to other examples of large-scale, gradual change, including the industrial revolution and the digital revolution. Each of those cases had led to the

obsolescence of productive facilities and even entire sectors, but changing opportunities and incentives had led investors and financial institutions to shift their assets to more productive uses and to pursue further productive technological developments. In this scenario, financial institutions would avoid catastrophic risk simply by acting in their own interests as conditions changed and the effectiveness of various technologies and policies was tested. Advocates of this point of view were also more skeptical of efforts to restrict particular investments far in advance on the basis of expectations of environmental catastrophe, on the basis that miscalculation of costs, risks, and effectiveness could make such efforts counterproductive.

Approaches to Addressing Climate Change

Participants also discussed several issues as to how financial regulation could address the challenges of climate change. A key question was whether financial regulation should be focused on mitigating or managing the financial risks created by climate change or as a tool of industrial policy to control climate risk itself. These alternatives were seen as approximating U.S. (risk mitigation) vs. EU (industrial policy) approaches.

In the U.S., it was argued, prudential financial regulation surrounding climate change and environment was focused on accurate assessment and management of risk to lenders, insurers, and investors. Thus, financial regulation would not be used to prevent investment in particular facilities or infrastructure; instead, financial institutions would be expected to account for climate and environmental risk to loan recipients when pricing and provisioning for loans. While it was acknowledged that risk assessment and management might be difficult or uncertain, the principle was clearly the protection of investors and depositors.

In contrast, many participants characterized EU (and to an extent, UK) financial policies as a tool of industrial policy. They argued that the EU was moving toward directed lending through policy interventions such as green:brown ratios, climate-based adjustments to risk-weightings, and mandates regarding lending portfolios. A number of participants were skeptical of the industrial policy approach of the EU. They expressed concern that this could lead to misallocation of capital, which they saw as particularly problematic at a time of slow growth in Europe. Several also suggested that the inclusion of non-financial considerations in bank lending decisions would increase the risk of their portfolios, even as authorities were reducing capital requirements for such loans. Finally, some participants made the case that what was really needed was innovation to control climate change, not just investment into approved areas. Without significant innovation that could be scaled up rapidly, they argued, climate goals could not be met. They worried that directed lending was unlikely to finance such innovative projects.

A number of participants expressed concern that too much of the burden for managing climate risk was being left to financial institutions and financial regulation. They pointed out that other government policies were likely to have more direct impact on reducing greenhouse gases and improving adaptation to climate change, including robust carbon markets, direct regulation of greenhouse gas-emitting activities, subsidization of climate-related R&D, and the building of low-emission, resilient infrastructure. In this perspective, financial regulation would properly be only one relatively small piece of a concerted strategy. Several participants made the case that this was essentially the situation in the EU. In contrast, they argued that political gridlock in the U.S. made it unlikely that legislation could put in place those more effective policies; thus,

administrations that cared about climate change were left with a limited set of administrative tools, of which prudential financial regulation was one of the more powerful. Thus, they worried that financial regulation was carrying too much of the climate change burden in the U.S.

Beyond direct action and financial regulation, participants discussed other options for shifting incentives to make markets more effective in addressing climate change. In addition to standard practices such as tax incentives, feed-in tariffs, and other subsidies, some participants argued that governments would need to insure transition risk—for example, by providing credit guarantees for transitional energy generation projects like natural gas-fed electrical plants.

Data and Disclosure

One issue on which there was widespread agreement about how to incorporate climate risk into financial regulation was the importance of accurate data on which to base disclosures of climate risk. Participants agreed that providing such data was a potentially significant new regulatory and cost burden. Further, data inconsistency was seen as a severe challenge to investors who wished to advance environmental values, as they would be unable to meaningfully compare companies and financial institutions across jurisdictions.

Also, a number of participants expressed skepticism that available data were actually useful as a guide to banks, investors, or policy makers. Several issues were raised in this regard. One was that the science was not sufficiently developed to link metrics to outcomes such as long-term environmental effects. Participants also noted that because climate and environmental metrics addressed a wide variety of behaviors and emissions, it would be impossible to create simple indexes of responsible investments.

Participants discussed at length the ways in which environmental metrics interacted with corporate behavior. Greenwashing was seen as a particular concern for European regulators, since European countries were advancing quickly toward incorporating environmental metrics into regulation and supervision of firms and financial institutions. In the U.S., in contrast, greenwashing was seen as an issue of investor protection. Some participants expressed a different concern, about the effects of EU-style taxonomies. They argued that the strict use of taxonomies would create a ledge effect for investors, which would lead to rapid sell-offs or purchases of shares in firms that shifted from one environmental category to another.

All of those challenges of data were seen to be heightened as evaluations moved through value chains. Many participants agreed that Scope 1 evaluations should be feasible for most firms and financial institutions, and that it should also be possible—albeit at higher cost—to produce reliable Scope 2 data. Few believed that Scope 3 environmental data could be produced reliably. In response, a number of participants suggested that any regulation start with Scope 1 and possibly Scope 2, with the possibility of adding Scope 3 if better methodologies and monitoring could be devised.

A final question was whether disclosure of climate and environmental data actually changed behavior of either firms or investors. Some participants noted studies that suggested that effects were limited and tended not to persist, even for Scope 1 disclosures. Therefore, they wondered whether the considerable costs of disclosure were worth the benefits. Others argued that, over time, investor behavior was likely to shift. Moreover, firms might want to present an image as

environmentally responsible not only to investors, but also to customers and employees. Finally, for some participants, the weak evidence of effects on investors provided a rationale for regulatory mandates to reduce emissions, rather than relying on market forces to shift behavior.

Managing Environmental Risk in the Financial System

The rising expectations for financial institutions to help to mitigate climate and environmental risk throughout the economy raised concerns for a number of participants. One concern was that regulatory burdens would increase significantly, especially on banks, making it more difficult for them to provide credit to the economy. A number of participants worried that regulatory initiatives like incorporating environmental considerations into calculations of risk-weighted capital, mandating green:brown ratios, or putting the onus on banks to verify borrowers' environmental performance would significantly raise costs and restrict the ability to lend, especially to small enterprises. This was seen as particularly of concern in Europe, where banks were central to the financial system and regulatory mandates were advancing the furthest.

A related concern was that costly environmental regulations for some financial institutions would simply create incentives to shift environmental risks to less regulated entities and spaces—from banks to markets, from public to private markets, and from onshore to offshore. As with the migration of financial risks from banks to the shadow banking system in the pre-global financial crisis period, this could lead to concentration of risks and distortions in the financial system, without actually reducing total risk in the system. One response that was suggested was to extend the regulatory perimeter beyond banks, so that banks and other highly regulated entities would not be at an unfair disadvantage. Many participants were skeptical that it would be feasible to do so, while also raising concerns about the effects on market functioning and financial innovation.

Participants also discussed how classification of climate and environmental impact would affect certain market actors. One issue was the role of credit rating agencies, which were increasingly looking at how to incorporate climate and environmental impact in their ratings. While many participants agreed that climate and environmental factors were likely to create new, costly risks for many companies, many were also skeptical that rating agencies would be able to calculate those risks with any level of accuracy, given the lack of data. This would likely make ratings less useful to asset managers seeking to maximize profits. Another concern was over taxonomies, indexing, and benchmarking. Some participants argued that classifications of companies or investments as green or not green often relied on arbitrary definitions, which could make them much less effective in addressing climate and environmental issues than intended. Also, they worried that the widespread use of indexing and benchmarking could combine with inflexible classifications (or even legal taxonomies) to lead to rapid movements of funds in and out of equities and debt markets, contributing to market volatility.

International Cooperation

Finally, participants discussed the challenges of international cooperation to expand sustainable finance. In particular, they expressed concern that the proliferation of varied standards and rules would lead to confusion among investors and lenders, higher costs throughout the financial system, and fragmentation of financial markets. They pointed out that there were already many

institutions involved in rating the climate and environmental sustainability of firms, activities, and infrastructure. These included governments, intergovernmental organizations, and non-governmental organizations.

Governments had adopted a range of postures and policies on climate and environmental risk and financial regulation, ranging from the highly proactive approach of European states and the EU to the more skeptical market-oriented approach of the U.S. to the development-focused policies of emerging markets like China and India. To date, there had been little convergence in policies, although some participants held out some cautious hope that intergovernmental actors like the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD) and the Basel Committee could at least help to coordinate common data and reporting standards.

Meanwhile, frustrated by what they perceived as slow progress by governments, a host of non-governmental organizations—including entities such as the Sustainability Accounting Standards Board (SASB), Climate Action 100+, and the more established International Financial Reporting Standards (IFRS) Foundation—had stepped up to create standards that firms and investors could follow voluntarily. A number of participants argued that the proactive participation of major corporations, banks, and asset managers in these efforts had been valuable in demonstrating their interest in advancing sustainable finance and in testing the costs and benefits of particular standards. As governments considered moving toward mandatory standards, they could draw on those experiences.

Many participants were particularly eager to see the results of consultations by the IFRS Foundation's International Sustainability Standards Board (ISSB). They were hopeful that clear and well-substantiated new ISSB disclosure standards would be incorporated into IFRS standards and that, due to the global reach of those standards, would lead to a common, globally-accepted approach to climate and environmental disclosures. Meanwhile, it was noted that in the U.S., the SEC was also looking to incorporate climate and disclosure standards in the U.S. GAAP. Since both ISSB and SEC proposals were seeking to build on TCFD principles, a number of participants were optimistic that a reasonable level of harmonization could be achieved, at least among developed economies.

Despite the efforts of intergovernmental and non-governmental bodies to harmonize definitions and disclosures, however, many participants recognized that it was possible that considerable policy divergence across countries would persist. The EU was seen as the most forward-leaning and ambitious jurisdiction in seeking to mobilize and shape sustainable finance. However, participants debated whether its status as front-runner would mean that other countries would eventually follow its standards. Many were skeptical that the U.S. would follow the EU's example, which could lead to future frictions and a bifurcated financial system. Moreover, several argued that some developing economies might reject any effort to impose standards for climate finance on them. For these reasons, many participants expected that sustainable finance markets would remain fragmented, based on a range of national regulations.

Topic 2: The Future of Capital Markets—Policy Issues in Primary and Secondary Markets

In Topic 2, participants discussed the current state and future challenges in primary and secondary capital markets. While mostly applauding the resilience of capital markets in the face of the COVID pandemic challenge, some also noted the crucial role of central banks in backstopping markets during key periods in the spring of 2020. Discussions addressed a variety of challenges to market liquidity and resilience, including regulatory issues. They also identified several important challenges facing capital markets, including the rise of crypto assets.

Resilience of Capital Markets

Discussion of capital markets, which focused on debt markets, began with a mostly positive assessment of the performance of capital markets in times of stress. Participants noted, in particular, the effective management of liquidity and trading in March 2020, in which financial institutions had not exited secondary debt markets *en masse* despite enormous uncertainty about economic conditions and counterparty risk. Participants noted that both banks and non-banks had contributed to liquidity in capital markets. The role of banks suggested to many the success of post-global financial crisis reforms that had increased their capital and continued to allow them to be market makers (despite the Volcker Rule). At the same time, many participants noted that the largest players in capital markets had been non-banks such as asset managers and ETFs, and that this was the first time their ability and willingness to stabilize markets had been tested. A number of participants argued that the heterogeneous landscape of market actors, particularly in the U.S., had contributed to maintaining liquidity in the face of severe stress.

Despite this generally positive assessment, however, some participants questioned whether the resilience of the system was assured into the future. A key point was the ultimate role of central banks, especially the Fed, in backstopping markets; such backstopping occurred in many markets, most notably the Treasury market.

Several major developments since the global financial crisis were seen to create new challenges to market liquidity, including the massive growth of corporate bond markets, faster electronic trading and movement away from requests for quotation (RfQ), and the rise of private markets. As one participant put it, “Has the market outgrown its own plumbing?” Participants identified two particular challenges. One was informational. Several argued that the growth of private markets created much greater blindspots for regulators, as seen in the Archegos failure. Hidden leverage and interconnections with banks and counterparties could lead to dangerous opportunities for transmission of stress if bets were to go wrong. Many participants therefore emphasized the importance of getting greater visibility into private markets, although others cautioned that regulating them like public markets ran the major risk of reducing financial innovation and market competition. Another concern was excessive concentration in some markets, with some participants arguing that the reliance on a small number of institutions for market intermediation could be a problem. Fortunately, markets had benefited from liquidity from pension funds, insurers, ETFs, and open-end funds.

Regulation and Resilience

Some challenges differed between the U.S. and Europe. Participants consistently highlighted the problem of market fragmentation in Europe. With over 300 trading venues, no consolidated tape, and a hodgepodge of EU and national banking, securities, and competition regulators and regulations, many participants expressed deep concern about the efficiency and resilience of European capital markets. While the complexity of European market structure resulted partly from a desire to maximize competition, participants noted that ironically there was very little practical competition among trading venues, with the exception of the largest stocks in venues like Turquoise and CBOE, and no competition at all in post-trade clearing and settlement due to vertical integration. The problems of fragmentation manifested particularly in the illiquid, unintegrated markets in the periphery, where wide spreads and high costs prevailed. Some participants argued that this situation made the case for Capital Markets Union all the more urgent—especially as Europe faced enormous capital demand for carbon transition, reducing dependence on Russian energy, and private sector growth. Many were skeptical that capital market union would occur, given that this has been an EU priority for some time, with little progress.

In contrast, participants were generally more positive about the state of U.S. capital markets, whose size, liquidity, and ease of listing were unparalleled. They also noted a varied and robust ecosystem of investors that included a wide array of institutional investors and a large and growing retail base. However, many participants were critical of what they saw as overregulation. This was particularly true of banking regulations, which they saw as disadvantaging banks relative to other market players and weakening the ability of banks to participate effectively as market makers. There was especially heavy criticism of the supplemental leverage ratio (SLR), which one participant characterized as the “poster child for adverse effects of bank regulation on capital markets.” While the SLR had originally been intended to be a back-up to other checks on bank leverage, they argued that it had become the primary constraint. This was particularly true for large banks, where U.S. gold-plating had effectively created a 5% SLR. Participants agreed that the SLR was too onerous, and some argued that even a scaled-back SLR did not make sense for the former investment banks that were key players in capital markets. A number of participants also warned that if the SLR were not reformed, it could damage Treasuries markets.

Participants expressed concerns with some other regulations and supervisory practices as well. As in previous Symposiums, there were many who felt that the Fed’s CCAR stress testing regime led to excessive capital requirements for banks, adding further to the gold-plating of Basel standards for large banks. Some participants also argued that both the GSIB surcharge and the implementation of the Volcker Rule punished capital market activity, discouraging banks from participating in the vital function of market making; others countered that, between banks and non-banks, there was sufficient market-making in the system. In addition to these issues of bank regulation, several participants highlighted market regulations that they saw as promoting procyclicality, including margining rules.

Moreover, a number of participants expressed concern about the scale and pace of new regulations, with some characterizing SEC rule making—which ranged across shortening the settlement cycle, beneficial owner disclosure, climate disclosure, new SPAC rules, and others—

as even more ambitious than the Dodd-Frank reforms. Participants worried about the pace of SEC rulemaking and the quality of data on which cost-benefit analyses were being done. A number of participants predicted that ambitious new rules could be curtailed by courts or by Congressional oversight. They suggested that the SEC should consult carefully with industry and should prioritize issues that were of universal concern—in particular, T+1 settlement.

Emerging Challenges to Capital Markets

Participants discussed several emerging or growing challenges to the functioning of capital markets. Many participants considered the market panic in LME nickel trading in March 2022 a warning sign. While that event was tied to a single commodity and the short position of one large trader, they argued that commodities markets in general were susceptible to disruptions as geopolitical risks increased and global inflation surged. This susceptibility was increased by the relative concentration of individual commodities markets and the potentially large combined effects of price shifts and strict margin rules. Participants urged greater regulatory oversight of positions and risks, as well as clear plans for managing runs and liquidity freezes. As noted above, the rise of private markets was another concern of some. Participants worried that rising leverage, combined with a lack of visibility into trading and pricing by regulators, lenders, and public market participants, created conditions for contagion into public markets and throughout the financial system.

Looking ahead, participants expressed considerable concern about the effects of digital technologies on the integrity of capital markets. Several referenced the threat of cyberattacks, as well as competition from new fintechs, but most of the discussion focused on crypto. In these discussions, participants wrestled in particular with the possibility of contagion from the volatile world of crypto assets into the formal financial system, including capital markets. (Issues related to regulation of stablecoins and crypto assets were addressed at greater length in Topic 4.) Participants observed the implosion of Terra and rapid price drops in Bitcoin and other crypto assets with concern. For the moment, they agreed, links to the financial system were limited, and banks were protected from losses on lending to crypto speculators by strict capital rules. However, they also noted the rapid growth of crypto, with total notional assets having reached about \$3 trillion at the end of 2021. Moreover, some participants argued that crypto investing was increasingly being seen as a mainstream investment, with some advisors recommending crypto as part of an asset allocation strategy and some corporate 401(k) programs beginning to allow employees to invest part of their defined-contribution pensions in crypto assets. (Individuals in the U.S. were already able to invest in crypto through Individual Retirement Accounts.) Many participants were skeptical of the intrinsic value of crypto assets and accordingly expressed concern over the implications for investor protection. Perhaps more importantly from a capital markets perspective, participants worried that crypto investors were building up leverage, and that losses in crypto investments could lead to large-scale withdrawals from equity, fixed income, or derivative positions, thus transmitting volatility from the unregulated crypto markets to public equity and debt markets.

This raised the questions of whether the two systems should be kept separate and, if not, how to safely incorporate crypto into the existing financial regulatory system. Participants expressed mixed views on these questions. Some saw crypto less as an asset than as a vehicle for speculation with no intrinsic value. For them, strict separation was seen as essential. Others felt

that investors should have the ability to invest in crypto if they wanted to, and therefore advocated incorporation of crypto regulation into overall market regulation. They also observed that the EU and U.S. were pursuing differing approaches to the regulation of crypto assets. The EU's proposed MiCA would create a comprehensive new regulatory regime to cover all digital and crypto assets not currently regulated under MiFID. In addition, it would require licensing and registration for market participants including issuers, and would impose prudential regulation over some providers of crypto asset services. In contrast, U.S. regulators were mostly seeking to incorporate crypto service providers into existing regulations on a functional basis.

Dash for Dollar Liquidity

A number of participants emphasized that the operation of capital markets could only be understood within a broader global economic framework, termed by some as a “dash for dollar liquidity.” They noted that the pandemic had sparked a dollar funding crunch in offshore markets that had been a major factor in the liquidity crisis of March 2020. The backing of the Fed, either directly or via swap lines with other central banks, had been necessary to provide the necessary liquidity to allow global capital markets to operate effectively at that time. Similarly, as of 2022, rising interest rates and growing incentives for flights to quality raised concerns among many participants about the potential for further liquidity crises, particularly for emerging markets. They noted that some emerging economies were already under significant pressure, in which they were experiencing capital outflows and being forced to raise interest rates. While Fed swap lines and its new Foreign and International Monetary Authorities (FIMA) reserve repo facility were helping to reduce strain among some economies, more peripheral ones could lose access to private capital.

The instrumental role of the Fed in backstopping both domestic and global dollar liquidity worried a number of participants. They noted that its responsibilities had effectively expanded from being domestic lender of last resort to global lender of last resort (through swap lines) and even global dealer/market maker of last resort. This raised several concerns. One was whether the Fed would have the tools, authority, and will to do all that was needed to fulfill these roles in the future. Not all participants were comforted by the proactiveness of the Fed as global backstop, however. They worried much more about moral hazard and concentration of financial power in the hands of the Fed. They argued that each time the Fed intervened to save markets from themselves, it sowed the seeds of the next—and potentially much bigger—crisis, as market participants would take additional risks in the expectation that they would be bailed out if things got bad enough. Some participants also raised the practical question of whether the Fed (and other central banks) could actually distinguish between liquidity and solvency crises. While the March 2020 liquidity event appeared clearly to be a liquidity crisis, other situations were unlikely to be as clear, particularly when they involved overextended financial institutions. On the other hand, some participants countered that liquidity crises could easily become solvency crises in the absence of liquidity support, making timely decision making essential. These questions remained unresolved.

Topic 3: Fighting Inflation and the Impact on Economic Growth

In Topic 3, participants discussed the emergence of inflation and likely central bank responses to it in the U.S. and Europe. While acknowledging the importance of supply shocks such as the COVID-19 pandemic and the Russian invasion of Ukraine on global prices, many participants argued that macroeconomic policies in the U.S. and Europe had contributed to the rise in inflation. They anticipated rapid interest rate hikes, possibly resulting in recessions.

Causes of Inflation

Participants identified multiple causes of inflation in the U.S. and Europe, including supply shocks, excess demand due to fiscal and monetary policies, and shifting patterns of consumption between goods and services. Monetary and fiscal policy came in for considerable criticism. A number of participants were critical of U.S. and European central bankers for having discounted concerns about rising inflationary pressure for too long, despite evidence of rising prices and tight labor markets. Many also agreed with the critique of Lawrence Summers and other economists that the 2021 social spending increases in the U.S. at a time of strong economic growth had exacerbated the problem of excess demand and compounded inflationary pressures. For the UK, inflation was seen to be exacerbated by Brexit, which had reintroduced tariffs on European products while also tightening the domestic labor market by restricting immigration.

Even after global demand had mostly recovered, global supply shocks continued through late 2021 and the first half of 2022 in the form of China's zero COVID policy and pressure on food and energy prices due to the Russian invasion of Ukraine. In the U.S., this was compounded by persistent weakness in labor force participation. The nature of supply shocks is to create higher prices and lower demand, but central banks often look past supply shocks because the depressed demand tempers the insufficiency of supply. However, participants noted that the U.S. has simultaneously been experiencing excess demand in the labor market, as evidenced by high numbers of job openings, job turnover, and wage increases. With wages growing much more rapidly than productivity, a number of participants expressed concern that a wage-price spiral could develop, which in turn could cement inflationary expectations and complicate the process of normalization.

A number of participants made the case that the situation was much worse in EU and UK, for two reasons. First, unlike the U.S., the EU and UK are not self-sufficient in energy and food. Further, continental Europe has been highly dependent on Russian oil and natural gas. Given the difficulty of switching sources of supply, particularly for natural gas, Europe's supply problem is significantly worse. Second, geographic proximity to the Ukraine conflict is likely to affect European industrial production as well.

In addition, several participants made the case that central bankers were not psychologically prepared to detect inflation after over a decade of discussions about "secular stagnation" and of struggling to meet targets for inflation and wages increases. Thus, they had been waiting for full

employment to start raising rates. Also, inflation data were ambiguous until Fall 2021, leading some participants to argue that the emergence of the Delta Variant of COVID was a turning point in the rise of inflation.

Severity and Persistence of Inflation

A number of participants expressed pessimism about the likely course of inflation, arguing that the situation was worse than many commentators seemed to believe. Perhaps most worrisome, they made the case that it is not necessarily the case that supply shock-driven inflation must be short term. In particular, some participants predicted that energy prices would continue to rise due to the move to clean electricity and away from fossil fuels.

Some participants were also pessimistic about the capacity of labor supply to expand. In the U.S. and Europe, societal aging and disruptions to immigration were seen as likely to restrict labor supply; moreover, skills mismatches would bid up wages for in-demand workers. Globally as well, there had been a large reduction in the availability of labor; thus, unlike in 1990-2020, rising labor supply in countries like China and India will not be available to hold down costs. Indeed, it was argued that the ability to shift high labor cost production to lower labor cost areas had reversed.

Fortunately, participants did not expect that inflation in the U.S. and Europe would remain for long at the 7-8% rates that had just been seen (although there was an expectation that UK inflation would be higher and more persistent than in the EU). However, given the challenges facing the U.S., UK, and EU, a number of participants expressed doubt that it would be possible for any of them to reduce inflation below 3% over the next 3 years without a fairly bad recession. Even if inflationary expectations stay stable and do not lead to self-perpetuating inflation, they argued that workers would continue to demand higher wages to make up for their real losses from the inflation to date. Moreover, despite central banks' preference for using "core inflation" as a metric it was argued that people's behavior reacts much more to energy and food prices than to core inflation. All of these indicators suggested the threat of sustained inflation, recession, or stagflation.

Policy Responses and Implications

There was some disagreement as to how hard monetary and fiscal authorities would need to put on the breaks. Some participants argued that inflationary expectations remained anchored at a low level due to central bank credibility. Thus, they argued that a series of modest interest rate hikes plus a shrinking of central bank balance sheets should be able to lower inflation to the 3% range fairly quickly, without leading to widespread dislocations.

Others were less sanguine. They made the case that real interest rates were already significantly negative, requiring more rapid and aggressive monetary tightening. If a real interest rate of around 2% were targeted, that would mean ongoing interest rates of 5-6% in the U.S. The eurozone would require similar hikes, and the UK would be higher. Effects would likely hit first in asset prices and housing costs, the latter of which would likely lead to significant declines in demand.

One question was how policy makers would manage the trade-offs between suppressing inflation and maintaining employment. Several participants suggested that it was most likely that the Fed would keep short-term interest rates below 4% in order not to force a recession, but that that would prolong inflation, requiring it to accept inflation of 3-4% over a period of several years. Participants laid out four possible outcomes for US economy, ranging from a soft landing to more persistent inflation with well-anchored expectations to entrenched inflation to stagflation. While participants assigned varying probabilities to these scenarios, participants recognized that the Fed and Congress would have to walk a fine line to end up with a soft landing, even if no further shocks occurred.

Turning to Europe, participants had confidence in the credibility of the ECB, but pointed out that it was much further behind in terms of monetary tightening, since its doctrine has been to reduce its balance sheet before raising interest rates. It was also argued that the ECB might be hesitant to raise rates due to other factors, including fears of market volatility and concerns over political divisions between Northern and Southern Europe. Participants also predicted that the Bank of England would have to raise rates considerably, perhaps by 50 basis points per meeting.

One wild card was seen to be fiscal policy. While the currently divided Congress and likely Republican Party victories in the November elections made fiscal stimulus unlikely in the U.S., some participants suggested that the UK and EU may need to provide fiscal support to reduce the impact of rising food and energy prices on the poor. Ideally, they argued, temporary and targeted fiscal support would be coordinated with gradual tightening of monetary policy.

Topic 4: Evaluating the Regulation and Supervision of International Banks – Digital Assets, Capital Requirements and Subsidiarization

In Topic 4, participants discussed the regulation and supervision of international banks. They focused particularly on concerns about fragmentation of international banking and on the effects of digital assets on banks.

Fragmentation and Bank Regulation

Looking at trends in the regulation of international banks, it was noted that post-Global Financial Crisis regulation had focused heavily on increasing capital, liquidity, and resolvability of international banks. Yet many participants argued that this resulted in further fragmentation between U.S. and EU regulation. They saw fragmentation as a significant problem for at least two reasons. One was that international banks were important providers of credit—for example, a third of eurozone loans were made by U.S. and UK banks—and therefore it was important not to create extra costs and barriers. Moreover, in smaller economies in Europe, international bank participation was essential in order to avoid excessive concentration in banking, which could have negative impacts on competition, efficiency, and resolvability.

Participants pointed to two main reasons why post-crisis regulation had contributed to fragmentation. One was the lack of uniformity in the implementation of Basel III standards. For example, they noted the U.S. “gold-plating” of capital adequacy standards. More importantly, national rules effectively imposed subsidiarization in many cases, even if that was not the formal goal.

In the U.S., regulators had required foreign banks with total consolidated global assets of \$50 billion or more to adopt an intermediate holding company structure consolidating all their non-branch activities, including subsidiaries and broker-dealers. Participants argued that regulation was predicated on the notion that taxpayers should not have to bail out insolvent banks; thus, one of the main goals of regulation of foreign banks was to ensure that regulatory capital and TLAC would be held within the U.S. in case the bank failed. However, the ability of foreign banks to also operate through less-regulated branches allowed them to reduce some of the impact of subsidiarization on their overall U.S. operations. In the EU, meanwhile, the persistence of national regimes for third-country bank branches had effectively led to subsidiarization as well, again out of concern that local taxpayers might have to pick up the tab for failures of foreign banks.

Despite the political logic behind subsidiarization—i.e., that the risk to host-country taxpayers for banks’ insolvencies in other jurisdictions would be lessened by ensuring that subsidiaries would hold regulatory capital within the host country—participants agreed that efforts should be made to reduce fragmentation of international banking. They noted that there were considerable ongoing attempts at cooperation through regulatory dialogues and supervisory colleges, but some argued that those cooperative efforts need to shift their focus away from trying to harmonize

rules to conform with Basel standards and instead focus their attention on understanding of how risk can move across borders. As an example, one participant pointed to mortgage markets, arguing that the differences in mortgage regulations among jurisdictions did not have any impact on financial stability but that the global financial crisis had clearly demonstrated mortgage risks in one jurisdiction had moved easily across borders. This suggested that regulatory cooperation should focus primarily on identifying and monitoring channels of risk transmission.

In contrast to this focus on risk, some participants argued that regulatory harmonization was important in its own right as a means of reducing costs of compliance and increasing capital efficiency for international banks. They argued that international banks strongly advocated a level playing field and the removal of obstacles to providing finance to real economy. There appeared to be limits to such harmonization, however. For example, it was noted that U.S. regulators continued to want enhanced capital standards and stress testing. From their perspective, problems of global coordination only arose when jurisdictions dropped below global standards, not when they gold-plated them. Nonetheless, many participants made a case for regulators increasing flexibility in the next round of Basel discussions—both in capital requirements, especially during times of stress, and in the leverage ratio, whose effect had shifted from backstop to binding constraint for many large banks

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Crypto Assets and the Banking System

Turning to crypto assets, participants recognized several attributes of crypto that created potential dangers for the banking system, including the difficulties in pricing and proneness to liquidity freezes. They noted that the Basel framework and most global regulators had clearly decided that crypto needed to be kept at arms' length from the banking system. However, growing investor interest in crypto had increased questions about how regulated banks should interact with it, if at all.

A number of participants argued that regulation of crypto activities by banks should be determined by function and risk. In particular, this would require prudential regulation of anything that could hit banks' balance sheets. In the U.S., regulators were looking at how to regulate capital and liquidity requirements for banks' crypto activities but some participants felt that crypto should be fully excluded from banks and bank regulation. The EU, meanwhile, was in the process of developing comprehensive legislation for digital assets, in the form of the Markets in Crypto-Assets (MICA) regulation, with the goal of harmonizing rules across banks and non-banks about how to provide crypto asset services.

In discussing the regulation of crypto assets, the challenge of stablecoins loomed large for participants, as well as regulators in both the U.S. and Europe. While issuers had characterized them as being as safe as deposits, the recent failure of Terra as well as questions of the backing for other coins such as Tether made many participants nervous. The key issue was the assets backing stablecoins. Participants were particularly negative about algorithmic stablecoins, whose value was in principle meant to be maintained by a relationship with other crypto assets. Despite the label of "stable," participants characterized them as speculative assets masquerading as currency. On the bright side, most participants saw the likelihood of contagion from algorithmic

stablecoins into the formal financial system to be low, since they were not backed by financial assets or fiat currencies. In contrast, asset-backed stablecoins were seen as both as possibly useful financial assets and as potential vectors of financial contagion. Participants were more open in principle to the potential usefulness of stablecoins backed by currency or high-quality securities, which they saw as operating like money market funds, and which could be used as a vehicle currency for moving value between the formal financial system and crypto assets. However, the lack of regulation was seen as making them potentially very dangerous. Some participants argued that the solution would be to regulate them more like standard money market funds and to make clear to investors that their value could float based on the quality of the assets backing them. For example, it was noted that some U.S. regulators have been arguing that stablecoins should only be issued by insured depository institutions (as in Japan). However, others expressed concern that regulators might inadvertently create a new instrument that could cost taxpayers money or even threaten financial stability by embodying huge contagion risk and excessive concentration.

While many participants were wary of crypto assets, however, others argued strongly that crypto activity should not be kept outside banking sector. They reasoned that, given clients' interest in crypto, banks should be able to support them and ensure that they be managed in a responsible way. Moreover, they argued that the banking system is not made safer by excluding dangerous assets from it, as the failure of Lehman Brothers had demonstrated. However, at the moment, regulations such as the Basel rule mandating a 1250% risk weight for non-fully-collateralized crypto assets and the SEC staff accounting bulletin¹²¹ made it prohibitive for banks to get involved as long as banks had to keep such client assets on their balance sheets. While the bulletin was primarily aimed at requiring crypto exchanges to put their self-custodied assets on their balance sheets, the bulletin went further to require banks that might custody such assets—which would be much safer for investors—to do the same, despite the fact that such consolidation does not apply to other assets such as equities. Participants worried that this would prevent independent bank custody, thereby putting investors at risk for the bankruptcy of exchanges, which were under increasing pressure due to the fall in value of crypto assets.

Participants also discussed crypto regulation more broadly. One question was whether jurisdictions could or should regulate the issuance of crypto assets, some of which were “issued” by algorithms rather than by identifiable groups in identifiable locations. Some participants argued that they should be seen more like commodities than like securities—thus, the proper approach would be to regulate intermediaries and service providers rather than producers. It was noted that was the approach that the EU was taking with MICA.

In addition, the sheer scale of crypto assets and their non-transparency were seen by regulators to create severe challenges in money laundering, tax evasion, and terrorist financing. Thus, regulators were increasingly trying to enforce transparency with respect to these purposely opaque assets.

Finally, there was limited discussion of central bank digital currency (CBDC). It was noted that both the Fed and ECB had been engaged in research on CBDC, as well as consultations with financial institutions and the general public. Several models and approaches remained under consideration, but the Fed had made clear that any decision to pursue CBDC would not be driven simply by technological potential but by evidence that it would solve a problem and do so at

lower cost than alternatives. There were some questions about whether the Fed had legal authority to issue CBDC, but most participants anticipated that it would only act with the clear support of Congress and the Executive.

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