



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

Zoom conference - September 23-24, 2021

Final Report



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

The 21st Europe-U.S. Symposium of the Program on International Financial Systems was held via Zoom conference on September 23-24, 2021. Participants discussed the lessons of the COVID pandemic for bank regulation, the status of government debt markets in the European Union and United States, equity market infrastructure, and sustainable finance. While participants felt that markets, regulators, and macroeconomic authorities had generally handled the pandemic well, they sought to draw lessons from the pandemic as well as look ahead to other major challenges posed by climate change and technological developments.

Session 1: Bank Capital Regulation Post-COVID – Finalizing Basel III and Stress Testing

In Session 1, participants discussed the ways in which EU and U.S. bank capital regulation had performed during the COVID pandemic, as well as next steps for banking regulation. While there was a general consensus that capital regulation had helped banks to weather the crisis and continue lending to the real economy, several participants also pointed to lessons learned in the crisis regarding countercyclical buffers, the supplemental liquidity ratio (SLR), and stress testing. Looking forward, they considered the final stages of Basel III implementation (“end game reform”) and how stress tests should be modified in the EU and U.S.

Capital Regulation and the Pandemic

Participants agreed that banks had entered the pandemic with strong capital bases, which allowed them to remain healthy and contribute to economic recovery. Even a year and a half into the pandemic, bank capital remained healthy and banks continued to provide credit to much of the private sector, although lending to SMEs contracted in 2020. Stress tests in both the EU and U.S. showed that banks continued to hold ample capital even in the face of a severe adverse event, and the spreads on bailin-able debt showed that investors believed that banking organizations would not be bailed out if they did get in trouble. In these respects, the system worked as intended.

Nonetheless, several participants argued that the experience of the pandemic had also shown some flaws in bank regulation. One common concern was that countercyclical buffers had not worked as intended in Europe, where they were commonly required. Participants argued that banks had almost universally chosen not to dip into their buffers out of concern that this would stigmatize them, making it appear that they had insufficient capital to handle defaults. Instead, their first reaction to the pandemic was to tighten lending standards, reducing the countercyclical impact. As a result, officials in the U.S., EU, and Basel Committee had initiated studies of whether and how rules on buffers should be modified. For the U.S., there remained the issue as to whether there should be a countercyclical capital buffer.

A second critique was that that, while capital ratios had proved important, the Basel III supplemental leverage ratio (SLR) did not contribute to smooth functioning of the banking system. In the U.S., some argued, the leverage ratio forced the Fed to significantly expand its balance sheets because banks were unable to do so. It was argued that the SLR did little to make banks safer, while unintentionally shifting more responsibility from the private sector to the central bank.

In addition, some participants noted that the economies and credit systems in both Europe and the U.S. had been backstopped by governments and central banks. While they agreed that this had been appropriate in the midst of an unprecedented global pandemic, they wondered whether 2020 and 2021 had been as much of a test of the capital regulation regime as it appeared at first glance.

Implementation of Basel III

There was also considerable discussion about the final implementation of Basel III reforms. One question was timing. Several participants were resolute that the final implementation should meet the Basel Committee's January 2023 deadline for phasing in the reforms and full implementation by 2028. They noted that the ECB had strongly committed to rapid and complete implementation. While some EU banks were not happy about the timeline, the ECB position was that there would be no benefit in further delays. It was noted that the European banking sector was strong, that risks were falling, and that studies showed that most banks were already able to meet the new requirements. Thus, although ECB modeling showed likely short-run implementation costs, they would be outweighed by long-run positive effects on bank health and GDP. Moreover, if unintended effects were to arise, the ECB would be able to mitigate those effects. In contrast, some participants were uncertain about the ability of the U.S. to meet the Basel timetable. Although the Fed was working on its end game proposal, the pandemic had delayed the work package, and the Fed was facing major changes in its composition. Between the process of public comment and political change and the need to design an implementation plan, they questioned whether it made sense to rush to meet the Basel deadline. One question in both the EU and the U.S. was the extent to which the end game reforms should be imposed on smaller financial institutions, a decision not compelled by Basel itself.

Many participants noted that the U.S. tended to “gold-plate” the Basel rules by adding additional requirements, including GSIB surcharges, higher regulatory capital requirements, and more aggressive stress testing. Some saw this as a problem that hampered U.S. banks and reduced the benefits of global standard-setting. Others disagreed, arguing that the Basel standards had always been seen as a global minimum that was designed to have flexibility to address the particularities of financial systems. They also noted that major U.S. banks had been very profitable despite gold-plating. Some participants warned that the EU should avoid such gold-plating. It was also noted that even within the EU, there remained considerable variation in the ways in which Basel III was implemented despite the use of a single rulebook.

For both the EU and U.S., participants expected that any modifications to capital requirements would be “capital neutral” for the overall banking sector, although concern remained about the distributional impact on particular banks. This reflected regulators' sense that risk-weighted capital requirements had been at the correct level to ensure that banks could continue to provide credit during the pandemic.

Stress Testing

Participants had mixed views of stress testing, although they realized that in principle stress tests were an essential part of the supervisory tool kit. On one hand, many agreed that stress tests had improved market confidence in banks, and thus market resilience, in both the EU and U.S. The ability of banks to survive even severe adverse scenarios in stress testing had reassured markets and regulators had been reassuring both before the pandemic and in 2021. However, some participants felt that the U.S. stress tests were problematic and called for significant redesign.

In the EU case, it was noted, stress testing was seen primarily as an instrument of microprudential regulation through the ECB's Supervisory Review and Evaluation Process (SREP) and as an indicator that banks should use for capital planning. Thus, although supervisors established a baseline scenario, they relied on bank models to assess the consequences of the scenarios, a bottoms-up approach. Some participants made the case that it was important to incentivize banks to continue to develop internal models that addressed their own particular risk environments and risk management strategies, while retaining the output floor to prevent a race to the bottom. It was also noted that the EBA was beginning to experiment with a hybrid approach, combining bank and government models.

In contrast, the Fed approach was described as top-down, whereby only the Fed's model was used to assess the impact of adverse scenarios. A number of participants criticized what they saw as the non-transparency and arbitrariness of the Fed's risk models, arguing that the process would be more useful if the models and assumptions were made public and thus open to scrutiny. Others disagreed with the premise that its approach was problematic, arguing that it was essential for the Fed to be very risk-sensitive and not rely on banks' internal models, which might tend to underemphasize risks. Nonetheless, they noted that the Fed had stated its commitment to transparency as it improved its standardized models and reassessed the roles of internal models. They also argued that the stability and performance of U.S. banks during the pandemic proved the value of the Fed's approach. In contrast, one participant argued that there had been "zero correlation" between the results of Fed stress tests and actual stresses in the pandemic and that the models should be significantly modified. Participants also noted that aggressive risk management in the banking system raised the likelihood of more financial activity moving away from highly regulated banks to less regulated entities and, in time, crypto markets, complicating the work of supervision.

Going forward, participants discussed whether rising inflation in the EU and U.S. would affect stress test assumptions. This raised the question of the extent of inflationary pressures. A number of participants were skeptical of whether European inflation would be sustained, given continuing slack in the labor market. If inflation were a temporary phenomenon driven by supply-side bottlenecks, they reasoned, then it should have little effect on banks' financial performance. There were also mixed opinions as to whether even sustained inflation would be problematic for banks, with some participants arguing that a much bigger threat was the low interest rate environment. If mild inflation were to be accompanied by higher nominal interest rates, it might actually be beneficial for European banks, which were currently challenged by low margins. Therefore, they argued, stress testing should focus more on expectations regarding nominal interest rates than on inflation *per se*.

Integrating Environmental Issues into Bank Supervision

A final issue related to bank capital regulation was how to integrate environmental issues into capital regulation. It was agreed that the EU was considerably ahead of the U.S. in consciously integrating environmental issues, especially climate change, into banking supervision. Accordingly, most of the discussion focused on how the EU was handling the issue.

Participants agreed that the EU was moving urgently to incorporate environmental risk in its bank supervision. Indeed, the EBA had published initial environmental stress test results for individual banks in May 2021. The framework was particularly advanced for climate change risk, but several participants also argued that biodiversity would likely be an additional focus of bank supervision. In addition to the urgency with which environmental considerations were being incorporated, participants emphasized three points about the EU approach. First, they saw this as part of a much broader push to use many levels of government to address environmental concerns, including traditional environmental regulation, green infrastructure, and official lending programs. Second, these efforts built on the common base of the EU sustainability taxonomy. Third, EU banks were expected to be accountable not only for the environmental and economic stability of their own operations, but also of their borrowers. This suggested considerable monitoring costs; as a result, this would initially be a legal responsibility only for large banks, although smaller banks were encouraged to monitor their clients' environmental profiles as well.

Despite the strong consensus in the EU behind mitigating environmental risks through financial regulation and supervision, participants noted that the most recent bank census had shown most banks still did not yet have a strategy to address the issue. One major reason was seen to be a lack of data and established analytical tools. Thus, some argued that it was necessary for authorities to develop better environmental risk management through stress testing and other supervisory tools.

With regard to the U.S., participants were unsure how or when environmental issues would be formally incorporated into stress testing and risk modeling. With the EU moving ahead rapidly in this area, they wondered whether the U.S. would follow European practices or go its own way. And if the U.S. practices were to diverge significantly from those of the EU, a number of participants were concerned that it would prove to be impossible to create and implement global standards. This point was addressed at greater length in the final session. It was also argued by some participants that U.S. incorporation of environmental risk in banking supervision was likely to focus primarily on financial risks to banks rather than as an element of an integrated official strategy addressed to borrowers, as in the EU.

Session 2: The State and Future of European Sovereign Debt and U.S. Treasury Markets

In Session 2, participants discussed the state and future of public debt markets in Europe and the U.S. Among the topics discussed were liquidity, market structure, transparency, and bond issuance by the European Union.

Debt Management in the U.S. and Europe

In both the U.S. and Europe, increased spending to respond to the pandemic had significantly increased borrowing needs. This created new challenges for sovereign issuers that were still playing out. In the U.S., the Treasury was shifting its management of government back to previous practices. In the EU, however, the pandemic had led to an important innovation in the form of collective bond issuance through the Next Generation EU program.

In the U.S. as in Europe, the COVID pandemic had been the biggest force in increasing issuance and volatility in recent years. Initially, the Treasury used T-bills as a shock absorber, nearly doubling outstanding bills (from \$2.6 to \$5.1 trillion) between March and June 2020 in addition to *ad hoc* cash management tools. After the initial increase in bills, the Treasury shifted to issuing more longer maturity debt in order to improve stability. It also sought to fill out the yield curve, including by reintroducing 20-year bonds. As one indicator of the strategy, weighted average maturity had dropped from 71 months to 62 early in the pandemic, but was now back to 69 months, reducing the turnover rate and need for new issuance. Similarly, cash balances had been increased to record levels early in the pandemic but had since returned to normal levels. Going forward, the plan was to start reducing the size of auctions starting in November in order to meet the expectations of primary dealers. The Treasury Borrowing Advisory Committee (TBAC) and dealers had agreed to reductions of issuance across securities, with the exception of increases in 7 and 20 years, as well as Treasury Inflation-Protected Securities (TIPS). (At the time of the Symposium, there remained questions about how the debt ceiling would be managed, so these plans were all contingent).

In Europe as well, fiscal authorities acted boldly. This was seen as a striking contrast to their more sluggish response in 2008, which exacerbated the effects of that crisis. Member states moved quickly to guarantee debt and to support employment, preventing severe dislocation. However, the pandemic also saw a divergence in sovereign borrowing rates due to investors' flight to safety.

The most striking aspect of Europe's fiscal response was the actions at the EU level. Starting with guarantees on members' debt and then direct lending to states to help them to stabilize their economies, by July 2020 the EU had agreed to a joint fiscal stimulus plan (Next Generation EU) at around 5% of GDP, with a particular focus on policy reforms, innovation, and climate resilience. While the EU has issued debt before, including through the SURE Social Bond program, Next Generation EU was by far the largest such joint effort. Moreover, with 30% of the program set to be in the form of green bonds, the European Commission was set to become the

world's largest green bond issuer. The money started flowing in July 2021, with the potential to hit €800 by 2026 to support the countries most hard hit by the pandemic.

Participants agreed that the joint EU debt issuance was a very important milestone for the EU, both politically and economically. As the first big mutualization of debt in EU, it was a strong statement in favor of solidarity, in contrast to the response of member states during the Greek crisis in 2010. As one participant put it, it was an assertion that, "The euro is here to stay." Several participants pointed out that the possibility of joint issuance had been a matter of discussion for over a decade, but that the crisis had forced the issue. They argued that extensions of EU capabilities often occurred as a result of crises and then became permanent features of the system. Thus, they predicted, joint fiscal action would persist.

In addition to its political and fiscal effects, participants argued that joint EU bond issuance would have large and lasting effects on European sovereign debt markets. The size of the issuance immediately put joint EU debt into the same league as countries like Spain, Italy, and France, with outstanding debt rising from around €500 billion in 2019 to €160 billion. Many participants noted that, with its AAA rating, EU debt had proven very attractive to investors as well as to monetary policy makers as an instrument in asset-purchasing programs. However, there was some skepticism that that Next Generation EU bonds would supplant German bunds as a benchmark anytime soon, as it would take years to develop markets for futures and other derivatives.

To manage EU debt issuance, the European Commission had created a treasury agency, which was now issuing short-term paper as a step to creating a range of maturities. Although in principle Next Generation EU bond issuance was slated to end in 2026, with final payment by 2058, participants predicted that there would be a great deal of refinancing, which would contribute to its continued importance in public debt markets. More importantly, however, many participants predicted that further issuance programs were likely in the future now that the precedent had been set and high levels of investor demand for EU-issued sovereign debt had been demonstrated. Indeed, some participants predicted that a next-generation green bond program would follow soon, with authorities currently road-showing around Europe a proposal for €240-250 billion of green bonds over next 5 years.

U.S. Treasury Markets

Participants discussed several issues regarding the U.S. Treasury market, from the March 2020 liquidity squeeze to current issuance to market infrastructure. With \$22 trillion in outstanding issuance as of the end of March 2021 and average daily trading of nearly \$700 billion (peaking at \$1 trillion in early March 2020), it constituted the deepest and most liquid fixed income market in the world. It was also noted that the Congressional Budget Office had projected that the total size would grow to \$33 trillion by 2030. Thus, participants agreed that fixing any problems in the market as extremely important, given the central role played by Treasuries in global finance and monetary policy.

There was considerable reference to the March 2020 liquidity issues in Treasuries, although some participants pointed to the 2014 flash crash to make the point that this was not the first

severe stress in the market. In March 2020, despite the size and liquidity of the market, Treasuries were hit by rising yields and reduced liquidity, even in the most traded maturities. In the face of widespread selling pressures, there was insufficient market-making capacity as major trading firms withdrew from the market. In the end, the Fed ended up backstopping the market, becoming the “quasi market maker of last resort.”

The reasons for the incident were the object of considerable study, including by various thinktanks. An ongoing inter-agency working group convened by the U.S. Treasury had identified 5 areas for further study: data quality and availability, improving resilience of market intermediation, evaluating expanded central clearing, enhancing trading venue transparency and oversight (following an SEC proposal to extend Reg ATS to treasury platforms), and platforms’ risk management practices. Participants agreed with this agenda, with some also highlighting the need to increase market-making capacity. Given the market’s growth as well as institutional and technological developments over the previous decade or more, the question was raised whether the market structure was still “fit for purpose.” For many participants, the answer was that modernization was needed across the board (trading, pricing, data, etc.), reflecting widespread concerns about the liquidity and resilience of treasury markets.

Discussion of market structure began from the premise that the secondary market for U.S. Treasuries was actually divided in four across two axes: on-the-run vs. off-the-run, dealer-to-dealer vs. dealer-to-customer. These markets have different characteristics—for example, the inter-dealer trading is electronic, whereas dealer-to-customer off-the-run market remains very bespoke. Meanwhile, only about a third of Treasuries transactions were centrally cleared and public dissemination of data remained limited. Data collection and dissemination was a particular concern for many participants (as also with equity markets, as discussed in Session 3). It was noted that most transactions were now being reported. However, participants considered data dissemination to be problematic. Unlike in other markets, they noted, there was still no real-time access to information on pricing or size of trades. They argued that introducing such transparency had been very beneficial to efficiency and liquidity in corporate bond market, and that it should also be provided for Treasuries. Another concern for some participants was the low level of central clearing in Treasuries transactions. Some participants argued that increasing the use of central clearing would not only improve data reporting and reduce counterparty risk, but that it could reduce trading costs and increase liquidity in times of stress, such as in March 2020. The question was also raised as to how best to oversee trading venues. Participants agreed that if these measures had been in place in March 2020, they would not have prevented selling pressures, but some argued that markets would have been better able to absorb that pressure without requiring Fed intervention.

European Public Debt Markets

Participants also discussed EU public debt market structure. According to speakers, roughly half the market was inter-dealer trading that operated through electronic trading platforms and was centrally cleared. In contrast, the customer side was OTC and not centrally cleared, due to their business models and constraints on their access to clearing, reducing liquidity in times of stress. Some participants advocated expanding customers’ access to central clearing through an intermediary, but this was not yet common. It was argued that dealer-to-client clearing in Europe

lagged behind the U.S. and it was argued that banks, custodians, and trading venues would need to work together to create the necessary infrastructure to do so.

Two common concerns among participants were the fragmentation of and lack of transparency of European debt markets. While attractive to arbitrageurs, fragmentation was seen as problematic for collateral and trading. There was also considerable concern expressed about transparency. While some participants made the case that there was good post-trade transparency in on-the-run markets, they considered off-the-run markets to be opaque, despite the importance to the buy-side. Ideally, it was argued, transparency was needed all the way along the value chain, in order to allow market participants to calculate the cost efficiency of nearly all trades.

Finally, participants noted that central banks had been forced to take outsized roles in both U.S. and EU public debt markets. Some argued that the disconnect between supply and demand occurred because market makers could not accommodate the pandemic-era large increases in debt issuance. They said that there were too few market makers and that those market makers faced strict constraints. Thus, they called for more central clearing parties.

Session 3: Enhancing Equity Markets – Competition, Transparency and Best Execution

In Session 3, participants discussed market stability and equity market structure. Key topics included data availability, the rise of a new generation of retail investors, and competition among trading venues.

Risks to Market Stability

In many ways, equity markets had been among the best functioning components of the financial system through the various financial and economic crises of the previous fifteen years. While the stability and efficiency of equity markets and the long bull run had created a sense in the media that that stability was self-sustaining, participants warned that there were a variety of risks that regulators and market participants should keep a watchful eye on. To ensure that market structure and regulations continued to work as effectively in bear as in bull markets, they agreed it was necessary to continuously assess risks and plan for how to mitigate potential threats.

One set of risks that was identified was deteriorating documentation in derivatives and loans. Some participants worried that the rise of covenant-light lending and opaque derivative products was obscuring risks within the financial system. They argued that financial markets were currently as interrelated as they had been in 2008, and that failures of illiquid products could reverberate around the system. One example was total return swaps, which had been shown in the Archegos Capital Management implosion to be potentially dangerous. The SEC had begun collecting more data on swaps but lacked information on some other derivatives—for example, it was noted that there was no real visibility into whether there were derivatives tied to collateralized loan obligations or leveraged loans, which would likely be very illiquid.

Participants also noted a variety of other risks that were not necessarily well understood. These included climate risk, cyber risks, and geopolitical risks. In addition, opaque corporate structures such as Chinese variable interest entities (VIEs) were seen as often not providing enough information for investors to make informed decisions.

Overall, the lesson many participants drew was that all market participants must think about risks seriously and disclose them. This was not just a responsibility for regulators; rather, all investors should carry out due diligence, including examining counterparty risks. This was equally important for the new wave of retail investors who were able to use app-based platforms to carry out complex and risky strategies such as trading options and trading on margin.

Transparency and Data

There was considerable discussion about data availability in equity markets. Much of the discussion was about European markets, where many participants saw high costs and the lack of a consolidated tape as a major impediment to efficiency of those markets. In contrast, participants praised the U.S. system of mandatory trade reporting, although they called on

regulators to ensure that consolidated tape (NBBO) was as high quality as possible, including by providing consistent data on bids as well as trades.

European equity markets were characterized by fragmentation and competition. While competition among trading venues, in order to enhance efficiency and price competitiveness, had been one of the goals of EU market regulation, participants agreed that fragmentation created its own set of issues. One was that no market participants had a truly comprehensive view of available liquidity, since each trading venue sold its own individual data stream. While some big brokers could approximate a comprehensive view by consolidating data themselves, it was agreed that this was a costly and time-consuming endeavor.

In addition to creating impediments for traders, several participants argued that the European system tended to disadvantage smaller trading venues and small-cap stocks. While some small trading venues might worry about trades being transferred to larger venues and exchanges if there were data transparency, several participants argued that they were in fact limiting their pool of potential investors by the lack of transparency. Small-cap stocks were also seen to be adversely affected, as they tended to trade on smaller venues that did not attract broad attention. Some participants noted that ETFs and UCITs might be more likely to include small-caps if there were better trade reporting, which could benefit both liquidity and the investor base for them.

Participants identified two main issues in data consolidation in Europe. First, quality was inconsistent, particularly as it related to OTC and investment bank trading. Second, licensing was complex and expensive. Many participants saw a clear need for regulators to intervene by designating core data that all trading venues must produce and by requiring them to contribute data to the tape. A similar case was made for trading data for ETFs and UCITs. It was argued that, while ETFs would in principle be an excellent asset for pensions and other long-term investors, the data issue was a major obstacle.

In retrospect, participants agreed that it had been a mistake for the EU to leave decisions about data to the private sector under the rubric of a competing consolidator model. The lack of mandatory licensing had created the problems described above. The requirement that trading venues openly publicize post-trade data for 15 minutes had not improved transparency in practice. There was a hope that a resolution might be decided by early 2022, but it would be essential to convince exchanges and market data providers, and particularly small exchanges, that they would benefit.

Retail Trading and General Market Structure

Discussion of retail trading focused on the U.S., although some participants made the point that European regulators and financial institutions should work harder to make equities more attractive for retail trading. Much of the discussion focused on the rising popularity of retail trading among younger people using app-based platforms.

There was some disagreement among participants as to whether the large-scale entry of new retail investors who could trade equities and options quickly and cheaply was a positive or a negative development for U.S. equity markets. Some participants worried that access to leveraged investing strategies as well as sophisticated products such as options would be

dangerous for many retail investors. Some also expressed concern about volatility and market disruptions, citing the GameStop incident as an example. Other participants argued strongly that retail investment was one of the greatest strengths of U.S. equity markets, and that platforms that enabled individuals to take control of their own financial decisions were a good thing. In this perspective, more retail investment counterbalanced the rise of institutional investors and especially index investment, in terms of price discovery.

Looking at the rise in retail investors in the US, participants agreed that app-based platforms were bringing in a new group of investors who were younger and more technologically savvy than previous generations. These investors were attracted by the convenience and low costs of new trading platforms, as well as the accessibility of information. While some participants saw these new investors as inexperienced, prone to excessive trading, and highly susceptible to gimmicks and gamification, others argued that day traders were actually a small minority and that the new retail investors were doing a lot of research. It struck other participants as unlikely that the new retail investors were as well-informed as they should be, given the risks they were taking.

One issue that had been widely debated was the model of payment for order flow (PFOF), which allowed retail brokers to offer commission-free trading. While common in the U.S., PFOF was not commonly used in Europe and is banned in the U.K.. Discussion of PFOF in the media had tended to be critical, but several participants argued that it was good for investors, as it had driven commissions down to zero even as brokers were still required to get best execution on trades. At the least, participants agreed that there was a trade-off between commissions and PFOF, and that the U.S. had by and large decided that PFOF was a better way to compensate brokers for their costs of trading.

Participants agreed that equity market structure was heavily driven by regulation and technological developments. In the case of the U.S., unlike in the EU, much of that regulation was old—some cited 1975 as the last major reform. Thus, participants welcomed the SEC's plan to refocus on equity market structure,

Market volatility in January, including the GameStop episode, was seen to have driven the interest of Congress, which had delegated a review to the SEC. The SEC, in turn, would move through the rule-making process, including cost-benefit analysis and public comment, before promulgating new rules.

In addition to PFOF, participants pointed to the NBBO and dark trading as issues of particular interest to regulators. Some participants also suggested that settlement should be revisited—while T+2 had been appropriate to the technology of payment systems when it was introduced just four years earlier, the rapid technological developments were having big impacts on payment speed and efficiency. Finally, some participants argued that the GameStop short squeeze had illuminated some other market structure issues, particularly the lack of transparency in the securities lending market.

Public vs. Private Trading

A final set of issues discussed in Session 3 was the relationship between public and private trading markets. Participants agreed that both served important purposes in the financial system. Public markets, it was argued, drive pricing and allow for maximum participation by wholesale and retail investors. Exchanges could ensure liquidity and high-quality information. Private markets, in contrast, were seen as particularly useful for large wholesale trades, as the price of trading was lower and large-block trades could be executed without large price movements. But while big investors saw dark trading as an opportunity for cost reduction, others worried about non-transparency and problems of liquidity.

Both public and private markets were seen to be shaped crucially by public policy decisions, including tax policy and regulation. Some participants argued that current policies in the U.S. and EU had created higher costs of compliance for trading on public markets, therefore making private markets more attractive for trading. They argued that regulation should be more balanced, so as to allow for fair competition and prevent regulatory arbitrage. Some asked whether U.S. markets were approaching a tipping point where dark trading would be large enough that the NBBO would be distorted and market efficiency would suffer. Others were less worried, arguing that regulation could be used to ensure timely disclosure of pricing data.

Session 4: Sustainable Finance and Capital Markets – Asset Management and Public Company Governance and Disclosures

In Session 4, participants discussed the interrelationships between environmental sustainability goals, capital markets, and regulation. They agreed that there was a considerable gap between U.S. and EU approaches, which could adversely affect the development of global standards. They also saw significant challenges of producing and analyzing relevant data, as well as the difficulty of regulating environmental impact along the value chain, such as from banks to clients and from firms to primary contractors and subcontractors.

Developing Standards

Participants discussed various efforts to establish sustainable finance standards for financial institutions and public firms. They agreed that the EU had staked out a strong position as first mover among jurisdictions, putting in place a comprehensive approach that included financial regulation, bank stress-testing, and corporate disclosure. Rules for financial intermediaries had already been introduced as of March 2020, and work on other disclosures and reporting requirements was well advanced.

There was also discussion of other standard-setting bodies, in particular the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD) and the International Financial Reporting Standards Foundation (IFRS). TCFD set a global baseline for climate standards that governments were beginning to use as they put in place their own regulations. Some participants expressed the hope that this effort would reduce fragmentation of standards across countries. A number of participants predicted that new IFRS standards would be made available before the upcoming COP-26 meeting in Glasgow in early November. They saw this as essential to gauging the impact of corporate behavior on the environment as well as environmental risks for companies, in a way that would be globally accepted. Some questioned, however, whether environmental standards should primarily be tracked as part of financial accounting due to uncertainty about the proper quantitative metrics.

There was also some discussion of private standard-setting. The rapid growth of green finance suggested to some that change could be driven by the demand among investors. In the absence of clear government regulation, a variety of organizations had created standards and certified particular funds, companies, or activities as "green." One advantage to private standards was that they could be modified more quickly in response to changing science than official standards, which required extended procedures and discussion to amend. Although these efforts were seen as potentially helpful to popularize the ideas of sustainable investment, participants also had significant concerns about fragmentation and the wisdom of relying on investor preferences. Some noted that governments did not outsource other public policy matters, such as civil rights or pandemic management, to the preferences of private-sector investors, and expressed doubt

that it would be sufficient with a policy issue as important, pervasive, and costly as climate change.

Looking at the multiplicity of standards across jurisdictions and issued by both public and private actors, many participants expressed concern that it would lead to fragmentation of standards and regulations. Fragmentation would likely raise compliance costs for companies that operated across borders. In addition, fragmentation could provide companies with opportunities for regulatory arbitrage while also creating incentives for some countries to lower their standards in order to attract companies. A number of participants also pointed to a different type of fragmentation, arguing that if standards focused only on public companies, then private companies could gain cost advantages while also undermining environmental goals. Several made the case that at private companies already enjoyed advantages relative to public companies due to differences in regulation. They advocated a more level playing field.

EU vs. U.S. Approaches

Participants noted a number of differences between EU and U.S. approaches. Driving many of the differences was a sense of urgency in the EU that far exceeded that of the U.S. That sense of urgency had made the EU a proactive first mover in sustainable finance and reporting. In contrast, U.S. regulators were quite far behind. One question for participants was whether being first mover would allow the EU to become a *de facto* standard for the rest of the world. Many participants felt that, by getting far ahead of others instead of seeking agreement on general standards, the EU had lowered the likelihood of convergence around a global standard. Others predicted that much of the world might end up following the EU model, with the exception of the U.S.

The EU's approach prioritized speed and boldness, including immediate implementation of compulsory standards. Moving rapidly increased the probability that standards would need to change, perhaps many times, as science and practice developed. In contrast, participants argued that U.S. firms and regulators craved more certainty, including having fixed rules rather than moving targets. For a number of participants, this would be unacceptable, as it would potentially sacrifice environmental goals for predictability. To deal with the new regulatory realities, their complexity, and the differing rules across jurisdictions, some participants called for long phase-in periods and safe harbors for companies, as well as provisions for mutual recognition or equivalence determinations for companies whose home countries had differing standards. Participants felt that the EU was unlikely to be sympathetic to such ideas, as they might seem like foot-dragging.

Many participants also felt that the bases of sustainable finance standards and regulation differed considerably between the EU and U.S. They saw the emerging U.S. approach as primarily focused on investor protection—i.e., disclosing and quantifying climate risks so that investors could make informed choices among countries. In contrast, they argued that the EU was seeking to optimize both the climate impact and investor protection simultaneously.

Some argued that the EU and U.S. also differed in their integration with other environmentally-oriented public policies. They noted that the EU was taking a holistic approach to climate change

that made full use of a variety of official agencies and levers, of which financial supervision and accounting standards were just one component. In contrast, some participants felt that the U.S. was using financial supervision and accounting standards as a substitute rather than as a complement to other policies. They argued that this reflected the divisive politics of environmental and climate change policy in the U.S. Congress, which made legislation on such matters much more difficult compared to the less political process of modifying financial regulation and supervision.

Data and Analytical Challenges

Regardless of governments' and standard-setting bodies' levels of commitment to addressing climate change or preferences for global standards, participants agreed that efforts at regulation faced significant challenges with regard to data collection and analysis. These would have to be overcome to ensure that sustainable financial reporting would actually operate as desired.

One of the major concerns of participants was the challenge of data inconsistency. Without consistent reporting practices, it would be nearly impossible to monitor companies and financial institutions regardless of regulatory standards. Participants agreed that this was a particularly urgent task for global standard setters.

Along with inconsistencies in reported data, many participants expressed concerns that the costs of generating and verifying data were potentially very high. New global reporting requirements would require a great deal of time and effort. For multinationals, this would be a particular challenge if standards remained fragmented across jurisdictions. However, SMEs also faced significant costs of developing such capabilities, relative to the size of their business. The EU had exempted firms with under 500 employees for the time being, but even medium-sized enterprises could struggle with the added reporting and compliance requirements.

Adding especially to the costs and complexity of data collection was the challenge of reporting across the value chain. Already, EU regulators were requiring banks to collect and report environmental data on customers and requiring companies to track data through their supply networks. A number of participants agreed that this was necessary, in order to prevent companies from outsourcing their polluting activities to subsidiaries or subcontractors. However, they also agreed that it was extraordinarily difficult, with the quality of data—and banks and firms ability to enforce good behavior—declining precipitously as firms moved from disclosures of their direct impact all the way down to the impact of tertiary suppliers. Similarly, participants expressed concern about the ability of regulation to reach private companies, since their reporting obligations were more limited than public companies. In principle, some of their activities could be captured in reporting by banks or major customer, but in practice many participants were skeptical.

Beyond the already considerable challenges of collecting and reporting data, participants agreed that there were also significant analytical challenges. One difference that a number of participants noted between the EU and U.S. was that U.S. regulators wanted to have clear data and models for cost-benefit analysis before modifying rules, whereas European regulators were willing to get started regardless.

The basic problem was that cause-effect relationships between firms' activities and environmental impact—and especially the magnitude of effects—were far from fully established. Even for the more limited U.S. approach of focusing on investor protection, there were as yet no well-established models for mapping environmental risks onto corporate profitability and default risk. This inevitably made it difficult to move from disclosure to risk assessment. Thus, rating agencies and others needed to develop metrics and models of “impact accounting.” The same was true of bank stress tests, which would soon be incorporating loss scenarios driven by assumptions regarding the likelihood, size, and effects of environmental change.

Finally, it was noted that, even where standards were clear and consistent, there were likely to be differential effects across sectors. For example, services such as financial institutions and software would inevitably appear to have lower environmental impact than companies directly engaged in manufacturing and mining, and therefore would likely benefit from lower costs of capital, even though their revenues depended on such clients with significant climate impact.

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