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INTERNATIONAL MONETARY FUND

Minutes of Executive Board Meeting 19/51-1

9:30 a.m., June 17, 2019

1. Fintech—The Experience So Far

Documents: SM/19/111 and Correction 1; and Correction 2; and Correction 3; and Supplement 1

Staff: Leckow, LEG; Narain, MCM; Shabsigh, MCM; Haksar, SPR

Length: 1 hour, 55 minutes

Executive Board Attendance

C. Lagarde, Acting Chair

Executive Directors	**Alternate Executive Directors**
	I. Mannathoko (AE)
M. Raghani (AF)	
G. Lopetegui (AG)	
	N. Heo (AP)
A. Tombini (BR)	
Z. Jin (CC)	
L. Villar (CE)	
	A. McKiernan (CO)
	O. Stradal (EC), Temporary
	A. Castets (FF)
S. Meyer (GR)	
S. Gokarn (IN)	
D. Fanizza (IT)	
M. Kaizuka (JA)	
	C. Sassanpour (MD), Temporary
	M. Merhi (MI), Temporary
	V. Rashkovan (NE)
	J. Sigurgeirsson (NO)
	A. Tolstikov (RU), Temporary
M. Mouminah (SA)	
A. Mahasandana (ST)	
P. Inderbinen (SZ)	
	D. Ronicle (UK)
	P. Pollard (US), Temporary

J. Lin, Secretary
P. Cirillo, Summing Up Officer
B. Zhao / R. Smith Yee, Board Operations Officers
M. McKenzie, Verbatim Reporting Officer

Also Present
Asia and Pacific Department: T. Saadi Sedik. Communications Department: R. Elnagar. European Central Bank: A. Meyler, K. Nikolaou, R. Rueffer. European Department: J. Roaf. Information Technology Department: M. Malaika. Legal Department: R. Leckow, Y. Liu. Middle East and Central Asia Department: N. Blancher. Monetary and Capital Markets Department: J. Alwazir, K. Driessen, M. Erbenova, C. Erceg, E. Eriksson von Allmen,

N. Jenkinson, A. Narain, G. Shabsigh, N. Sugimoto, F. Xavier Dezouzart Drummond Melo. Office of Budget and Planning: B. Christensen, P. Kongsamut. Office of Internal Audit and Inspection: B. Lim, N. Onyango. Secretary's Department: P. Cirillo. Strategy, Policy, and Review Department: Y. Carriere-Swallow, A. Gamba, P. Gitton, V. Haksar, N. Meads, M. Muhleisen, M. Patnam, F. Valencia Palau. Statistics Department: C. Sanchez Munoz. World Bank Group: A. Garcia Mora, H. Natarajan. Executive Director: H. de Villeroché (FF), L. Levonian (CO), A. Mozhin (RU). Alternate Executive Director: R. Alkhareif (SA), R. Doornbosch (NE), H. Razafindramanana (AF), B. Saraiva (BR), P. Sun (CC), K.Tan (ST), P. Trabinski (SZ). Senior Advisors to Executive Directors: W. Abdelati (MI), Z. Abenoja (ST), A. Muslimin (ST), Y. Danenov (SZ), M.Gilliot (FF), O. Odonye (AE), T. Sitima-wina (AE), G. Vasishtha (CO), J.Weil (CO), C. Williams (CO). Advisors to Executive Directors: A. Abdullahi (AE), D. Andreicut (UK), A. Arevalo Arroyo (CE), K. Carvalho da Silveira (AF), L. Cerami (IT), S. David (AP), I. Fragin (GR), A. Grohovsky (US), J. Hanson (NE), M. Ismail (AE), U. Latu (ST), P. Mooney (CO), M. Mulas (CE), A. Nainda (AE), K. Osei-Yeboah (MD), A. Park (AP), F. Rawah (SA), A. Srisongkram (ST), N. Vaikla (NO), S. Yoe (ST), K. Hennings (BR), K. Lok (CC).

1. FINTECH—THE EXPERIENCE SO FAR

Ms. Mannathoko, Mr. Odonye and Mr. Ismail submitted the following statement:

We thank staff for an excellent paper. It provides an informative overview of fintech experiences across the membership and as requested by the Board last October, lays out implications within the mandate of the Fund. We broadly agree with staff's assessment of the implications for the Fund's work, especially with respect to financial sector services and their regulation, financial infrastructure including payments systems, cooperation on international standards for financial services, financial data reporting and frameworks, the impact on monetary systems and stability, and cybersecurity risks to the financial system. As the Fund continues to play a central role in providing advice and technical assistance to its membership, on evolving financial sector policy and regulation; increasingly, going forward, this role will consist of advice and TA on regulating and managing financial services and systems driven by fintech.

Fintech's importance for development

The expansion of fintech has brought about immense opportunities for advancing financial inclusion and improving both provision and efficiency of financial services in low income and developing countries (LIDCs). In SSA, fintech is facilitating financial inclusion via mobile platforms for payments, savings and investment products. It is also supporting private sector development in e-commerce and business process outsourcing; while reducing informality and enabling financial transactions that support the delivery of government services and utilities at lower cost and with higher efficiency, helping, among other things, to improve the investment climate. However, the prevalence of fintech differs across our countries, dominating in pockets of countries; hence the importance of the IMF's cross-country experience, and of its advice, capacity development and technical assistance (TA) to our countries on navigating fintech. As noted by the staff report, in SSA, much work remains to be done with regards to adjusting legislation as needed to facilitate orderly digital payments and enable adjustment to new challenges from digital finance; including in the areas of competition, AML/CFT, cybersecurity, consumer protection and data privacy issues.

Issues needing attention

We agree with the issues identified by staff as needing attention. They are consistent with the feedback from surveyed authorities who called for greater international cooperation and prioritization of cybersecurity;

AML/CFT; development of legal, regulatory, and supervisory frameworks; payment and securities settlement systems; and cross-border payments. Furthermore, authorities saw these as areas where technical support and policy advice would be sought from IMF and World Bank. We would like to highlight the following considerations:

Importance of policy notes, TA expertise and surveillance guidance: Given the interest in fintech as a path to support development, we encourage the production of staff policy notes to guide the tailoring of staff advise proffered to authorities; advice that would still need to reflect country specific priorities and challenges. Meaningful staff guidance is needed for surveillance teams, to better equip them in engaging authorities on potential fintech and cyber security risks and regulatory requirements; as well as on how to structure a policy and legal environment supportive of fintech. Staff views on this are welcome.

We would also encourage identification of fintech experts who can serve as an ongoing resource for analysis, surveillance and TA. We note, furthermore, that almost sixty percent of the surveyed country authorities believe fintech developments would have a major impact on the operation of the International Monetary System (Question 64). To this end, the requisite expertise to stay abreast of developments alongside effective coordination with development partners will be important. We would appreciate staff views on this issue.

Balancing policy priorities: Given the potential for cross-border regulatory arbitrage and the concern expressed by regulators in this regard, we view the careful crafting of regulatory solutions that will not stifle fintech expansion and its benefits, as critically important. We see an important role here for the IMF – in guiding the discussion on appropriate regulation to help achieve this goal.

Foundational infrastructure constraints: We agree on the need to tackle foundational infrastructure constraints. Countries in our constituency appreciate Fund advice and TA addressing financial infrastructure gaps in payments systems, credit reporting, etc. and would value more. The same applies to amending legal frameworks to accommodate fintech. We also note the importance of aligning efforts to address digitization gaps, in order to facilitate financial data reporting; and the value of effective collaboration with the World Bank to ensure that IMF advice and TA complement other pertinent physical infrastructure investments being made to support digitization.

Standard setters and LIDC representation: Given the lack of international standards for crypto-assets in particular, we recognize the need to fill this gap. We note, however, that only 30 percent of survey respondents saw a need for international standards in mobile money payment services and P2P lending. It is possible this reflects concerns that standards might be formulated in a manner that would constrain the financial inclusion agenda or pro-development digitization frameworks in developing countries. Could staff elaborate on why there is little appetite for international standards in these two areas? We also note that the representation of LIDCs in the analysis that informs standard setting will be important and we urge staff to ensure that the interests of the full membership including LIDCs, are considered in this context. Staff comments are welcome.

Data frameworks and a global dialogue on data: The need to modernize national data frameworks cannot be over-emphasized. Relatedly, we note that even the pilot fintech analysis for an advanced economy FSAP revealed data gaps. Part of the Bali Fintech Agenda is the "development of robust financial and data infrastructure to sustain fintech benefits"; and we do not believe the need for this has changed. We also agree that further work on the international dimensions of data policy frameworks is needed. The treatment of data is an important issue that requires a collaborative and global approach. Given its near-universal membership, we believe the IMF is well placed to guide a global dialogue on data issues around open banking, data privacy and protection, and issues related to data gaps in cross-border activities.

Cybersecurity and operational risks: We support the inclusion of this area in the priority list. We are encouraged that most of the surveyed jurisdictions have undertaken measures to modify regulatory frameworks at the national level, to enhance supervisory capacity to mitigate elevated fintech risks. That said, as noted in the report, with the rise in mobile finance in SSA, there are emerging challenges and risks including AML/CFT, cybersecurity, consumer protection and data privacy issues. We therefore view the Fund as having an essential role to contribute to ongoing efforts by scaling up provision of tailored capacity development and technical assistance, alongside advice to help countries navigate this new terrain. Could staff comment on the availability of CD and TA on these issues?

Possible impacts on monetary systems and financial stability: We note that several countries are considering issuance of Central Bank Digital Currency (CBDC); with implications for financial stability, financial inclusion, and monetary policy transmission. We therefore agree on the need for a careful examination of the potential impact of CBDC on the stability of monetary and financial systems. We would support efforts to develop research and policy notes on CBDC that will help to advise the membership on the benefits and costs of CBDC and the requisite measures to address related risks. We would appreciate any further detail from staff on the outcomes of the CBDC pilots undertaken so far.

Adequate resourcing of the fintech agenda. Considering that work on fintech constitutes part of financial surveillance, a core mandate of the Fund, we underscore the need for adequate resources for these workstreams. We would caution against a piecemeal approach to addressing fintech issues when the membership faces increasing and evolving risk and disruption going forward, as technology and innovation assume dominant roles in the global financial system. Securing the necessary expertise to get ahead of the curve or even remain up-to-speed will likely require resources beyond current allocations, so we wonder at the sustainability of the current approach, where the various departments engaged in fintech have been diverting resources away from other activities to be able to carry out fintech activities. We would appreciate staff comments on this resource issue and what is needed to integrate fintech effectively into financial and regular surveillance.

Finally, on other selected fintech topics, as noted by staff, fintech also opens up the scope for expanded access and financial inclusion in Islamic finance (applicable to a couple of countries in our constituency). Recent fintech advances could help affected countries to deepen their capital markets and expand issuance of Islamic securities to help meet growing funding and development needs. Notwithstanding these benefits, varied risks arise requiring effective regulation of fintech for Islamic finance, especially in countries with systemically important Islamic financial sectors. Could staff comment on the availability of Fund expertise to provide advice on fintech in Islamic finance?

Mr. Sigurgeirsson and Mr. Vaikla submitted the following statement:

We thank staff for the analysis on Fintech experiences and the proposals for further work as presented in the paper. We acknowledge Fintech's great potential to spur innovation, improve effectiveness, support financial inclusion and transparency, and provide less costly financial services to consumers and companies. However, as Fintech services are rapidly expanding, consumer protection, financial sector integrity issues and financial stability must not be compromised. Privacy and data collection are central issues that all policy makers should consider and regulation must aim to facilitate individuals' control over their own data.

The survey presented in the report confirms that in terms of Fintech surveillance, most jurisdictions focus mainly on activities and entities within the traditional regulatory perimeter. We agree with staff's conclusion that monitoring beyond the present regulatory perimeter will be required. This conclusion is in line with the main Fintech-related challenges identified by the FSB and BCBS. Supervisory and regulatory frameworks need to adequately account for the growing volume of operations conducted by non-banks, the technology and e-commerce companies that are moving into financial services, as well as the activities of third-party service providers (e.g. in cloud computing).

In general, we see a need for further international collaboration and knowledge sharing on Fintech issues. The IMF is well positioned to contribute to such cooperation and should leverage best practice examples from among its membership. International cooperation among IFIs and standard-setting bodies should aim to discourage a race to the bottom on regulation and regulatory arbitrage, and secure a level playing field.

The IMF has an important role in raising awareness among its membership on the benefits and risks of Fintech. We are pleased with the emphasis on Fintech in some recent Art IV consultations and FSAPs and encourage the Fund to continue with this practice when deemed appropriate. The Fund should continue to support members in developing appropriate supervisory frameworks and regulation, including on privacy and data collection. To achieve a more systemic involvement in the area of Fintech, especially in surveillance activities, the IMF should arrive at a common understanding of the circumstances under which Fintech-related issues become macrocritical. Such understanding is most warranted concerning the areas pertaining to the Fund's mandate, such as financial integrity or capital flows.

On the emerging policy issues identified in the paper, we would emphasize financial inclusion and the potentially transformative effects of Fintech in addressing several financial frictions. Technological innovations can broaden the access to financial services by e.g. providing dedicated services to certain demographic groups or geographical areas. While promoting financial innovation, policy makers should ensure a level playing field among all players.

We would welcome more analysis on the financial stability implications of Fintech. In particular, we would be interested in whether Fintech serves on average to stabilize or destabilize financial markets and what the effects are dependent on. Intuitively, the degree of financial market development, financial literacy, and financial inclusion seem relevant. We would also welcome further examination of the impact that the increasing role of large technology companies in provision of financial services has on the functioning of the financial system.

Further cooperation between IMF and FATF to work on anti-money laundering and combatting the financing of terrorism is certainly important. The IMF also needs to cooperate closely with the standard setting bodies on AML/CFT. This includes identifying regulatory remedies to the emergence of risks to the financial system arising from the use of cryptoassets. Cryptoassets have proven to be highly volatile by nature and they lack legal certainty. At the same time, we share the IMF's view that the volume of cryptoassets at present is not large enough to present a threat to financial stability.

Taxation challenges related to digitalization and Fintech are highly complex and need to be analysed thoroughly. Policymakers need to ensure that e.g. regulatory requirements are up to date, and arbitrage opportunities avoided. This is also a global issue that requires global cooperation, with the OECD as the standard setting centre for international taxation.

We note that in the IMF-World Bank Global Fintech Survey, there is a strong consensus regarding cybersecurity as a key area for greater international cooperation. We believe that there is room for the IMF to play a larger role here. The IMF has a unique position in financial stability analysis from a cross-border perspective, which could be used more extensively in analysing potential financial stability implications from cyber risks.

We welcome the interest of the IMF in Central Bank Digital Currencies (CBDC). The focus of the analysis on how CBDC might affect the present financial system is also warranted, especially when it comes to evaluating the potential risks of CBDC. It is important to also keep in mind that CBDC, like Fintech in a broader sense, not only involves risks but also potential benefits which also be explored.

Mr. Tombini, Mr. Saraiva and Ms. Hennings submitted the following statement:

We thank staff for the detailed and thoughtful report. Country authorities are being confronted with challenges emerging from fast changes in financial technology, impacting both financial sector services and markets structure. This is clearly a situation that entails risks and opportunities and the Bali Fintech Agenda (BFA) offers a principled guidance to navigate on such an uncertain and rapidly changing landscape. We welcome staff's stock taking of the work related to the BFA and the comprehensive analysis of the emerging trends and policy issues. Furthermore, we agree with the cautious approach suggested in the report regarding the assessment of risks and opportunities of fintech alternatives.

Recognizing the existence of countries' specificities and the diversity of initiatives, we welcome the identification of areas for greater international cooperation, such as data framework, cybersecurity, AML/CFT, legal and regulatory approaches, payment and securities settlement system, cross-border payments and supervision. Country experiences have shown a wide array of fintech initiatives and diverse approaches taken by the authorities, in line with specificities of countries' financial markets and legal structures. Fintech business opportunities arise from the possibility given by new technologies to address market failures and gaps or unveil new business lines. Therefore, while technological innovations provide an underlying common ground, the main features of fintech initiatives vary substantially given the breadth and depth of financial markets and country features. While this calls for flexible and diverse approaches, inconsistencies should be avoided to preempt regulatory arbitrage.

Members are keen to harness the developmental and efficiency gains of fintech initiatives but need to remain vigilant to mitigate related risks. Countries are trying to find a balanced way to cope with ongoing innovations, focusing on fostering competition, enhancing inclusion and improving the services provided by their financial systems, while safeguarding stability and integrity, as well as consumers' rights. Proper regulation may be decisive for the effective outcome of the development of fintech in key areas such as competition and financial inclusion, which in theory could go either way. Transparency and privacy are also competing objectives that should be balanced. It is vital to ensure that increased data availability and processing capacity work for the benefit of the consumers of financial services and the economy as a whole, while protecting individual rights and preventing discrimination.

The idiosyncrasies, as well as the exploratory nature of fintech developments call for a flexible approach when reviewing or establishing new international standards, which should be adaptable and evolve in pace with market dynamics. Countries, especially LICs, seem to be legitimately concerned about the lack of standards guiding the development of financial applications of the new technologies, which could pose important risks to consumers, investors and the system as a whole. Nonetheless, the design of new standards should guard against stifling nascent technologies and ongoing regulatory experimentation. Moreover, international standards will be defined by standard setting bodies that focus on specific issues or look at the problem from a peculiar stand point. Ensuring overall consistency of the different standardization initiatives is a task that will require special attention.

There is an important role to be played by the Fund, based on its expertise on macroeconomic and financial stability issues. While the universal membership gives the IMF an advantage with respect to other standard setters, it is the focus on macroeconomic consistency and financial stability that will ensure the bulk of the value added from the Fund. The IMF should coordinate with other multilateral and regional institutions in order to complement their work. Although other institutions may be geared towards the development of the financial system, the IMF should stand out by its contribution to safeguarding financial stability and macroeconomic sustainability. Considering the intense engagement of the World Bank in assisting countries in fostering the development of financial technology, the Fund should closely follow progress on this front. In particular, further involvement of the Fund would be very fruitful in the analysis of the impact of fintech on cross-border capital flows and on the effectiveness of existing macroprudential and CFM tools. We take note that the impacts of fintech on the monetary systems and financial stability are deemed modest but highlight that this is largely because of the still relatively small scale of fintech within the overall system.

In sum, the Fund should be a knowledge platform on macroeconomic, stability and policy implications of fintech. Yet again, the Fund is well positioned to become a hub in this area. The IMF should facilitate peer learning and assess the development of diverse experiences put forward by the membership, highlighting preconditions, tradeoffs and constraints associated to different policy decisions. The review of selected fintech topics and emerging trends and policy issues presented in the report is a valuable exercise, which is useful not only for the Board but for the membership at large. A truly global dialogue among the relevant actors will contribute to devising proper regulatory solutions, and the Fund can play a constructive role on this important issue.

Mr. Villar, Mr. Guerra, Ms. Arevalo Arroyo and Ms. Mulas submitted the following statement:

> We thank both Fund and World Bank staff for a very informative and thorough report, which sets out a comprehensive landscape on fintech developments. We consider that it has broad relevance for all member countries and is well aligned with the Bali Fintech Agenda (BFA). We share the view that while fintech offers many opportunities, these developments could also reshape the provision of banking services worldwide, triggering changes in efficiency, inclusion and integrity while posing new challenges to financial stability, consumer protection, and AML/CFT rules.
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> We commend staff for the progress achieved in obtaining a global fintech outlook based on the information available from country responses to the IMF-World Bank Global Fintech Survey (GFS). We welcome the inclusion of these topics in Fund surveillance, particularly of pilots in recent FSAPs. However, the report recognizes fewer responses of the GFS from less developed countries, which limits the analysis of a broader range of experiences and emerging practices. Hence, we would welcome further information as to what other modalities could be used to learn about the experience of a broader set of countries, in particular LICs.
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> We broadly agree with the emergent policy issues requiring immediate attention and recognize the significant challenges they pose:
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> Balancing innovation and regulation. We take positive note of the efforts to harness the benefits and opportunities of rapid advances in financial technology via the promotion of a balanced approach between the concurrent and—from time to time—conflicting policy goals of encouraging competition, promoting financial stability and incentivizing innovation. That said, the balance between innovation and regulation should consider that there are issues that need to be addressed at this stage, such as the lack of risk assessment mechanisms and the limited regulatory perimeter. Moreover, this balance should be dynamic to keep pace as new developments surface. In this respect, we consider critical to ensure a close cooperation with other international bodies, as well as among member countries.
>
> Enhancing financial inclusion for all and addressing infrastructure gaps. We see merit in the emphasis of the report on addressing unequal access to technology that limits the fintech potential and increases the digital divide. We recognize that effective infrastructure is a unique opportunity to resolve some of the most intractable challenges for financial inclusion and reach 'last

mile' consumers with high quality financial services. To ensure this goal, we consider essential that the Fund, in collaboration with the World Bank, provides technical assistance to help member countries with significant capacity gaps to be able to address foundational infrastructure constraints. It seems from the paper that there is the view that Latin America remains behind many other regions. What could be the major factors for this lagging behind? Does staff consider that it could be the case that the current regulatory framework in Latin America could be hindering innovation?

Developing legal and regulatory approaches. The different nature of institutional arrangements and country specific circumstances, both in the legal framework and fintech developments, pose one of the main challenges to the development of international standards and the efforts to avoid regulatory arbitrage. We welcome the emphasis on the need for an adapting prudential regime and the modernization of the legal frameworks for the introduction of new products that are outside existing legal definitions. We would like to stress that this should be applied taking into consideration country-specific circumstances. What is the role that the IMF should play to support and inform the work of SSBs in the development of international standards or good practices? To ensure an effective regulatory environment, we consider sandboxes are a good tool that could offer valuable policy lessons of failure and success. Furthermore, the role of the self-regulatory bodies is yet to be clearly defined, which may foster knowledge-sharing between public- and private-sector players. Staff's comments are welcome.

Regarding crypto assets we believe there should be a clear distinction between crypto assets and CBDCs as they entail different challenges and risks. Crypto assets that are private digital tokens are different from CBDCs as these are not backed by any authority. In general, they present challenges to investor and consumer protection as it is not clear if they are reliable as means of payment, stable store of value, or unit of account due to their valuation volatility. While we support its analysis, we believe a prudent approach is warranted towards the implications of crypto assets. According to the FSB, crypto assets do not pose at present any risks to financial stability. However, due to the rate at which this phenomenon is growing, it is necessary to monitor its development. In this regard, we would also like to learn more on how staff is studying the evolution of private digital tokens towards identifying emerging threats to financial stability and AML/CFT related activities. On CBDCs the survey revealed that there is no common view in this regard. The issuance of CBDCs should be carefully assessed and the impact of its introduction and implications for monetary policy transmission and financial markets, cross-border transactions and financial stability deserve further study.

Data frameworks as a priority issue. We note there is significant variation in approaches to data governance, in areas such as data rights, localization, privacy, and international coordination. We consider that setting the rights and obligations of various stakeholders would be useful. The data framework should also consider how information is collected to be granular enough to effectively capture risks. Thus, we consider that the Fund and the World Bank should be leading the efforts in facilitating international cooperation and laying out guidelines for a better data framework. Moreover, recent experience in trade agreements such as the USMCA could be useful to draw lessons for reaching cooperative approaches to data localization. Additionally, consumer protection should be considered due to the important role it plays. Providing greater financial transparency options for account holders ranging from open data to private data will be relevant. Difference in the treatment of customer data around the world could create a fragmented regulatory environment. There could be scope to settle international common principles around the treatment and the protection of customer data.

Cybersecurity, beyond fintech developments, is a crucial challenge. Enhancing capacity building efforts in this regard and supporting the development of stronger frameworks across the membership will be of utmost importance. Staff recently estimated that average annual losses to financial institutions from cyber-attacks could reach a few hundred billion dollars a year. Is there an updated assessment of the impacts of cyber risk?

Going forward, IMF capacity development efforts could continue to be an effective avenue to facilitate the exchange of countries' experiences and discuss emerging trends. For instance, the experience of fintech seminars in the AFRITACs could be expanded to other RTACs.

Lastly, we agree that there is scope for further analytical work on fintech. First, as a new dimension that affects a relevant aspect of its core mandate, we consider that further work on the potential effects of fintech in new forms of cross-border capital flows would be relevant. Additionally, looking beyond the potential impacts of Fintech in the financial sector, to also consider the possible impact on employment and productivity, on the digital economy, and on the future of work would be useful for policy advice. Moreover, the Fund could provide value added, in collaboration with other entities, towards mitigating fintech-related financial integrity risks. Technical assistance towards strengthening AML/CFT regulation in this context could also be provided.

Mr. Meyer and Mr. Fragin submitted the following statement:

We thank staff for an informative and comprehensive analysis on the experiences of countries with fintech so far, following last year's approval of the Bali Fintech Agenda. The document provides a useful overview of fintech-related developments and considerations that can help national authorities formulate their policy responses as they seek to harness the opportunities of fintech and minimize potential risks.

Based on the account of the Fund's current work on fintech as part of its surveillance and capacity building activities, we broadly concur that the Fund provides a useful and valuable service for many of its member countries in this area. The current approach for the Fund's work appears appropriately focused on risk awareness and mitigation as well as financial stability issues, including the assessment and strengthening of AML/CFT frameworks, while monitoring developments with regard to their implications on global financial stability. Going forward, the Fund should continue to ensure that its work and policy advice on fintech issues is guided by the principle of macro-criticality, remains firmly within the remit of its mandate, and is in line with the international division of labor so as to avoid duplication and ambiguity regarding assigned responsibilities.

With that being said, the Fund's envisaged role with regard to fintech could still be further clarified. Somewhat in contrast to the statement in the Executive Summary that the "paper identifies key areas for international cooperation—including roles for the IMF …", the report contains little specific information on the intended nature and scope of the Fund's role or details on the intended contribution of the Fund to addressing the "urgent issues needing attention", identified in para. 90 of the report. Further information would be welcome. This also includes information on the (additional) resource needs resulting from the Fund's work on fintech.

Concerning the identified emerging trends and policy issues as well as the conclusions derived in the final section, we caution against conveying overly strong messages that may present an inaccurate picture or give rise to misinterpretation.

Inferring a "call of the IMF membership for greater international cooperation" (Executive Summary) as well as a "need to revise or develop international standards by standard-setting bodies" (para. 37) from the results of the membership survey seems overly ambitious and potentially misleading given the nature of the questions asked. The corresponding questions were not – as the analysis implies – unambiguous "yes or no"-questions. Instead the authorities were asked to identify relative preferences. We would therefore express some doubts that the survey provides compelling evidence for the conclusion that there is "clear demand also for considering new international standards by standard-setting bodies", as stated in the Executive Summary.

We do not see major immediate areas for new international standards related to fintech developments, going beyond what is already currently under discussion in the relevant international fora. While we indeed see international cooperation as valuable and necessary, for instance in terms of addressing issues such as cybersecurity or anti-money laundering, this can be accommodated within the established formats. As far as crypto-assets are concerned, an in-depth analysis and assessment is currently underway by the BCBS. In 2017, the FSB already identified three priority areas for international cooperation in its report „Financial Stability Implications from Fintech - Supervisory and Regulatory Issues that Merit Authorities' Attention". Moreover, it concluded that there are currently no compelling financial stability risks from emerging FinTech innovations. The FSB has also published several reports on different Fintech activities and aspects and continues to monitor new developments. The FSB also concluded in every one of its regular monitoring reports that crypto-assets currently pose no financial stability risk.

Can staff explain in more detail what new standards it has in mind and to what extent this call is already being addressed in the ongoing discussions in the relevant bodies? Again, we would be interested in information to what extent FSB, BIS, the relevant Basel Committees, and the FATF have been consulted for this report and what views they have expressed, in particular regarding the identified "urgent issues needing attention" (para. 90) and the Fund's engagement in this area?

We take note of staff's statement that the issuance and use of digital currencies and more decentralized monetary transactions may have implications also on the size and configuration of the Global Financial Safety Net (GFSN) – a view that appears to contrast somewhat with the majority of the responses to the survey (para. 35). Can staff elaborate on this point and substantiate the call for regular reviews of the GFSN in response to fintech developments?

We see a need to qualify the statement that “many central banks are actively examining the possibility of issuing Central Bank Digital Currencies (CBDCs)” (para. 90 d). While this may factually be true in absolute terms, given the large size of the sample for the membership survey, it may overstate the actual significance of CBDC in relative terms – at least among the group of advanced and emerging economies. In this context, we would also ask staff to clarify the terminology. Does CBDC as used in the staff report refer to new digital payments systems of an existing currency or the creation of a new digital currency by a central bank?

On a final note, we agree with the backward-looking statement that “there have been only minor impacts on monetary policy transmission through the bank-lending channel” (para. 85). At the same time, we see a need to distinguish between payment services for which settlement takes place in traditional banking systems and new digital monies issues by “big tech” firms to be used for commerce rather than just peer-to-peer payments (e.g. “FaceCoin”). We consider that implications for monetary policy transmission from those developments may well become significant in the future – a point that could be expressed more clearly. Staff comments are welcome.

Ms. Pollard, Mr. Grohovsky and Ms. Svenstrup submitted the following statement:

We welcome staff’s efforts and close collaboration with the World Bank to enable responsible financial innovation and increase financial inclusion across the broad membership. Following up on the Bali Fintech Agenda (BFA), this paper is a broad assessment of the various issues and initiatives underway. As many countries are embracing fintech to boost economic growth and inclusion, it will be critical to balance risks to financial system stability and integrity. The results of the Global Fintech Survey emphasized that, in many cases, more work is needed at the country-level to strengthen supervisory and regulatory approaches to fintech, and to address gaps in legal and cybersecurity frameworks. Further international coordination may also be needed on many fintech-related topics, albeit in the appropriate forums.

We thought the overall tone of the report could have been more balanced in terms of tradeoffs between rapid adoption (which may require cleaning up problems after they appear and are widespread) and cautious adoption (preventing problems before they occur, but also reaping benefits more slowly), especially in the headline messages. For example, paragraph 3 strikes an overwhelmingly positive tone as it lists a set of developments in fintech. One of the celebrated developments is the boom in ICOs; heralding the boom without acknowledging the fraud that came with it is overly one-sided. Further, Figure 1 might be more informative if it was based on current realities versus future potential. DLT/crypto, for example, is not yet a widespread, convenient way for consumers to make payments, but it has been given a high benefits rating. Mobile payments, on the other hand, have brought real, tangible benefits to large numbers of people and more obviously deserve a high rating.

The key missing element from this paper is a clear articulation of what specifically Fund staff are doing and plan to do in this space. While the paper notes key priorities for technical support and policy advice from Fund and Bank staff, the paper provides little insight into any specifics of how staff plan to advise their membership (e.g., to what degree will legal, regulatory, and supervisory recommendations be dispensed?). To reiterate our view from the BFA Board, we think that staff's focus should be monitoring fintech developments in terms of implications for global financial stability and financial integrity, as well as covering these issues at a country level in bilateral surveillance where the issue is truly macro-critical. As appropriate, the Fund could also play a role in helping members build capacity with respect to financial innovation, again where macro-critical. Given its global membership and convening role, the Fund can also provide a forum for members to share knowledge and discuss common experiences on topics within its mandate.

This will entail shifting from the all-inclusive perspective of the BFA and this report to focus on a few core elements that are consistent with the Fund's mandate and comparative advantage. For example, we appreciate staff's ongoing work to: analyze cross-border payment channels; enhance AML/CFT frameworks; strengthen cybersecurity capacity among low-income country regulators and supervisors; and provide critical analysis of virtual currency proposals in bilateral surveillance. Each of these represent tangible areas of engagement that leverage the Fund's global membership, and where staff have unique expertise and help fill clear analytical gaps. We would appreciate an overview on how staff plan to integrate aspects of fintech into their existing work and/or what specific guidance staff will promote on these topics.

Staff's work on fintech must also be prioritized in the context of resource constraints and the Fund's broader surveillance mandate and priorities. We note that over 30 staff members, in addition to many Bank staff, are credited with producing this paper. Further, we have seen a proliferation of coverage of fintech in bilateral surveillance, including FSAPs, where staff acknowledge that the topic is not a stability risk or macro-critical. This breadth of fintech work is particularly striking in the context of reported deficiencies in core financial sector skills and monetary policy knowledge broadly across staff—as noted in the recent IEO reports on financial sector surveillance and unconventional monetary policy—as well as the stagnant growth of the MCM department. This begs the question of how much staff time is being spent on fintech work versus enhancing core, macro-critical financial sector surveillance and monetary policy efforts. Could staff provide the number of FTE working on fintech issues? We look forward to better understanding and analyzing the trade-offs in the context of the upcoming surveillance and FSAP reviews.

Of course, the line between fintech and the Fund's traditional core areas of engagement is blurring. To this end, "fintech" will ideally not be a new workstream in and of itself, but instead integrated into the existing areas where staff are already engaging and have expertise. We recognize that will be important for staff understand how technological developments have and may impact their traditional areas of technical expertise to maintain the relevance and credibility of Fund advice. We think that internal capacity development—either through trainings or knowledge exchanges—would be the most appropriate channel for this, as opposed to surveillance where the topic may not be macro-critical.

Given its broad membership base, we recognize that the Fund's engagement on fintech issues is complementary to other international forums and standard-setting bodies. We urge staff to continue monitoring and observing the guidance set out by the standard-setting bodies. However, we think it is premature for the Fund to call for the creation of new standards or the development of pathbreaking legal, regulatory, and supervisory frameworks.

Finally, we note that there is great potential for countries to harness the benefits of technological innovation to promote higher and more inclusive growth. At the same time, we agree that there is significant uncertainty in this space as technologies are novel and evolving. It is therefore important to avoid subscribing prematurely to policy prescriptions that risk stifling innovation and that any future policy recommendations are based on sound data and established evidence of risks. Regarding new financial regulatory experiments such as sandboxes, we should be cautious about drawing generalizations for global audiences at varying stages of development, given the implications on capacity, resources, and oversight could differ significantly across jurisdictions.

Mr. Fanizza and Ms. Cerami submitted the following statement:

We thank IMF and World Bank staff for their well written report, which takes stock of the main developments of the fintech sector across a large share of the membership. Given the Board's broad call for conducting such an exercise on approving the Bali Fintech Agenda, it is regretful that many countries did not respond to the IMF-WB Global Fintech Survey. Nonetheless, its findings are very helpful and reinforce the case for an active role of the two IFIs in fostering the cooperation among national competent authorities, international organizations, and standard setting bodies.

We welcome the growing focus on fintech topics within Fund's surveillance and capacity development. Emerging trends and policy issues related to fintech should be discussed within Article IV consultations and Financial Sector Assessment Programs whenever deemed macrocritical. So long as international standards and best practices are still being developed, the Fund's surveillance can provide a valuable opportunity for deepening the understanding of fintech trends and policy implications. For this reason, we support staff's principle-based approach to policy recommendations adopted so far, which focused on risk mitigation. Similarly, we agree that capacity development initiatives should focus on facilitating peer-to-peer information sharing and workshops to discuss emerging trends.

We broadly agree with staff analysis of the emerging policy issues identified in the paper. These issues are well captured by what the report rightly identifies as the main challenge faced by national authorities, that is trying to balance the objective of unleashing the fintech potential for reducing information asymmetries thereby enhancing financial deepening, inclusion, and competition on the one hand, and safeguarding financial stability, integrity, and consumer protection on the other. The trade-offs between these competing policy objectives will inform the debate on fintech opportunities and risks in virtually all financial services, from payments to lending, investment, and insurance.

We concur on the areas identified as urgent issues, most notably avoiding the risk of regulatory arbitrage, mitigating AML/CFT risks, establishing robust data frameworks, and strengthening cybersecurity. Greater international cooperation will be needed to enable the development and convergence of strong regulatory frameworks and reduce the scope for regulatory arbitrage within and across countries. As a necessary precondition for regulatory convergence, there is also a need to develop international standards, most notably a common taxonomy of crypto-assets. We share the concern about the potential illicit use of crypto-assets and look forward to the upcoming FATF Guidance on AML/CFT risks related to crypto-assets, which should also inform Fund's financial surveillance work. Equally important will be establishing robust data frameworks, which clearly define rights and obligations, ensure consumer privacy, national security, and resiliency against cyber risks, without raising unjustified barriers to new entrants and across borders. We emphasize the importance of a collective and wide-ranging approach to cybersecurity to prevent that different security incident reporting frameworks not only unduly increase reporting burdens for market operators but also hinder prompt reaction to cyber-attacks. Building a robust technological, legal, and regulator infrastructure will be key to mitigating emerging risks and overcoming public distrust in new technologies, which may hinder their full exploitation.

We support staff's approach on fintech so far and encourage further analytical work, particularly on SupTech. We support the Fund's role in promoting greater international cooperation on policies issues related to fintech, including enhancing convergence on regulatory approaches towards data protection and cybersecurity. Drawing on its surveillance activity, the Fund is well positioned to further analyze fintech applications for supervisory purposes that are being considered or adopted by the authorities. We also encourage staff to continue to stay abreast of fintech trends and to develop internal expertise on these matters.

Mr. Kaya, Mr. Just and Mr. Stradal submitted the following statement:

We thank staff for their informative paper which charts and categorizes a complex landscape of fintech solutions and informs policymakers in their regulatory work of this fast-evolving sector.

We take note of the fintech topics playing an increasingly important role in the bilateral surveillance and we welcome that the Fund's focus is on risk prevention and mitigation which is aligned with the traditional division of labor between the IMF and the WBG. Having said that, it is clear from the report that the Fund is still in the initial stages of engagement and any kind of "institutional view" is far from being formulated. Against this background, we continue to view the Fund's role in the near future primarily as a platform for exchanging experiences, including with the regulatory approaches and trade-offs, and for comprehensive and internationally consistent data collection. During the period of knowledge accumulation, we caution against overly prescriptive policy advice in the context of bilateral and financial sector surveillance.

We are surprised by the low response rate to the survey, particularly in the low-income countries. One interpretation is the lack of institutional preparedness as stated in the report. Another interpretation might be that the authorities in many member countries do not perceive the fintech agenda as their high priority. A deep reflection on both is necessary for positioning the Fund's work devoted to fintech vis-a-vis Fund's traditional agendas competing for limited aggregate resources.

We broadly agree with the analysis of policy issues discussed in the Review of Selected Fintech Topics. With regards to the regulatory sandboxes, we take note of the inconclusive verdict on the relative costs and benefits and concur that they require careful consideration of and compatibility with the existing legal and regulatory framework and underlying market conditions. The paramount consideration should be to prevent regulatory arbitrage between the traditional and new generation financial services providers as well as across borders. Sharing international best practices and experience with the operation of sandboxes would be useful for later adopters. We are also of the view that a clear ex ante statement about the purpose of a sandbox and a transparent ex post assessment of the results against this objective(s) would be beneficial.

While the technological innovations may at some point in time increase the contestability of some market segments, they do not eliminate the inherent economies of scale and scope in the financial services sector. In contrast, they may facilitate exploiting economies beyond the financial service sector by integrating them with other sectors on large platforms offering various non-financial services. From a regulatory perspective, the emerging global reconfiguration and possible decentralization of the financial services sector requires close scrutiny from the competition policy angle, based on criteria that are able to address the characteristics and dynamics prevalent in contemporary industrial organization. The potential cross-national and cross-sectoral character of future financial services' value chain, and the role of competition policy could have been given stronger emphasis in the paper, in line with the reasoning in the Chapter 2 of the latest World Economic Outlook on corporate market power.

The areas identified as urgent issues needing attention by national authorities and international bodies are well selected. However, there is a wide regional dispersion in terms of urgency depending on the use of specific technologies, business models, products, and services. We fully support prioritization of work on data frameworks in order to avoid regulatory "blind spots" as some risks migrate to non-bank financial services providers. The

Fund is well-positioned to play coordination role and facilitate sharing experiences among countries with similar fintech trends developing. We also encourage staff to be highly attentive to AML/CFT risks pertaining to new payment solutions.

Finally, if the Executive Board is to play a meaningful role in strategically guiding the fintech agenda within the Fund, it is impossible to talk about priorities and work streams, while ignoring the cost side of the discussion. Could staff provide information on resources dedicated to fintech in the Fund's bilateral and multilateral surveillance, as well as in capacity building in the past fiscal year and the expectations for the current fiscal year? We would also like to know more about how the burden of the fintech work is shared between the area and functional departments in the IMF, what the experiences with the current setup are, and whether any organizational changes and/or resource shifts are envisaged in the near future.

Mr. Geadah and Ms. Merhi submitted the following statement:

We welcome this timely update to review Fintech developments drawing on country experiences. We also reiterate our support for Fund and World Bank engagement in this area, where their unique positions and universal membership allow them to play a key role in fostering international cooperation. While steps are taken to reap fintech benefits, caution needs to be exercised to address risks posed by new financial technologies, including through regulation, data and consumer protection, and cyber security.

We agree with the issues identified by staff as urgent that require attention by national authorities and international bodies. While fintech experiences varied across countries, the paper clearly indicated common concerns regarding cybersecurity, money laundering and payment services, and regulatory and data frameworks. There is a need for greater international cooperation, in which the Fund can play a big role particularly in cyber security and ML/FT risks; legal, regulatory and supervisory frameworks; payment and securities settlement systems; and cross-border payments. We welcome calls for greater international cooperation and guidance on how to address these emerging issues, while leveraging technological advances to promote growth and financial inclusion. We concur with staff that enhanced cooperation would help mitigate risks of regulatory arbitrage and potential inconsistencies in the cross-border application of laws and regulations.

Many countries in our constituency are actively working on developing strategies to help develop fintech services and mitigate related risks. We welcome the coverage of this region in the report but suggest that the coverage be updated.[1] Recent measures include setting up Fintech units in central banks, introducing regulatory sandboxes (examples are Bahrain and the UAE), creating venture capital funds for fintech start-ups, and establishing Fintech accelerators and innovation hubs in partnership with the industry. Central banks in Bahrain, Egypt, Jordan, and the UAE adopted specific initiatives to regulate digital payment services. Bahrain, Lebanon, and the UAE introduced crowdfunding regulations. The launch of Bahrain Fintech Bay last year, which is the largest Fintech hub in the Middle East, provided a collaborative platform for cooperation in the region. The Central Bank of Bahrain has recently introduced regulations on Digital Financial Advice "Robo-advice". The authorities also recently launched a GCC Fintech working group for cooperation among regulators, and some joined the global sandbox allowing firms to test services in different jurisdictions.

Fintech presents important opportunities to deepen financial institutions and promote financial inclusion in the MENAP region, which has a large unbanked population, sizeable gender disparities in access to financial service, large rural populations and limited access to finance, as well as informal transfers. Despite the progress made in many countries, more needs to be done. We agree on the need to harness the potential of Fintech to address many longstanding barriers to financial sector deepening, inclusion, and development. Gaps in the legal frameworks are widely acknowledged, as is the need to modernize data governance frameworks. In some countries, there is a need to address physical infrastructure gaps like limited penetration of broadband and mobile telephony; financial infrastructure, including gaps in credit reporting and payment systems; and gaps in the digitization of government systems. We agree that data frameworks are currently not heavily discussed in international forums. As open banking or open API continue to become more popular in fintech development, there is potentially a need for more formalized data frameworks to facilitate the development of open banking or open API. We, therefore, support the proposal of a global dialogue

[1] The Figure on Fintech trends on page 53 compares Fintech growth in 2011-15. Bahrain and the UAE have made significant advances since then: the Central Bank of Bahrain was the first financial regulator in the MENA region to establish a dedicated FinTech and Innovation Unit. Bahrain was also the first country in the MENA region to launch an onshore Regulatory. Bahrain has as of today licensed a total of four mobile payment wallets. In addition, Bahrain was the first mover on open banking. Retail banks were given a deadline to comply with Open Banking regulations by June 30th, 2019. In the UAE, the Dubai International Financial Center launched DIFC FinTech Hive which gives FinTechs, InsurTechs, RegTechs, and Islamic FinTechs access to accelerator programs, and mentorship. The Abu Dhabi Global Market launched a tech hub with AED 535 million funding scheme. It also launched the world's first fully digital courtroom and a comprehensive crypto asset regulatory framework. The UAE also introduced the Emirates Blockchain Strategy, that aims to transform 50 percent of government transactions into the blockchain platform by 2021 and is currently developing its national Fintech strategy.

for such development and see the potential for the Fund to help member countries identify these gaps and provide advice on addressing them. It would be useful for the Fund to monitor developments in these areas, including by updating surveys on a regular basis, sharing information with member countries including updates of this report, and continuing to hold regional workshops for exchange of information. We also see merit in the development of international standards or good practices by SSBs to help countries evolve their legal and regulatory frameworks. We note that the impact on monetary systems and financial stability has been limited so far, but we agree that this could change quickly.

We are concerned by techfin developments in some countries, including deposit taking, credit provision, insurance, soliciting and advising investors, and selling financial products. These tech firms have created integrated digital finance platforms for all kind of financial services, such as stored value facility service, retail payments, cross-border transfers, investment services, credit provision and insurance services. Such growing practices pose a challenge to central banks and regulators because the typical regulatory model is based on well defined and regulated institutions. The blurring of distinctions between banks and non-bank financial service providers may also bring challenges in ensuring that regulatory frameworks remain robust and regulatory arbitrage opportunities are mitigated. Given the continuing rapid developments in the fintech space, it is unclear whether central banks and regulatory authorities have sufficient data and information to track accurately some of these developments. The IMF may consider further exploring techfin developments and providing assistance to central banks in responding to such developments. We look forward to the IMF's guidance on these issues to inform the membership's regulatory agenda.

Going forward, IMF capacity development efforts should continue to support the membership and facilitate the exchange of knowledge. Technical assistance to address capacity gaps could also help to promote financial inclusion. We would be interested to learn from staff about the expected impact of the additional work on fintech in terms of resource allocation. Some of the areas such as addressing foundational infrastructure constraints (e.g. access to payment systems), central bank digital currency, and cybersecurity have already been or are currently being dealt with by other international committees or working groups, i.e. BIS, CPMI, FSB and Basel Committee. We would welcome more information on the coordination with other bodies such as the FSB, BIS and the FATF.

Mr. de Villeroché, Ms. Mahasandana, Mr. Heo, Mr. Rashkovan and Mr. Ronicle submitted the following statement:

> We thank staff for a comprehensive overview of country experiences and useful selection of areas for potential future work. The paper provides a helpful and timely summary of how policymakers are reacting to numerous challenges raised by fintech developments and shares the experience of a wide range of bodies engaged in these issues. It therefore delivers well on previous calls for a summary of cross-country experience.
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> Globally, policymakers need to enable innovation and empower competition while ensuring monetary and financial stability. However, to achieve that: new agile & flexible supervisory approaches will be needed, recognising that not all risks should be tackled uniformly if innovation is to prosper; closer engagement will be needed, involving domestic agencies and international bodies, to avoid the emergence of gaps in oversight and to prevent fragmentation; and information will need to be shared effectively, to generate a common understanding of both emerging benefits and risks. In this context, the Bali Fintech Agenda remains an important articulation of the opportunities and risks from fintech for policy makers.
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> We continue to believe that technological innovation in financial services has the potential to yield significant benefits, increasing competition, improving consumer choice and raising financial inclusion. However, there are many types of financial technology (as shown clearly in Figure 1), and these can have different risks and implications, and the appropriate policy responses will differ. At the same time, the Fund's membership varies widely in terms of economic development, financial sophistication and institutional arrangements. In this context, we encourage the Fund's prioritization of work on these topics in the context of bilateral surveillance to be proportionate with the potential impact of fintech (i.e. relative to other macro critical issues).
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> To balance resource constraints with the growing demand from the membership, the Fund needs to continue focusing on areas where it can provide the most value-added to international fora and its membership. A range of domestic and international standard setting bodies (SSBs) are already working on the various strands of work identified in the paper. While the Fund should not be attempting to replicate or replace their mandate and their functions, it can usefully complement the work of other bodies by conducting a cross-border analysis of the different regulatory initiatives and their economic and financial spillovers, as well as by supporting authorities as they seek to understand and respond to technological developments in the financial

sector. More specifically, we think the following considerations can help structure the Fund's work on the issue, in line with the pillars of the Bali Fintech Agenda:

The Fund can undertake valuable research that provides insight based on cross-country experience (pillar XII.), which in turn is incorporated into country surveillance and capacity development. The Fund could also follow up, through Article IVs and FSAPs, on how any future international standards on fintech are implemented within the country context (pillar VI.). In this vein, we welcome fintech discussions that have been taking place in recent FSAPs on a pilot basis.

Fintech issues should be considered where they fall within the Fund's remit. In this vein, we see merit for the Fund to analyse (1) how fintech changes the structure of financial systems, including through Artificial Intelligence (AI) and algorithmic trading, and how the resulting cyber risks could affect financial market stability (pillar V.), as well as how these changes affect cross-border flows, consumer and investor protection, market integrity, payment systems, tax avoidance, and money laundering and terrorist financing, (2) how e-payment, digital currencies and central bank digital currencies (CBDCs) affect transmission of monetary policy (pillar IX.), (3) how fintech (and more broadly the digital economy) affects financial intermediation, capital mobilization and investment, and hence growth and productivity (pillar V.), as well as (4) how fintech developments could further enable financial inclusion (pillar IV.) and support Correspondent Banking Relationships (CBRs).

We welcome staff's analysis of fintech experiences in some emerging countries. These provide valuable insights, such as the acknowledgement that a sandbox may not always be the appropriate model in all countries as it can be complex and costly to run. However, we also believe that the interaction between fintech and development merits further attention. In particular, we see value to having a greater flow of communication between regulators and fintechs in emerging markets; industry bodies that speak for the fintech community are not commonplace in developing countries. Moreover, we think the Fund needs to remain vigilant to any unintended consequences that new international standards might have on emerging markets and smaller countries. The Fund could also play a role in voicing the concerns of this particular segment of the membership. We would be grateful if staff can reflect on this in future work.

The paper provides a wealth of information and a good overview of Fund activities in the area, but we wonder how the Fund decided on its coverage of Fintech issues. Looking at the paragraphs 6 to 13, it seems that the World Bank has made significant progress in covering fintech issues and defining their approach towards fintech. The current Fund activities in the area may have been the right course of action in line with the Fund's mandate but we would be grateful for the rationale behind this. In particular, did staff analyse what weaknesses and strengths the Fund has in covering fintech developments, and where the biggest internal challenges lie?

In this context, it would have been useful if the identified developments were structured around the twelve pillars from the Bali FinTech Agenda. We would like to see in the next update to the Board, a more forward-looking view, which should provide possible guidance on where we see the Fund's role in covering fintech issues in the future, and what capacity and other resource constraints we face in achieving these goals. In that vein, the following issues seem to us particularly pertinent:

Issues related to the interaction between data (access, protection and security), consumer protection (information legibility, clarity of accountabilities, transparency of algorithms) and AML-CFT risks, which have received insufficient coverage at this stage (pillar X.). In this respect, we commend the amendment of the Financial Action Task Force (FATF) standards in October 2018 to cover activities or operations involving virtual assets. We see space for further work on the role of fintech in supporting AML/CFT measures and assisting small states with regulations for cryptocurrency and blockchain technology. One particularly challenging area of further work for the Fund will be teasing out where the line lies between legitimate controls on the cross-border movement of data vs. overly stringent localisation requirements that are effectively forms of protectionism.

The report is relatively light on developments in “regtech” and “suptech” and the advances regulators are making in working with industry participants to develop technology-based ideas to address specific regulatory and supervisory challenges (pillar VI.).

The emerging trends section could mention the increasing interest in green/sustainable finance and fintech (i.e. how firms can develop innovative solutions to assist in the transition to a greener economy).

On crypto-assets as well as on decentralised financial technologies (like blockchain) we encourage the Fund to keep working closely with SSBs and national authorities on the effectiveness of their multilateral responses in helping countries identify risks originating from gaps in regulation (notably with respect to AML-CFT, investor and consumer protection issues), market fragmentation or regulatory arbitrage (pillar VIII.).

On market power and impact on the structure of competition, we see merit for the Fund to monitor and analyse developments of financial global chains, taking into account that its supervision is getting more complex with “Bigtechs” likely to obtain a dominant position through the achievements of economies of scale (pillar III.). The recent April 2019 WEO provided some evidence that market power has negative macroeconomic implications. In the context of fintech developments, existence of market power could also pose a range of risks. Assessment of risks associated with the use of technologies such as ‘cloud’, where there are only a limited number of capable and qualified service providers, should not be limited to cybersecurity risks, but also concentration risks, regulatory challenges, etc.

We agree that initiatives reflecting the need for the law to grow with and adapt to market developments should be closely followed by the Fund. In this vein, we also appreciate staff’s call for developing legal and regulatory approaches (pillar VIII.). However, we believe this may not be the most appropriate response in every case since law-making is usually a complex and lengthy process and at this stage fintech appears to be developing too rapidly for some areas of law to realistically keep up with it. Looking ahead, we note that the legal status of some technological change activities, in particular crypto-assets, stable coins and other balances recorded on Distributed Ledger Technology (DLT), remain to be formalized. The assessment of their impact on firms’ business models will be valuable.

Finally, we welcome staff’s analysis on potential risks related to fintech. However, we would also like to stress that mitigating negative outcomes when risks crystallize can be as important as reducing risks ex-ante. In that vein, we think firms and supervisors should not only focus on reducing the chance of a successful cyber-attack (or other potential disruptions related to fintech) but that they also have plans in place to deal with the fall-out when it takes place.

Mr. Mouminah, Mr. Alkhareif, Mr. Keshava and Mr. Rawah submitted the following statement:

We thank staff for a comprehensive paper, which offers a useful background on country fintech experiences and identifies key emerging developments and policy issues. In this regard, continued in-depth analysis will be essential to deepen the understanding of how the fast-changing fintech developments would influence the provision of financial services as well as impact efficiency, financial stability, integrity, and inclusion. In this context, we appreciate review of selected fintech topics and look forward to further coverage in future staff papers. We are in broad agreement with the staff analysis of emerging policy issues and would like to make the following remarks.

Striking the right balance in setting policy priorities is key to harness the potential benefits of fintech while managing risks. Despite the heterogeneity within regions and across countries, we note with satisfaction the progress made in many fintech-related aspects, resulting in better delivery of financial services and financial inclusion gains. However, several gaps remain, including in the adequacy of needed foundational infrastructure and the development of an accommodative regulatory framework. In this context, countries should advance their fintech agenda tailored to their circumstances while putting in place adequate safeguards to ensure financial stability and integrity.

We support the call for further enhancing international cooperation on fintech. This is in line with priority areas identified by country authorities, notably cybersecurity, AML/CFT, development of legal, regulatory and supervisory frameworks, payment systems including across borders, to name a few. Also, we see merit in developing new international standards or best practices by SSBs regarding crypto assets, mobile money payment services, and P2P lending, as this would help countries in adapting their legal and regulatory frameworks. Furthermore, market concentration concerns and privacy issues deserve close attention. In a non-cooperative and uncoordinated environment, we would risk new areas of financial market fragmentation, which might lead the global financial system to lose some of the benefits that digital innovations in the financial sector could bring. Separately, while the need for greater international co-operation is clear, there is also a need for greater domestic co-operation between financial and non-financial regulators and government bodies in relation to regulating fintech solutions that cover multiple industries, developing interoperability systems, improving financial and digital literacy.

The Fund should continue its important role on raising awareness about emerging trends and practices in fintech and expanding its engagement in Article IVs and FSAPs. In this context, the Fund is well-placed in providing policy advice within its mandate focusing on cross-border capital flows, financial integrity, and monetary system and financial stability. Here, we take positive note of discussion on fintech topics within a growing number of Fund Article IV consultations and FSAPs and encourage staff to continue this practice whenever the fintech issues are macrocritical. In our view, it may also be useful to keep abreast of research on potential security flaws in hyped “unbreakable” systems. For example, a forthcoming MIT study[2], mentioned in a WSJ blog by Prof. Stuart Madnick of MIT, intends to dispel an important notion that blockchain technology can protect data from misuse. Raising awareness about such issues will be helpful to many country authorities. Staff comments would be appreciated.

The Fund should strengthen its capacity development (CD) activities. We note that the current CD efforts are limited as outlined in paragraph 10. We would welcome staff elaboration on plans to expand this activity as in-house expertise is built and international standards on regulatory approaches develop. CD efforts in low-income countries, in collaboration with the World Bank, will be especially useful as financial inclusion is one of the areas where fintech solutions have been identified as potentially transformative.

Finally, staff should pursue further work. Fintech innovations could offer opportunities for Islamic finance to contribute to financial development and inclusion for many countries, but further analysis in this regard would be useful as Shariah compliant fintech continues to grow. Here, we reiterate our call for continued engagement with the IFSB. In addition, we note that several central banks in different jurisdictions are exploring CBDC where the objectives vary according to country-specific circumstances. Here, it would useful to conduct further analysis to better inform the membership about the potential implications and appropriate measures to mitigate potential risks.

Mr. Palei and Mr. Tolstikov submitted the following statement:

We welcome the joint IMF-World Bank overview of the recent developments and challenges in the Fintech area. It provides a wealth of information on various aspects of ongoing deep transformation of the financial services inspired by the progress in information technologies. The report has benefited from the unique position of both institutions with their global outreach and universal membership. The overview is based on responses to

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[2] https://blogs.wsj.com/experts/2019/06/06/blockchain-is-unbreakable-think-again/?emailToken=JRv9d/B9YH6QhNw1ZswW8BhyM/kiTr/UGQg=

the global survey from 96 countries, as well as from in-depth bilateral discussions with the authorities, standard-setting bodies, and market participants.

The report is a valuable addition to the broader efforts of the IMF in improving awareness of the potential benefits and risks of Fintech. While it does not provide specific prescriptions, it highlights critical policy issues related to Fintech and encourages further discussions. We also appreciate the Fund's efforts to deepen understanding of Fintech-related issues through its analytical work, Article IV consultations and FSAP. Promoting knowledge sharing, multilateral dialog and international cooperation should be the focus of the Fund's work in this area.

We support staffs' call for further discussions on the impact of Fintech developments on financial inclusion, capital markets development, insurance sector, Islamic finance, financial regulation and monitoring, legal and data frameworks. As most innovations, Fintech has positive and negative sides, and it is important to find the right ways to reap the benefits while minimizing the risks. In this respect, we would like to highlight a few issues.

The promise to improve financial inclusion and to widen SMEs' access to financial services is considered as one of the major benefits of fintech technologies. While it remains to be the case, the report usefully highlights new risks to financial inclusion, such as deepening exclusion of marginalized groups, discrimination, risks to privacy and consumer protection. There is a need for policymakers' better awareness of this dark side of Fintech in order to find mitigating measures.

The impact of Fintech on the insurance sector could be disruptive, as greater awareness about risk profiles of individuals and businesses and personalization of insurance may undermine the solidarity principle, which is the foundation of the insurance industry. There is a need for further discussion among regulators to find a solution to the emerging challenges.

The growing role of large technology companies (LTC) creates new challenges to financial industry and to regulators. Given their comprehensive access to private information and enormous customer base, reliance on artificial intelligence and machine learning technologies (AI/ML), the major LTCs may not only be strong competitors to established financial companies, but also gain unprecedented control over the lives of people. We agree that these developments point to the need to strengthen monitoring beyond the present regulatory perimeter.

The report rightly underscores the need for global dialog to help create effective and safe data framework. The future of Fintech depends on the ability to establish common rules regulating use of individual data, which take into account risks to consumer protection, privacy, cybersecurity, and financial stability. The issue of data localization is one of several contentious points in this area. Rules on data localization have to balance the conflict between economic efficiency and security and privacy concerns, which may be difficult.

Among various Fintech-related topics the issue of Central Bank Digital Currencies (CBDC) is the closest to the Fund's core mandate of maintaining monetary and financial stability. A substantial number of central banks indicated their interest in issuing CBDCs and a few are already experimenting with them. The Fund should closely monitor these developments and continue its research of various aspects of the CBDC's impact on the financial and monetary system.

Cybersecurity is considered a key risk to the financial sector by an overwhelming majority of the Global Fintech Survey respondents. However, there is still a lot to be done to improve resilience of the financial sector to cybersecurity risks. It is also important to increase awareness of concentration risks created by dominance of big service providers. In this regard, the Fund should continue efforts in providing advice and technical assistance to its members, especially on improving institutional capacity in EMDE.

Overall, we welcome the Fund's efforts in deepening understanding of the Fintech-related issues. The Fund's position at the center of the global financial safety net requires a proactive approach to management of the risks to financial systems, including the risks arising from technological developments. At the same time, we reiterate that the leading role in developing the regulatory standards for fintech belongs to the relevant international standard-setting bodies. In this regard, the Fund should remain within its mandate and avoid duplication of work with the respective SSBs. We see the primary role of the Fund in helping its members to identify and disseminate best practices.

Mr. Inderbinen, Mr. Trabinski and Mr. Danenov submitted the following statement:

We welcome the paper's comprehensive overview of the opportunities and key risks associated with fintech. We agree that balancing potentially competing policy priorities is essential. The challenge remains to create an environment that enables innovation, given fintech's potential to enhance efficiency, competition and financial inclusion, while keeping risks and vulnerabilities in check. As noted in the paper, fintech's impact on financial stability and monetary systems is limited at present. However, continued monitoring of developments is warranted, given the dynamics involved. Emerging challenges, risks and benefits differ across countries, which needs to be taken into account in the IMF's and World Bank's analytical and policy work.

We see a need to better delineate the role of the Fund. The Fund should focus on activities that add the most value, i.e., on areas where potential benefits or risks are substantial and thus justify the costs. While we support continued learning and the build-up of in-house expertise to be able to conduct high-quality surveillance and provide technical assistance, the Fund's resource allocation to this work stream should thus be commensurate with the macrocriticality and compatible with the institution's core mandate and areas of expertise. In this regard, we would find it useful to have a clearer understanding of the amount of Fund resources currently devoted to fintech issues and of potential trade-offs in resource reallocation.

The Fund has a key role in promoting information sharing and capacity development. Facilitating international coordination and exchange of views on fintech is valuable. We also continue to see scope for technical assistance to those members that express a need. Risks, including cyber risk, are particularly challenging for developing countries, given their more limited capacities and potentially higher reliance on fintech to promote financial inclusion. The Fund should support these countries in establishing sound supervisory and regulatory frameworks. In doing so, existing instruments should be utilized, and scaled up if needed, before setting up new modalities of support. The Financial Sector Reform and Strengthening Initiative (FIRST), a joint WB-IMF trust fund and a major provider of financial sector technical assistance, is particularly well suited to play this role. Moreover, the AML/CFT Topical Trust Fund could serve countries in dealing with fintech-related challenges in a possible next phase. More broadly, we would like to ask staff how the work on fintech relates to joint IMF-World Bank work on related topics, such as Regtech or Govtech? How are responsibilities delineated in these related issues?

The Fund should gradually integrate fintech into bilateral surveillance, if and when warranted by the level of risks. It will be essential to duly account for country-specifics, including institutional arrangements and the design of particular measures. Given that there is no one-size-fits-all approach, assessments should concentrate on the effectiveness of given policies and frameworks.

Overlap and duplication of work should be avoided. The FSB and FATF in particular, as well as national authorities, are already undertaking considerable work on fintech. To ensure efficiency and effectiveness, the Fund should respect the mandates of other organizations and bodies and leverage their expertise to the extent possible. The Fund should not assume the role of a standard setter. Once standards are set, staff should incorporate them into surveillance and capacity development. Taking into consideration the work done by the standard setting bodies, we would be interested to better understand where staff sees its role and unique advantage in providing countries with adequate support?

As to the selected fintech topics, we emphasize the following points:

At this stage, risks related to ML/FT are the main key concern. Therefore, we appreciate the recently amended FATF standard on virtual assets and related providers, and we call for a swift implementation by all countries. Risk awareness and financial literacy should also be enhanced to avoid risks.

We consider cybersecurity issues as equally important. While data controllers and processors need to maintain adequate standards to prevent data loss, corruption, unauthorised access and misuse, more has to be done to better map cybersecurity gaps in order to strengthen the resilience of financial systems. This includes adequate monitoring of risks related to third-party service providers. As indicated by the survey of member countries conducted by staff, there is a substantial interest in greater support of member countries by the Fund. We would be interested to learn how staff perceives its role in providing help to countries to better mitigate their cyber risks?

Consistent and predictable legal and regulatory frameworks are crucial. We take good note that the adaptation of legal and regulatory frameworks to fintech is progressing, and that the initial regulatory response by countries is found to have been largely proportional. Countries should examine their existing frameworks, clarify the applicability in the context of fintech, and adapt them as necessary. Development of international standards and best practices could be helpful in that regard.

There is a need for data protection and governance standards. Cross-border dialogue and cooperation is required to minimize the race-to-the-bottom risk. A level playing field across all activities and regions should allow fintech sector to grow and expand to support and amplify economic benefits.

Establishing sound foundational infrastructures is a prerequisite to harness the potential of fintech. This holds true for both physical as well as financial infrastructures.

Ms. Levonian, Ms. McKiernan and Ms. Vasishtha submitted the following statement:

We thank staff for this timely paper which responds to the Board's request in October 2018 to build on the Bali Fintech Agenda. We welcome staff's approach to take stock of fintech experiences in member countries, including through the joint Fund-Bank survey of the membership and the use of novel data sources to explore selected topics. Fintech has the potential to transform the financial system across a broad range of services. Given the pace of advancements, financial institutions, policy makers and new entrants need to work together to create the right environment for modernizing the financial sector while managing the risks that arise from rapid technological change.

We broadly agree with the paper's characterization of the main priority areas for national and international bodies and support the approach taken by staff on fintech issues so far. However, going forward it is important to take a clear, structured approach in determining what the Bali Fintech Agenda implies for the Fund's work program on fintech, while taking into account the resource implications of this line of work. As we look forward to the development of a work program on fintech-related issues, we would like to highlight a few areas of emphasis.

We welcome the discussion of legal issues in the paper as we may be underestimating how the legal framework is going to shape and be shaped by future financial innovation. Effective legal and regulatory frameworks must be developed to reap the benefits of fintech while safeguarding financial stability. International standard-setting bodies (SSBs) have already made important contributions in this regard. We see a role for the Fund in assisting countries in implementing best practices and standards developed by SSBs in a manner that takes into account country-specific circumstances. In addition, given its broad membership and participation in many international fora, the Fund is well placed to promote coordination among organizations and facilitate clear delineation of responsibilities in specific areas.

The Bali Fintech Agenda acknowledges the role of the private sector in leading fintech developments and recognizes the importance of knowledge sharing between the private and public sectors. Many countries are actively engaging with the private sector to address innovation in financial services. The paper helpfully highlights the role of sandboxes that allow startups to experiment with services without jumping through the usual regulatory hoops. We would welcome staff's views on the potential avenues, if any, for the Fund to engage with the private sector.

The impact of fintech-related developments on the monetary and financial system should be a key area of focus keeping in line with the Fund's core mandate. Specifically, staff's initial efforts should focus on the implications of fintech for cross-border capital flows, monetary and financial stability, the evolution of the international monetary system, and the global financial safety net -- all issues that are central to the Fund's responsibilities.

The Fund is well placed to engage with members under its surveillance and capacity development mandates through policy advice, training and technical assistance. Staff's efforts should focus on continually monitoring fintech developments and assessing their implications in the context of both multilateral and bilateral surveillance. In this context, we welcome the in-depth discussions on fintech issues in some recent FSAPs and Article IV discussions. Given that resources for financial surveillance are already significantly constrained, we would be interested in staff's initial views on the resource implications of focusing on fintech issues in FSAPs. Also, are there any lessons learnt from recent FSAPs in terms of development of staff expertise?

The Fund should also stand ready to provide training and technical assistance in its areas of expertise, particularly to countries with significant capacity gaps. As clearly highlighted in the staff paper, there are important differences across countries and regions in fintech-related developments and the adequacy of existing legal frameworks. While different countries will have different needs, many will be increasingly looking for advice and guidance from the Fund as a trusted advisor. For example, many small states are actively engaged in fintech issues but may not have full access to the international knowledge base. Besides enhancing its own expertise in key areas, the Fund can also help connect all members to information and resources. More generally, the Fund should continue to play a convening role, bringing private and public-sector stakeholders together to discuss issues and encourage peer learning.

The survey results identify key areas, including cybersecurity, AML/CFT, legal and regulatory frameworks, payments and securities settlement, and technological knowhow, in which countries would seek help from the IMF and World Bank in policy advice and capacity development. Given the capacity constraints and competing demands on CD resources, we welcome staff's views on the implications of fintech-related developments on the Fund's capacity development strategy.

We agree that data frameworks should be a priority issue and a global dialogue is important for developing effective data frameworks and reaping benefits from fintech. To what extent do the Fund's current data reporting standards capture fintech developments?

Finally, we welcome the ongoing collaboration between Fund and the World Bank and encourage the two organizations to work together, especially in areas meriting collective action, while adhering to their respective mandates. We look forward to future discussions on shaping the Fund's work program on fintech issues and the associated resource implications as the needs of member countries become clearer.

Mr. Raghani, Mr. Sidi Bouna and Mr. Bah submitted the following statement:

We thank staff for an informative and timely report. We welcome the findings of the report which provide valuable lessons to member countries in their efforts to formulate policy responses to rapidly evolving technological financial innovations. These findings will also help address the challenges associated with fintech and strengthen the cooperation between the IMF and the World Bank within their respective mandates.

The rapid advances in fintech within the membership provide economic opportunities but also raise potential risks to financial stability. Country authorities should exercise close monitoring of risks stemming from the unregulated expansion of fintech on financial stability. Moving forward, we agree that it would be important that regulation strikes a sensible balance between creating a supportive space for innovation and maintaining a robust regulatory framework.

We believe that the Fund is well-positioned to provide policy advise based on its expertise in monitoring the stability of the financial sector for the benefit of its membership. In particular, the Fund should continue to assist countries in their efforts to strengthen financial integrity and resilience, through policy advice, assessment of countries' AML/CFT framework, and capacity development in regulatory and legal frameworks and cybersecurity.

We are of the view that the development of fintech in low income countries (LICs) could have a major impact on their economic development, including by accelerating financial inclusion. Sub-Saharan African countries, in particular, have made significant inroads in recent years in the provision of financial services with the use of technology. Mobile money accounts have increased significantly since 2014 and transactions on mobile money represent currently 10 percent of GDP. To sustain fintech's role as an engine of economic growth and financial inclusion, there is a need to strengthen countries' institutional capacity.

In this regard, we encourage the Fund to provide a well-targeted assistance to LICs, including to enhance access of unbanked populations to financial services within an appropriate regulatory framework. In view of the current and potential impact of fintech development on financial services provision, there is a need to deepen the analysis of fintech's implications on countries' monetary systems and financial stability. The Fund is also in a better position to help countries develop appropriate data frameworks and advance the global dialogue on the cross-border fintech benefits.

We welcome the analysis of the implications of fintech on Islamic Finance. Fintech innovation would help promote financial inclusion and also enhance risk diversification. However, it also faces challenges similar to conventional finance and therefore, appropriate safeguard measures to mitigate risks are necessary.

Mr. Gokarn submitted the following statement:

We thank staff for the very comprehensive paper. It provides an excellent overview of the state of fintech around the world and the policy and regulatory challenges that this very rapid, but also quite heterogeneous, development process poses.

A significant contribution of the paper is that it lays out the wide range of priorities and mechanisms characterizing the rollout of fintech across the globe. It appears that virtually every country is actively promoting the use of fintech but clearly, each is doing it in its own particular way. Despite these variations, the paper also suggests that there are early signs of some patterns across groups of countries emerging. We believe that these patterns present the Fund and other international institutions a basis for analytical work that could be useful to members as they move forward along these paths. The basic objective of this analytical work should be to guide members with respect to technologies and products that are appropriate to their context, the legal and regulatory requirements that these imply and the management of risks, both at the macro and sector or enterprise levels.

We frame our views on the issues for discussion against this backdrop. First, while the list of emerging policy issues is quite exhaustive, it seems too wide and too varied to be an effective basis for designing a workplan for the Fund or, for that matter, the collective of institutions engaging on these issues. This is not surprising, given the heterogeneity of priorities, strategies and experiences across countries. But, it gives the impression of a potential workplan being spread too thin. It would be useful to see some prioritization of issues, based on the survey results and other information on country experiences that are reported in the paper. Is staff visualizing prioritization and, if so, what are the issues being considered as high priority?

On the second question, we again broadly agree with the set of issues listed. However, going back to the reference to emerging patterns earlier in this gray, we see "urgency" as being context-specific. Different groups of countries will need to address different sets of issues depending on where they are on the fintech trajectory. For those in the early stages of progress, facilitating innovation so as to find commercially viable business models with their attendant technologies and organizational structures will be a priority. Developing appropriate infrastructure may well be a priority in this phase, while concerns about financial stability may arise sometime in the future. For countries further down the road, data protection and cyber security may take on importance. Still ahead, financial stability and systemic risks will obviously emerge as major concerns. To reiterate our earlier point, it would be useful if staff were to categorize countries based on their location on this trajectory and link this up with the urgency of issues. Could staff comment?

Our view on the third issue follows from those on the first two. We believe that the stock- taking that is reported on in the early part of the paper is extremely useful in providing a comparison and contrast on what countries are doing and how they are doing it. This leads us to our belief that some form of clustering is inevitable in designing a tractable analytical agenda. While we found the survey interesting and useful in providing some focus, the limited participation of countries that are likely to be in the early phases of the trajectory suggests that different approaches may be needed to derive a fuller understanding of their circumstances. Ultimately, the Fund and other institutions can add the greatest value to their members fintech initiatives by reducing the likelihood of “wrong” choices – on technologies, products and regulatory frameworks. We believe that the different modes of engagement that are referred to in the paper, via surveillance and CD, constitute the right approach in these early stages of the initiative. Moving forward, however, focus and prioritization will become important and choices will have to be made in terms of potential value addition to different groups of countries.

Mr. Jin, Mr. Sun and Ms. Lok submitted the following statement:

We thank staff for the comprehensive paper which follows up on the Bali Fintech Agenda. Technological innovation is changing financial services and transactions in many ways and the fintech landscape is evolving rapidly. As such, we welcome the preparation of this paper, which helps members keep abreast of key fintech developments across the membership and highlights important policy issues to consider.

As illustrated in the paper, fintech experiences vary significantly both across regions and among member countries. Levels and directions of development also differ from country to country. A tailored approach, taking into account country-specific needs and circumstances, is needed for the Fund to effectively support members as they grapple with new challenges arising from fintech. Going forward, we encourage the Fund to continue to engage in active dialogue with authorities and other international bodies to stay relevant and contribute to this important subject according to its expertise and mandate.

We find staff’s analysis of emerging policy issues to be broadly appropriate and balanced. We welcome the positive impact of fintech solutions on promoting financial inclusion. As fintech continues to expand its reach to remote locations and marginalized groups, it is important that adequate consumer protection, financial education, and other mitigation measures are in place to ensure users are sufficiently protected. The provision of financial services by entities outside the traditional regulatory perimeter also poses an increasing challenge for authorities. In many aspects, more experience may be needed to formulate the appropriate policy response to effectively balance between development and regulatory objectives. We take comfort from the fact that authorities are monitoring emerging issues and making efforts to adapt regulatory and legal frameworks to new technologies. We also see value in enhanced information sharing and coordination both within jurisdictions and across members.

We welcome staff's identification of key issues that require attention by authorities and international bodies, and would like to offer some additional comments below for consideration:

Balancing competing policy priorities. Indeed, this is the key challenge faced by policymakers across the board, and various approaches are being pursued in accordance to each jurisdiction's own needs and circumstances. We believe the discussion of fintech issues, including risks and benefits, in staff's surveillance work has been constructive and encourage staff to continue to refine their recommendations going forward as they build more expertise and knowledge.

Addressing foundational infrastructure constraints. We agree that it is essential to address these constraints to fully harness the potential benefits of fintech. That said, filling gaps in legal and institutional frameworks takes time, and physical infrastructure may be costly to implement. We encourage the Fund to provide advice and technical assistance to support the prioritization and sequencing of the necessary measures to address infrastructure constraints, including by identifying cost-efficient solutions and low-hanging fruits to address the most pressing needs.

Developing legal and regulatory approaches to products, processes, and services. Fintech is a relatively new area, and experiences so far have been rather heterogenous across jurisdictions. We believe more time may be needed before broadly applicable international standards and good practices can be developed. That said, there is significant room for experience sharing and information exchange to help guide authorities in developing legal and regulatory approaches based on their own needs and circumstances. The Fund's convening power would be particularly valuable in this regard.

Impact on monetary systems and financial stability of digital currencies. We share the view that the impact of central bank digital currencies (CBDC) and other digital currencies may be limited so far, but could change quickly. We encourage staff to conduct further studies on how developments in this area may affect the international monetary system in the longer term.

Data frameworks. We see merit in better defining the rights and obligations of various stakeholders to data within the context of each jurisdiction's own legal framework. In doing so, we believe one important angle to consider is how to draw the line and balance between financial integrity/national security objectives and data privacy protection. Meanwhile, a well-defined domestic data framework could also help facilitate a global dialogue on data sharing across borders and improve compatibility across jurisdictions, where appropriate. That said, we believe international efforts in this area should fully respect each jurisdiction's own circumstances and approach to data frameworks, including national priorities.

Cybersecurity. This is a key area of risk, not only in terms of operational resilience but also with broader financial stability implications. Authorities should strive to strengthen defenses against cyber-attacks, and where appropriate, intelligence sharing among authorities may also be helpful.

We generally support the approach by the Fund so far on fintech, and value the inclusion of fintech discussions in surveillance work. Going forward, we encourage the Fund to continue to pursue work on fintech based on its expertise and within its mandate. With a near-universal membership and convening power, we also believe the Fund can play an important role in facilitating international information exchange in this area. That said, given resource constraints and multiple objectives of the Fund, we continue to emphasize the importance of creating synergy with other international bodies and avoiding duplication, and see the need for a holistic strategy to better integrate work on fintech into the Fund's core responsibilities. Staff's comments are welcome.

Mr. Lopetegui and Ms. Moreno submitted the following statement:

We thank staff for the comprehensive paper. Fintech is a dynamic area that deserves attention from the financial stability perspective but also for its implications for economic efficiency, growth, inclusion, and integrity. The Bali Fintech Agenda (BFA) constitutes a turning point in terms of laying out the issues to consider in analyzing how technological innovation is changing the provision of financial services.

We welcome the staff's efforts to take stock of developments since the approval of the BFA. The findings of this paper provide a very good basis for sharing different experiences among countries in building best practices and for agreeing on a common language. We agree with the areas identified as needing attention by national authorities and international bodies. Balancing risks and opportunities will also demand a strong coordination among national agencies which promote the surge of new fintech businesses with others putting more attention on the safety of the overall financial system. International cooperation on cybersecurity is essential to strengthen risk management protocols and improve the response system.

We believe that the staff's approach on fintech has been adequate, resulting in the production of high-quality papers and the organization of global conferences on related topics. One area where more can be done is on assessing the impact of fintech developments and related risks. In particular, it could be very valuable to conduct a first attempt towards quantifying the cost of cyberattacks and the impact on asset prices and/or overseas foreign exchange flows, to name a few examples. Also, it would be useful to assess the positive effects fintech might have on intermediation costs and efficiency, for instance. The analysis could deal with crowdfunding, DLT technology, and providers of payment systems. Regarding the latter, given the important migratory flows in the Western Hemisphere, it would be useful to have a quantification of the gains—if any—of applying fintech in the area of remittances.

One of the main findings of the paper is that there are important regional and national differences with regards to how countries are embracing the opportunities of fintech while balancing its risks. In Latin America more than 700 fintech firms have been identified by the IADB and Finnovista as of 2017, with the more important ones being the crowdfunding platforms.[3] Regulations are very recent and there is plenty of diversity. Moreover, not all countries have issued regulations.

Regulatory sandboxes constitute another example of approaches that have not yet been fully explored and would bring value to the discussion. Regulatory sandboxes have different objectives, one of them being to stimulate competition and innovation. Still, it is not clear if innovations would have taken place if the sandbox had not existed, nor whether the model is applicable to all jurisdictions in the face of different legal framework.

Regarding crypto assets, there is broad consensus that risks may arise but no agreement yet on how to deal with them. AML/CFT regulations currently in place might be insufficient to deal with certain activities. Even in countries where there is a discussion about the nature of crypto assets, there seems to be a convergence towards the view that whichever definition is used, regulations need to be issued. In general terms, some securities regulators have issued public guidelines and others have created special regulatory frameworks for crypto assets, but most seem to be taking a case-by-case approach.

[3] IADB and Finnovista (2018). Fintech. America Latina 2018: Crecimiento y Consolidacion.

Data frameworks have often focused on consumer protection and are being modernized in many jurisdictions. Staff rightly points out that effective data frameworks would reflect a balancing of different policy goals, and that there are implications ranging from economic efficiency to equity, financial stability, and privacy. International coordination could support effective data frameworks, balancing domestic concerns with effective international competition and avoiding market fragmentation.

Regarding large-value payment and securities settlements systems and the alternative of using distributed ledgers, we believe that it is not often clear that the fintech choice is more efficient. In many cases, large payment systems are extremely efficient and low cost. In retail, fintech has made it possible for nonbanks to provide payment services, competing with regulated financial institutions. While this enhances competition, policymakers should strive to provide a level playing field at the regulatory level.

Fintech developments are evolving at a fast pace and regulations need to account for this dynamic environment. We agree that more work is needed but appreciate the excellent work done by staff so far.

Mr. Kaizuka, Mr. Saito and Mr. Naruse submitted the following statement:

We thank staff for the informative report. As fintech is having an impact on incumbent financial institutions and changing the way in which financial transactions are conducted, we regard this IMF's work as valuable which takes stock of country fintech experiences and identifies key fintech-related issues that merit further attention. We are pleased to see that this paper calls for balancing competing policy priorities, namely the sustainment and strengthening of financial stability and integrity, and the promotion of competition, entrepreneurship and the development of the digital economy ecosystem. Last but not least, we appreciate the MD's attendance at G20 High-level Seminar on Financial Innovation in Fukuoka. As the MD's remarks and G20's discussion, technological innovations could deliver important benefits to the broader economy, but we need to remain vigilant to risks. We emphasize the importance of taking such a balanced approach in the future discussion, as well.

The IMF and World Bank Group approved the Bali Fintech Agenda (BFA) last year, and now member countries are encouraged to formulate their own agenda based on the BFA. While adapting legal and regulatory frameworks to fintech is progressing, we note the staff's analysis that countries face multiple challenges, such as continued limited experience and resource constraints. In this regard, we believe that the IMF could continue providing capacity development in the fields, such as financial soundness, regulatory and legal frameworks, and cybersecurity. We hope that the IMF's efforts, i.e., facilitating peer-to-peer information exchange and workshops, could help member countries to strengthen fintech supervision while promoting fintech development.

On the adaptation of regulation, we believe that enhancing the dialogue with a wider group of stakeholders, including regulators, academia, fintech industry, and engineers, is important to fully reap the benefits of technological innovations as well as to facilitate the timely and adequate implementation of policy responses, such as avoiding money laundering. In addition, technological changes are rapid and innovative, and the private sector leads these developments. The legal frameworks might not ensure timely and adequate responses in a certain circumstance. If that is a case, self-regulatory bodies could come into play in the regulatory landscape. Furthermore, the staff's paper discusses the policies related to competition and data protection which are outside the financial regulation. In this light, we agree with the staff's call for strengthening monitoring beyond the present regulatory perimeter, and further enhancing information sharing and coordination domestically and internationally. We believe that a whole government approach (cross-agency approach) is necessary to address the challenges posed by fintech.

On the role of the IMF, the IMF is not a standard-setting body (SSBs), and we believe that the IMF has a role to play to analyze the implications of fintech for growth, external balance, capital flows, and the global financial safety net. In this regard, we note the staff's analysis that the fintech impact on monetary systems and financial stability is limited at present. However, because new technologies are evolving rapidly and continuously, the implications of fintech for monetary systems and financial stability could be significant in the future and thus the Fund should keep itself current on the future development. At the same time, we agree with the staff's view that the uncertainty exits as to how much fintech would change the volume or composition of capital flows and how volatility may evolve. We believe that the developments of fintech is not transient but persistent, so we encourage the IMF to keep observing its changes and influences. Moreover, we expect that the IMF will continue deepening the considerations on the challenges that fintech poses by constructively cooperating with standard-setting bodies, including the FATF. After the development of international standards or good practices by SSBs, we believe that the IMF could assess member countries' compliance with these standards and make necessary recommendations through its surveillance, including the FSAP. Lastly, we appreciate the staff's description of the IMF's approach on Fintech so far, including policy recommendations in Article IV Consultations, pilots in FSAPs, and capacity development. Staff have provided policy recommendations on risk mitigation in eight Article IV Consultations, conducted in-depth fintech discussions in three pilot countries, and provided capacity development through peer-to-peer information exchange and workshops. What is the staff's assessment on these actions so far and what are the implications for the future directions of the Fund's engagements?

Mr. Mojarrad and Mr. Osei Yeboah submitted the following statement:

We thank Fund-Bank staff for the report and engagement with our office. Consistent with Fund-Bank mandates and Board guidance, charting a way forward post Bali must reflect country aspirations on fintech-related issues that seek to promote financial stability and inclusion. We therefore welcome the report's recognition of the varied degree of Fintech applications across the memberships and broadly support the proposed work agenda.

We still see various international bodies like FSB, BCBS looking at isolated aspects of fintech as they relate to their respective mandates. However, we feel that a more comprehensive strategy is warranted, with the IMF leveraging its body of knowledge to ensure macroeconomic stability and a resilient financial sector. Fintech should be promoted based on a holistic approach that incorporates the needs, degree of financial depth, institutional framework and capacity of members in sync with industry regulators and user of financial services as well as with technology within countries and across borders to help create an international enabling environment to boost fintech opportunities, while mitigating inherent risks. As indicated in the report, there is growing utilization of fintech solutions with applications in digital payments, financial inclusion and the regulatory environment—the IMF within the context of surveillance and the Bank in programs. The Bank's Africa Moonshot program to digitally connect individuals, government and businesses by 2030 in particular could be a game changer for SDGs if nationally free Wi-Fi is part of the program. Can staff provide further comments on this?

The survey rightly highlights the heterogeneity within and across regions in the usage and scope of fintech products and technologies, but supervisory and regulatory concerns are shared more broadly, especially where non-bank institutions are involved. Unsurprisingly, systematic monitoring of fintech within the regulatory framework is confined to the periphery. While countries are generally embracing fintech for product enhancements, increased competition and transparency, cost reduction and expanding financial inclusion, there are significant infrastructural, cross-border, legal and security challenges. We therefore agree with the main conclusion of the survey that international cooperation remains paramount to support fintech development, with the IMF and the World Bank having a crucial role to play. Beyond facilitating information sharing and capacity development, close cooperation on international best practices on issues like data protection, and the legal and supervisory frameworks will also promote cross-country payments and other fintech products.

Fully embracing the fintech development, especially by low-income countries, will require significant resources, and this is an area where we believe the Fund could play a role in assessing the fiscal implications of up-front costs. The Fund may need to develop instruments and modalities to play a supportive role through TA as it seeks to help members navigate the complex and important fintech issues to ensure the benefits are harnessed, while the risks are carefully assessed.

We underscore Fintech potential, as highlighted in the selected topics discussed in the report. We also take note of the latent risks of entry barriers as well as cybercrimes and are of the view that, going forward, appropriate mitigating measures must be emphasized to ensure that fintech gap between the advanced and under-developed economies is reduced.

We support the continuation of the consultative approach by the Fund in dealing with fintech issues and reiterate the need to extend and deepen collaboration with other international institutions towards a global regulatory framework.

The Chairman made the following statement:

By way of a pre-introduction, I will encourage you to accept my translation of this front page of the most serious economic and financial newspaper in France, which typically picks its topic as the most relevant for economic prosperity, financial stability, and all the rest of it. It says, “Facebook launches its currency to take over the world.”

Those of you who are following this topic will know about the white paper of Facebook and 26 other international technology-driven companies. They are launching that white paper tomorrow, which will describe in detail the setting up of this Swiss foundation Libra that will host those 27 companies from around the world—most of them in the United States—that will provide the basics, the governance of this new world, where platforms will actually enable the moving around of currencies, provided that people have a digital wallet. That is probably only the beginning, but we are all very interested in seeing what is in that white paper.

We have been a little bit ahead of the curve in that respect. The team has worked very cooperatively with the Bank, where this paper was presented on Thursday, and started working on those issues about two years ago. They started exploring, finding the boundaries, and figuring out how critically important it was or not. There was a lot of initial work around cryptocurrencies. Were they assets? Were they currencies? What was this business? Was it relevant? The conclusion generally was: Not material at the moment, so let us not bother too much. Let markets sort out the players. In a way, that is what happened, for the moment.

What we are facing now is something that is vastly different. Lucky for us, the President of Indonesia, nine months before we had the Annual Meetings in Indonesia, asked us to identify some fintech principles and guidelines. That was actively debated. Some people did not want to have guidelines or principles. We eventually settled on the Bali Fintech Agenda, which sets out the 12 principles.

I want to provide the genesis of how things evolved and how it has responded to the demand of countries—not necessarily the big players, those that are currently hosting quite a number of those fintech companies, but many of the low-income countries (LICs) and some of the emerging market economies, not all of them because some of them are already a long way ahead. They sought some guidance as to who they should accept, how they should tolerate it, what kind of regulatory environment would be helpful, and how they should protect their currencies, their sovereignty, and their financial stability at home. In response to that, the team set out to try to understand what that demand was. The survey was conducted, and so on.

In my mind, there is no doubt that we have helped in the process of raising the issue of stability, the issue of monetary policy, the issue of transmission of such policies in light of what is happening in the fintech environment. I am delighted to have discussed that very recently with such standard setters as the Bank for International Settlements (BIS), for instance, or the Financial Stability Board (FSB). They are now focusing their attention on these issues. They are now setting up groups that are considering those issues much more deeply. We are certainly going to continue to participate and cooperate with them.

In my view, I do not think that fintech is anywhere outside our mandate. It is squarely in the mandate that deals with financial stability, that requires that we understand whether monetary policy is transmitting properly throughout the system.

The point that some Directors have raised is the issue of resources. Because we have addressed those issues through three Staff Discussion Notes, and because we are asked to help countries with technical assistance (TA), and because it has touched on much of the bilateral and multilateral work that we do, we have to deploy an understanding of what is happening, not by adding new resources but by using and scaling up the resources that we have. This is happening quite beautifully in our organization and I am proud of it. There is one person who is not sitting at the table who is a representative of the IT Department (ITD), because in addition to the normal support that we get from the IT Department, there has been some substantial knowledge brought to the team so that the digital transformations that we are seeing at the moment are also appreciated from their perspective, and brought to the team that works on legal issues, monetary issues, and strategy, in general.

I really believe that we are and have been a bit ahead of the curve, and I think it is right that we did so.

The Deputy Director of Monetary and Capital Markets Department (Mr. Narain), in response to questions and comments from Executive Directors, made the following statement:[4]

The Chairman has covered the key points in her remarks with regard to the common issues which were raised by the Directors, particularly with regard to resources, strategy, priorities by staff, and our role. But I will add a some detail.

It is very true that these issues are now being picked up on the agenda of all the international forums and regulatory bodies. In fact, since Bali, the FSB has issued six reports, including two just in the last one month. The Basel Committee has issued two reports. The International Organization of Securities Commissions (IOSCO) has issued one report. The International

[4] Prior to the Board meeting, SEC circulated the staff's additional responses by email. For information, these are included in an annex to these minutes.

Association of Insurance Supervisors (IAIS) has issued two reports, which shows that this is an item which is very much on the agenda of all the bodies today.

With fintech, one of the problems has been that in the past, typically, the most visible debate has been the one around crypto assets and digital currencies, but there are many other issues with regard to the use of artificial intelligence and machine learning, the use of cloud services and other shared services, the use of big data analytics in decision making, Suptech and Regtech, all of which figure into this regulatory agenda. These have already been put on the table, and we hope to see much greater attention to these.

One of the issues which has been raised in the gray statements is about international standards. I should add that international standards are not just minimum standards a la Basel, which require a calibration of capital and liquidity requirements because they have international implications for level playing field issues or jurisdictional arbitrage, but they also refer to good practice guidance, particularly that which is used in risk management, which takes into account business context and business considerations, and finally, also refer to a range of practices.

As of now, much of the work that has gone on in the standard-setting bodies is on the range-of-practices level. We are hoping that this moves further into good practice risk management guidance and, where needed, minimum standards.

Ms. McKiernan made the following statement:

I will start by thanking staff for this helpful paper.

We were one of the chairs that had asked for a stocktaking of developments in fintech. We welcome this timely and comprehensive approach. We thought there was real value added in this paper and especially on the survey and on the EU, some fairly novel data sets and approaches. We commend the Fund and the Bank for the effective collaboration on this issue and for being actively engaged with stakeholders.

Fintech offers great opportunities across a range of services. With that, comes responsibility to manage the associated risks. We agree that now is the time for policymakers, financial institutions, and new entrants to work together to create the right environment for modernizing our financial sector and managing the risks.

This is such a large and diverse and growing field that an important thing to do is to develop a clear sense of the work program on fintech. Whether that is an agenda in itself or as part of other work streams. There is also the need to take into account the resource implications. On that point, we associate ourselves with the comments made by Mr. Inderbinen and Ms. Pollard.

In thinking about the work program, I would like to emphasize three key areas, where we believe the Fund's value added would be greatest.

First, the Fund's work on fintech should be organized around its core mandate and in areas where it has comparative advantage. As noted in our gray statement, the Fund should engage with member countries on fintech issues under its surveillance and its capacity development mandates through policy advice, training, and technical assistance (TA). We welcome the recent Financial Sector Assessment Programs (FSAPs) featuring fintech components, which were another good example of the strong collaboration between the Fund and the Bank. We welcome the answer to Question 15, where the staff said that staff will build on the findings in the paper to better categorize and prioritize surveillance and capacity development engagements with member countries. What we are hoping for in time is just more of an articulation as to what that means. The Fund is also well placed to provide a forum for sharing information and fostering collaboration among various stakeholders.

Second, there is scope for more analytical work on fintech, particularly related to the implications for cross-border flows, monetary policy, and financial stability. I share the Managing Director's view that this is an important area for financial stability, even though it is still yet to be fully understood.

Third, further work on the international dimension of data policy frameworks is also needed. The Fund is well placed to help countries develop the appropriate data frameworks and drive a global dialogue on data issues, including those related to data gaps for cross-border activities.

Finally, we thank the staff for the work and look forward to further engagement on these issues, with a greater elaboration on the specific deliverables and timelines. We are very pleased to see the nature of the collaboration so far. We strongly encourage the Fund and the Bank to continuing working together, including on areas where joint action is needed.

Mr. Heo made the following statement:

I would like to join Ms. McKiernan in thanking the staff for this useful paper. I especially appreciated that many fintech developments in small states in our constituency were made prominent in the paper, though some facts need to be corrected.

We have issued a joint gray statement, and I will, therefore, limit my comments to a few points for emphasis.

First, we broadly agree with the thrust of the paper and also thank the staff for the informative answers to technical questions. As many Directors highlighted in their gray statements, the Fund needs to continue to create synergy with other international bodies and avoid a duplication of work. We believe the Fund is well positioned to play a valuable analytic role by drawing on the experience of its universal membership. But we can understand that there are still many uncertainties and limitations of the Fund’s role at this stage, given the fact that, frankly speaking, no one is certain which way and how fintech will evolve in the future.

As the staff explained, fintech innovations are observed and have become mainstreamed rapidly in some countries to the extent that fintech is likely to be viewed as less and less of a special topic. But it is also true that in many small and fragile countries, it offers new opportunities, as country authorities’ responses differ, reflecting their level of economic development, policy priorities, financial sophistication, and institutional arrangements. For instance, members of our constituency’s interest in fintech range from financial sector deepening and inclusion to strengthening financial stability and promoting competition. This gives rise to differing risks and implications, and therefore, the appropriate policy responses must differ correspondingly across countries.

Notwithstanding all these challenges, the Fund should continue to make efforts to integrate fintech as an indispensable factor in the Fund’s daily business to enhance our surveillance activity, technical assistance (TA), as well as Article IV consultations.

Second, innovations in fintech are rapidly evolving, with a lot of work taking place on the ground. It is important that any new innovation is fully tested and assessed on its applicability to country circumstances. As a case in point, I would like to refer to Box 2 of Annex II, outlining the potential solution for identification requirements in the Pacific. One of the cases cited is the ID Box project in Papua New Guinea. However, this was only a trial project, which its authorities have since shelved because, while the technologies worked, there were issues with scalability, transaction speed, and the risks associated with a single person developer. The authorities are continuing to try other options using other technologies. This example shows why the Fund needs to monitor very closely what is really happening in the field and how it evolves every second. Without a deep understanding of its different impacts on the circumstances of each membership, the Fund's advice would easily be out of date, and our surveillance function of macro and financial stability may not catch up with the market developments.

Lastly, I appreciate the staff's call for developing legal and regulatory approaches to fintech products and services, but we would like to emphasize that the rapid and varied nature of fintech developments also call for a flexible approach when reviewing or establishing new international standards or best practices.

Mr. Mouminah made the following statement:

We welcome the comprehensive and thoughtful paper prepared by the staff in collaboration with the World Bank. We also are thankful to the staff for their answers to our questions.

We issued a gray and would like to refine our comments to a few issues. I welcome the Chairman's opening remarks, Madam Chair on fintech and the impact of it going forward. If we see page 9, the share of fintech, we have to monitor how this progresses because, even though it looks very small now, it will actually grow to a much larger extent in the future.

First, we see an important role of the Fund within its mandate, which is very critical and important in this topic. In particular, greater allocation of resources to fintech-related capacity development in the period ahead will be useful for the membership, especially to low- and lower middle-income countries. The Fund should also continue its important role on information sharing about emerging trends and practices and expanding its engagement in Article IV consultations and FSAPs whenever the fintech issues are macro-critical, something that also has been mentioned by Ms. McKiernan.

Second, there are significant differences across regions and countries on fintech-related developments. It is, therefore, clear that countries need to advance their fintech agenda, tailored to their individual circumstances to achieve various objectives, including greater financial inclusion and financial development. In parallel, it is important to put in place adequate safeguards to ensure financial stability and integrity, as well as to protect consumers.

Third, we welcome the staff's collaboration with the standard-setting bodies while being mindful of an appropriate division of labor to avoid duplication and overlap. We also look forward to the effective implementation of international standards, when developed, as well as the sharing of experiences and best practices within the membership.

Finally, we agree that Islamic finance fintech faces similar challenges to the fintech sector in general, and more work needs to be done in this area. To this end, continued engagement with the Islamic Financial Services Board (IFSB) will be extremely important.

We thank the staff and look forward to their work going forward on this topic.

Mr. Kaizuka made the following statement:

I welcome this timely engagement to review the Fund's work on fintech.

First, I thank the Chairman for her participation in the high-level seminar on financial innovation at the occasion of the G20 in Fukuoka, where she kindly delivered a keynote speech, focusing on how to balance the opportunities and the risks of fintech and also called for international cooperation. The speech was well received and laid a good foundation for the following discussion, where not only the traditional financial institutions, like the Japanese megabanks, but also such companies as Google or Amazon participated.

Turning back to the paper, I appreciate the comprehensive content based on the survey of about 100 member countries. I will focus on the Fund's role.

First, the regulatory challenges, fintech is a challenge to regulators, as there emerges a different set of stakeholders, compared with the traditional regulatory landscape, where the regulators can do their job mainly in relation to the traditional financial intermediary or service providers. However, it is no longer the case as the distributed ledger technology (DLT)-based financial system has emerged, and there should be a different type of governance structure. Hence, a multi-stakeholder approach, which includes not only the financial industry but also the tech industry and other relevant parties in the scope, should be explored. The G20 seminar devoted one session to the changing governance structure, but to be honest, this is beyond my capacity. I cannot catch all the messages they send to us. This emerging trend makes the dividing line between the work of standard-setting bodies and that of the Fund, identifying the best practices based on its country work, blurred. Thus, there should be ample communication between the standard-setting bodies and the Fund, while the Fund should not engage in any standard-setting exercise. It is encouraging to hear the explanation of the staff's relations with the standard-setting bodies.

Secondly, the Fund has the advantage of universal membership. However, I note with certain concern the response rate of the low-income countries (LIC) on this survey was relatively low. In LICs, there is more opportunity for the fintech to prevail faster than in advanced countries, as a traditional system has not been firmly established. They can take advantage of being a late comer on this front; but at the same time, this also intensifies the risk of a lack of proper regulations and a lack of financial knowledge among consumers and users. Thus, the Fund should fill the gap by providing TA and capacity development activities in LICs.

Lastly, in the context of international cooperation, I would like to emphasize or highlight the importance of the Fund's engagement in Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT), bearing in mind the implications of fintech in this field. In the survey, a 68 percent response necessitates international cooperation in this field. In this regard, I would like to note that the fintech roundtable in April devoted one joint session co-organized by the Fund, the Financial Action Task Force (FATF), and the G20, which brought valuable input to the G20's discussion in Fukuoka. I thank the Monetary and Capital Markets Department (MCM) and Legal Department (LEG) for their dedicated work and hope their cooperation with the FATF on this front could be further intensified and progressed.

Mr. Ronicle made the following statement:

I thank the staff for the comprehensive report, which I think delivers well on Directors' request for a summary of cross-country experience.

We issued a detailed gray statement with four other Directors, so this morning, I just want to emphasize a few key points.

Fintech is an issue close to the heart of the U.K. authorities and especially to the Bank of England and Financial Conduct Authority. In fact, the Bank of England is shortly due to publish a comprehensive review into the future of finance, which will bring together work on the implications for finance of aging, big data, the rise of emerging markets, the transition to a low-carbon economy, and innovation. That will underpin how the United Kingdom's regulatory approach evolves over the coming years.

Why do we think fintech is so important? It has the potential to bring competition to a sector where growth has been sluggish post-crisis and to increase consumer choice and raise financial inclusion. The challenge for regulators is to allow innovation and competition to flourish without risking monetary and financial stability. It is fair to say that we think fintech has the potential to be macro-critical and, therefore, warrants the Fund's attention. But many issues are macro-critical, as we heard at our recent discussion on unconventional monetary policy and at the work program. The Fund's engagement on these topics, as elsewhere, needs to be proportionate and focused, leveraging experience and expertise elsewhere. In that vein, I was encouraged by the details provided on the staff's engagement with other international bodies.

The staff asked where Directors think future work should focus. Ms. Pollard's gray statement set out the priorities particularly well.

First, Fund staff need to think about what the membership will need. The work done in this paper, looking at the demand for fintech advice for members in Article IV consultations, FSAPs, and in capacity development, is helpful for us as Board members in understanding members' needs in these areas. If innovation continues at its current pace and as international standards emerge, I can see a growing need to more systematically cover fintech issues in bilateral surveillance and in capacity development as, for example, in the the Swiss FSAP we are due to consider later today. It is wise to be on the front foot, as the Managing Director noted.

Second, the Fund should look to address gaps in our understanding that are particularly pertinent to members' needs and reflect its comparative advantage. My list here looks a lot like the one Ms. McKiernan set out this morning. There are two clear areas here. First, financial stability and, in particular, how members can manage the challenge to operational resilience that arises from cybercrime. Second, cross-border issues, like AML/CFT, cross-border payments, and the risks associated with regulatory and data fragmentation.

Ms. Mahasandana made the following statement:

We thought the report was a very good stocktaking exercise of what countries are doing on fintech and the issues we need to think about going forward.

Clearly, the Bali Fintech Agenda remains an important articulation of the opportunities and risks from fintech for policymakers. Last week, the Bank of Thailand and the Fund co-hosted a high-level conference on the Bali Fintech Agenda in Bangkok. The event wrapped up with a panel discussion on the fintech-related challenges faced by central banks, which also extends to what role the Fund could play to assist the membership.

I trust that the authorities' input there has been well noted by Mr. Adrian, who was a key person in the discussion. Once again, we thank him for his outreach and participation.

We issued a joint gray statement with four other Directors that was quite extensive. Some broad points include the lessons learned, such as the need for a more agile supervisory approach, closer engagements, effective information sharing based around the 12 pillars of Bali Fintech Agenda, where the Fund could focus on its work on fintech, as well as the issues we would like to see covered in the future updates.

For today, I will focus my remarks on the possible role of the Fund to support member countries in dealing with fintech, which is very important for the Fund and member countries right now.

First, we strongly encourage the Fund to draw on cross-country experience and lessons learned to provide practical insights for authorities in overcoming the challenges posed by fintech. Indeed, the Fund does not yet have sufficient expertise in fintech, given its dynamic and fluid developments. Given the competing demands for Fund's resources, the Fund may not be able to build all the expertise needed to tackle fintech issues. In this regard, we would like to echo Ms. McKiernan and other Directors and emphasize that the Fund needs to prioritize and focus its efforts in the areas where it can capitalize on its comparative advantage and bring the most value added, while leveraging on its partners in other areas. The Fund's analytical work, especially evidence-based study, is one area that capitalizes on institutional experience. Some of the topics come to mind.

The first is the traditional areas. This also echoes Ms. McKiernan's intervention earlier—for example, the impact of fintech on the structure of the financial system, financial stability and monetary policy transmissions, cross-border capital flows, and how fintech can support financial inclusion, correspondent banking relationships (CBRs), and so on.

The second is a practical issue related to fintech. We would like to mention a few to underscore their priority, including how to deal with concentration risk and market power, how the regulations and the nature of collaboration between the different international financial institutions need to evolve, given the cross-cutting nature of fintech. How to deal with cybersecurity, providing it can be systemic and create spillovers.

These topics are in line with the pillars of the Bali Fintech Agenda and are just some of the many possible studies that the Fund could undertake, which would bring about useful insights to member countries as fintech continues to develop. Without analytical work, formulating policy will be challenging with the changing financial landscape.

The next point would be for the Fund to be prepared to support the member countries through their technical and capacity building activities to promote innovation and digital transformation.

Fintech is very important as are the issues related to comparative environment, appropriate regulatory framework, and especially containing risks related to shadow banking activity.

Mr. Raghani made the following statement:

We welcome the findings of the staff report, which provides valuable lessons to our countries in their efforts to adequately implement the required policies in response to the rapidly evolving technological financial innovations.

We agree that the rapid strides made in fintech provide great opportunities for advancing financial inclusion within the membership and improving the provision of financial service, notably in LICs. However, they also raise potential risks to financial stability. In this regard, there is a need for authorities in member countries to closely monitor risks stemming from the expansion of fintech on financial stability.

To help our countries address the new challenges associated with the development of fintech, the Fund is well positioned to provide policy advice, TA, and capacity development. It is in its core mandate. The Fund's support will be important to help strengthen the integrity and the resilience of members' financial sectors. In this regard, assessing countries' AML/CFT frameworks and capacity development in their regulatory frameworks and cybersecurity will be essential.

I would like to make a point related to the role that fintech may play in the CBR issues that many countries are facing, particularly in terms of compliance. In the report, there was some mention of this potential, but I would appreciate it if the staff could elaborate on this issue.

The Fund should also assist countries in modernizing their national and data frameworks, given the need to develop robust financial data and the associated infrastructure to sustain the fintech benefits. It will also be necessary for countries and the Fund to advance the global dialogue on cross-border fintech benefits.

Mr. Rashkovan made the following statement:

Like other Directors, I thank the staff for an excellent stocktaking exercise.

To start my intervention, I will use only one number: Crypto asset market capitalization at the end of May, US$260 billion. Without Facebook acquiring the world, it is already a quarter of the Fund's total lending capacity today, or basically the same amount of its total lending capacity in 2009. By saying this, I do not want to imply that only crypto assets are fintech. It is much broader and is, basically, any business that aims at providing financial services by making use of software and modern technology.

We have issued a gray statement, so allow me to focus on four specific points today.

First, on the staff's ongoing work, for a few years, this chair has been pushing the fintech agenda within the Fund's scope of work. Why is this the case? Because we truly believe that the fintech developments already have and will have even bigger effects in the future, both positive and negative, on many aspects of our work. We also believe that fintech developments will have the single biggest effect on financial intermediation and the international monetary system in the coming decades. In this context, we remain strongly supportive and appreciative of all work that the staff, with the support of management and the Managing Director, have done in order to raise the awareness of fintech advantages but also risks.

Second, on the links between fintech and the Fund's core mandate. We largely agree with the thought that the Fund should keep the coverage of fintech within its core mandate. But as the Chairman highlighted in her opening remarks, we believe that the Fund's role in fintech should still be limited to the core mandate, and within this mandate, we should focus on the areas where we can provide the biggest value added or competitive advantage. In framing the core mandate, we see merit for the Fund to analyze how fintech changes the structure of financial systems, including through AI and how the resulting cyber risk could affect financial market stability; how e-payments, digital currencies, or central bank digital currencies (CBDC) affect the transmission of monetary policy; how fintech and, more broadly, the digital economy, affects financial intermediation, capital mobilization, and hence, growth and productivity; or how fintech developments could further support further CBRs.

All of these questions fit perfectly under the call that this Board made while adopting the Bali Fintech Agenda. The Fund should focus on the implications of fintech for cross-border capital flows, monitoring financial stability, and the global financial safety net (GFSN).

Do we have expertise in all these areas? Maybe not, but we need to leverage on our cooperation with the World Bank and other institutions, as was said today by the staff. Are all of these issues urgent at the moment? Maybe not all of them. Therefore, we need to prioritize them, considering the constraints of the resources. Will these issues be mainstream in the coming years? We strongly believe yes.

Third, on the next steps, at the end of today, the Fund needs to be ready for years to come. The only way we can do that is by knowing which areas we want to focus on in the future and by knowing what resources we lack. We need to know how to be able to sustainably cover these issues in the future. In this context, and since the fintech topic is evolving, we would like to see in the next edition of the update to the Board a more forward-looking view. First, with respect to more narrowly defined areas where the Fund should focus its resources and capacity, and second, some kind of Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis of the key strengths and weaknesses the Fund faces and will face in the future in these areas, and how it plans to address such challenges.

Lastly, on the progress with respect to the Bali Fintech Agenda, the key document that shapes the Fund's engagement on fintech issues is the Bali Fintech Agenda. We strongly believe this should remain the main framework. However, we believe that the upcoming update should more directly focus on identifying progress within each of the 12 pillars. For example, if there is any work done on the CBDCs. Such distinctions would allow us to clearly identify progress or a lack of progress and suggest the measures to address areas where the progress was limited.

Ms. Pollard made the following statement:

We appreciate the work that the staff has done to compile this stocktaking exercise, which we see as predominantly a factual overview of some of the main themes in this space and what the staff asked about in the survey. However, it is one thing for staff to broadly take stock of issues that exist in the world, but we do not have a sense of what the staff plan to do about most of these policy questions. We urge the staff to articulate a clear view on these topics. In this regard, I agree fully with the remarks by Ms. McKiernan, Mr. Ronicle, Ms. Mahasandana, and Mr. Rashkovan. Some of the issues for focus laid out by Ms. McKiernan and Mr. Ronicle are very good, and the staff should agree to look at those issues.

Second, I appreciate the Chairman's remarks on the relationship between the Fund and standard-setting bodies. But we fully agree with the statement in the gray statement by Mr. Meyer and Mr. Fragin, that the design of the survey does not provide compelling evidence for the conclusion that there is a clear demand for considering new international standards by the standard-setting bodies. We would reiterate that we think it is premature for the Fund to call for the creation of new standards or the development of path-breaking legal, regulatory, and supervisory frameworks.

Finally, on the question of resources, we agree that there are areas where the Fund should be working on and that the line between its traditional macro-financial work and fintech is blurring. But we question the amount of resources devoted to this work and particularly would like to know whether this is a temporary surge in order to accommodate the work related to the Bali Fintech Agenda or whether this will be a permanent allocation to this area of work.

Mr. Inderbinen made the following statement:

It is critical to understand the nature of technological change, assess its impact, and think about the role of the Fund. Against this general remark, let me stress a few additional points to what we had in our gray statement.

Like Ms. McKiernan and many other Directors, we underline the importance of clearly defining the role of the Fund in this space. This is critical to determine the scope of the Fund's work and to also assess the opportunity costs of resource allocations to this field. Clarity on the Fund's role is also important to avoid duplication and to ensure complementarity with other institutions and fora.

This being said, the Fund is uniquely positioned to help its members in better understanding developments in the fintech space and in related fields, such as regtech, govtech, or cybersecurity. As we note in our gray statement, we see a key role of the Fund in promoting information sharing and the exchange of views within its broad membership. This can translate into capacity development in several areas, one of which being the specifics of financial literacy in the fintech space. We advocate for the inclusion of fintech issues in surveillance, if and when macro-critical. One-size-fits-all approaches will need to be avoided. The Fund should not engage in standard setting. Like Mr. Kaizuka earlier, we welcome the assurances that have been provided in this regard.

On cybersecurity, it seems that the topic deserves greater attention in general, and we support the staff's further work on this front. We would, nonetheless, like to emphasize that a clear objective of what kind of capacity should be created within the Fund, with a view to supporting member countries, should be delineated as clearly as possible.

On digital currencies, we would like to echo Mr. Palei on the need to closely monitor the developments in the field of CBDCs. Like Mr. Meyer, we also think the staff should remain careful in communicating developments on CBDCs. We welcome the clarification the staff has offered in its written answers for this morning.

As a general point and a final point, we agree with Ms. Pollard and her colleagues that, down the road, fintech will best be integrated into existing work streams and areas of Fund expertise, rather than constituting a distinct work stream.

Mr. Sigurgeirsson made the following statement:

This is an issue of great interest to my constituency. In fact, I was caught by surprise while traveling in one of my countries the other day, and they would not take cash nor cards. I ran into a little trouble with my phone.

We have issued a gray statement, so I will limit my remarks to just a couple of points.

First, fintech has great potential to spur innovation, provide competitive services, and enhance financial integration, but it should not come at the expense of increased financial stability risks or reduced consumer protection. Given the various pitfalls, it is important that the Fund keeps its eye on the ball, and we would not want to miss anything, given the rapid growth and changes in this field. It is a good idea, mentioned by Mr. Rashkovan, to do some SWOT analysis, given the importance of this issue. Given that most of the countries that participated in the survey identified fintech-related gaps in their existing legal services, it is important that the Fund continues to support members in developing efficient supervisory frameworks and regulation. To achieve more systematic involvement in the area of fintech, especially for surveillance purposes, the Fund needs to arrive at a common understanding of the circumstances under which fintech-related issues become macro-critical.

Second, we see a need for further international cooperation and knowledge sharing on fintech issues, including on AML/CFT. In reading the survey, we were surprised that less than half the respondents have formal mechanisms to assess the risks associated with fintech, and this calls for close cooperation with the FATF and with other standard-setting bodies. I was encouraged by the staff's intentions, mentioned this morning.

Finally, on the taxation challenges related to digitalization and fintech, they are highly complex and need to be analyzed thoroughly. This is a global issue that requires global cooperation with the OECD and the standard-setting center for international taxation.

Mr. Fanizza made the following statement:

What I am left with from reading the paper is the impression that the expression "fintech" is a bit too general. There are so many things on which we need to dive in. I fully agree with Ms. Pollard, that that is only a preliminary step toward a work program that has to go a bit down in the particular areas of fintech.

Let me add a general comment. I see a bit of what I call a “dystopic” approach. This is not a criticism. While we need to be careful—hence the importance of safeguarding financial stability, the integrity of the financial system, leveling the playing field, all these things—we should also pay attention to the risk of missing an incredible opportunity for development.

I agree with Mr. Kaizuka and Mr. Raghani, that the way technology is applied to the financial sector provides incredible opportunities for LICs. I have seen many of them missing this opportunity because they were too scared of the impact that the phone revolution could have on banking, for example. Instead, I have seen some that have taken it, and have benefitted. It is very important that we keep in mind this risk.

I am not suggesting that we should be reckless. To the contrary. The main principle is that we should—I do not like the expression “ensure a level playing field,” which does not mean anything—ensure that institutions that face the same kind of risk should be subject to the same prudential and supervisory treatment. That should be the informing principle. It is easy to say. It is more difficult to do because regulation is not all-powerful. The idea that we can trace technological innovation and make everything completely safe should be discarded.

Finally, many colleagues have raised the issue of resources. I also think it is important, but I would say that I like the approach outlined by the paper that relied a lot on expertise from external consultants as a way to fill the gap for knowledge that we did not have inside. Maybe that is a way to go forward.

Mr. Tombini made the following statement:

I thank the Chairman for the initial remarks, which I broadly support and share.

Like others, I want to thank the staff again for the comprehensive and candid reports, which provide a good systematization of the evolving issues surrounding the Fintech Agenda and the Fund’s involvement.

The speed of technological innovation in the financial system is fast paced, and we need to deal with it. Along the lines of Mr. Fanizza, I will refer to the two-handed economist approach. On the one hand, we should remain open-minded and allow enough space for fintech to bloom, addressing gaps and market failures, and improving the delivery of financial services. On the other hand, we need to stay alert to the risks to financial stability, financial system developments, monetary policy. Some of these risks are not yet fully mapped.

We issued a gray statement. I want to highlight three brief points.

First, the report shows that the nature and the volume of fintech varies across countries, depending on the level of economic development and financial market structure. The paper builds the case clearly for the Fund's involvement, which should be based on its strengths and focus on its core areas of competency—namely, macroeconomic and financial stability. Moreover, given the quasi-universal membership, the Fund is well positioned to act as a hub for the sharing of experience and promoting peer learning. In addition, the Fund's capacity development and the use of its research capabilities to provide analytical inputs will help members in their efforts to develop their own knowledge and adapt the framework to their specificities.

Second point, besides the areas identified by the membership for greater international cooperation and Fund's contributions, I wonder, like other colleagues, whether we should add taxation and the use of technology for regulation and supervision also as key areas for cooperation and Fund involvement.

Third, regarding the use of sandboxes, which seem to be appropriate to allow new experiments to take place in a more protected environment, the report clearly points to the fact that there are also costs and risks associated with such a modality. Those high human resources and institutional costs may explain why half of the sandboxes are in high-income countries. I also take note of the incipient experience with accelerators in innovation hubs, which could be a lighter alternative or a complement to the sandboxes.

My question to the staff is whether it is time for us to take stock of the experiences of sandboxes and perhaps try to achieve higher-level principles on how to conduct those experiments.

Mr. Jin made the following statement:

I would like to thank the staff for preparing this informative stocktaking of fintech developments and experiences across the membership.

The analysis of fintech by the Fund can focus more on the “fin” part of fintech, especially its implications for traditional economic and monetary theory and the policy framework.

Striking the right balance is essential for harnessing the benefits while mitigating risks. The Fund should continue to contribute to relevant policy discussions, facilitate an information exchange among member countries, and provide guidance, if necessary.

Based on the experiences so far, fintech innovations can generate a far-reaching positive influence, while not all innovations are better solutions, in practice. The rise of fintech firms that are outside of the traditional regulatory parameter, the domination of a few market players, and the concentrated use of some technologies may pose new risks that need to be carefully monitored and addressed.

Setting clear data frameworks is also an increasingly important and challenging task. As the capability of collecting and analyzing data becomes more developed, the data become ever-more valuable. Data rights and obligations should be clearly defined. It is critical to enable a better balance between the appropriate transparency for regulatory purposes and privacy protection.

Ms. Mannathoko made the following statement:

We thank the staff for their outreach to our office and for their responses to the questions.

We remain strongly supportive of the Fund’s work in this area. As noted in this report, in LIDCs, fintech is presenting significant opportunities, which support development and financial inclusion, among other things. We, therefore—like Mr. Raghani, Mr. Kaizuka, Mr. Fanizza, Mr. Tombini—see the key role that the Fund has in guiding the process and the context of LIDCs within the areas of its core mandates. We support the proposed focus. We have several comments we wish to highlight.

First, as noted by the Managing Director in her opening remarks, it is clear from the crypto asset experience that it is important for the financial sector regulators and non-bank regulators, as well as central banks, to be ready to safeguard financial stability. In this regard, we agree with Mr. Jin and other Directors that the Fund has an important role in helping to develop strategies to address potential fintech-related disruptions to the global financial system ex ante.

We note the staff's explanation. This was on the issue of capacity development—that the Fund is building its understanding and expertise in fintech-related area of financial services. We are pleased, however, that a body of knowledge is developing from reviewing cross-country experience. We look forward to these being shared, whether it is via TA or other capacity development measures, as well as in order to assist staff as they advise authorities. Like Mr. Kaizuka, we note the need for this type of support in LIDCs.

Furthermore, like Mr. Heo and Mr. Mouminah, we agree that there is a need for the Fund to recognize the different priorities that prevail in different regions, different development contexts. We believe that they are doing this to some extent already.

On the issue of cyber crime, this is becoming a significant risk for the financial sector. In fact, some private sector entities name it as the biggest risk facing financial services. We agree with Mr. Ronicle, Ms. Mahasandana, and others, that this is an important area. We wish to highlight the key risks cybercrime presents to digital financial services, including on mobile platforms.

In some parts of sub-Saharan Africa, the Consultative Group to Assist the Poor (CGAP) reported an escalation in successful attacks against financial services in our region in 2017. We do appreciate the work that the Fund has been doing in helping authorities with cyber resilience in the financial sector. We look forward to the MCM paper on best practice findings.

Finally, I have a few words on resources. Given the rapid evolution of the financial services sector, and due to fintech, we do think it would be risky to marginalize the resourcing of fintech work and that the opportunity costs and the risk of allocating funds away from fintech is an important consideration. But we believe, like Mr. Inderbinen and others, that there may be scope to think about how, in the longer term, fintech would be folded into other work.

Mr. Castets made the following statement:

We have cosigned a gray with four other Directors, so I will be brief.

We all try to stay the pace in this rapidly changing environment. In this sense, the staff's contribution today is very helpful, at least it helped me to keep focusing on the very different streams that we are facing. In this very rapidly changing environment, we keep thinking that the Bali Fintech Agenda sets the right principles for our upcoming work, in the sense that it sets the right balance between recognizing innovation and the opportunities that are there, but also recognizing the risks. That is where the Fund's contribution is going to be key.

Moving forward, since there is so much on the table, prioritization in our work will be paramount. We have to set clear guidelines for staff in its everyday work. For us, that is where there is the most link with the Fund's core mandates, that the analytical contribution in surveillance will be key. We will mention financial stability. This covers cybersecurity and also the link with monetary policy transmission. Those are complex issues given the pace of technological developments, but we think that the Fund has already started to engage in a very useful discussion with the different international bodies that are involved. I would also echo Mr. Kaizuka's point on how the Fund can contribute through its analytical work to the work of the standard-setting bodies—those are two different kinds of work—and his point on the very useful engagement with FATF.

We started to see the inclusion of all this analytical work in surveillance and capacity development. I would like to mention a few issues on which we see a need to keep on this pace: AML/CFT issues, consumer and investor protection. And also, a very important dimension is the Marshall Islands, where we had such an interesting discussion. It is the issue of blockchain and crypto assets. And there, we are still facing major questions.

France moved very rapidly to adapt its regulations to create a framework for initial coin offerings (ICOs), but we still are very much interested in discussing it with the different people that are contributing to this discussion.

Finally, like Mr. Ronicle, I would see the need to focus on where we can see some cross-fertilization between the different work streams. Like Mr. Raghani and Mr. Fanizza, I would mention financial inclusion, in particular, in LICs where the sector can sometimes still be fragile. What it means is to develop financial inclusion through these new actors, these new technologies. The two areas where this chair is adamant to see the Fund keep contributing is on ageing and climate change.

Mr. Gokarn made the following statement:

We have issued a gray, in which our central point was similar to what other Directors have mentioned, which is prioritization. We expect a response to one of those questions in the statements by the staff.

Let me just emphasize two or three points, some of which have already been raised. We believe that the joint Board session that we held with the World Bank last year laid out the complementarities between the two institutions' work streams very well. That is a very effective template for us to follow. The World Bank is focused on the link between fintech and financial inclusion, which are often used interchangeably, but they should not be. Financial inclusion is an end; fintech is a means; and we need to keep that distinction clear—and the Fund is focused on financial stability and the implications of various fintech developments for stability.

This is a field that is in the process of creative destruction, and at its most intense, it may go on for several years. I do not think we should be rushing into regulation. This is a premature step. We agree with Ms. Pollard and others who have said that the time is not yet ripe for the formalization of regulatory requirements. But there are principles. The Chairman said that she did not like the idea of principles or guidelines. But somewhere, we have to start talking about these things. There are three issues we should focus on in laying the groundwork for an eventual formal regulatory framework.

One is the link between the new providers and the established financial system. To some extent, the graph in the paper suggests that banks, themselves, are very active and aggressive adopters of fintech. In a sense, we already regulated that component. The others may not pose that much of a risk, but these linkages are important to monitor.

The second is consumer protection. I do not think we paid enough attention to that. Trust is key to this development. If we have a breakdown in some systems, a model, a company that is doing something effectively fails, the whole system is threatened by a breakdown of trust. It is very important that consumer protection receives central attention.

The third is the cybersecurity, data protection, and AML/CFT considerations, which these entities pose.

Focusing on these as a preparatory exercise for financial inclusion, understanding what different countries are doing with respect to each of these, may not be doing anything, but consciousness has to be raised. Those are the important elements of our work stream in this phase of the game. Let us not jump the gun on getting too formal in regulation. If we are ahead of the curve now, we have to try to remain ahead of the curve as this process moves ahead.

Mr. Villar made the following statement:

We broadly support the approach by the Fund so far and value the inclusion of these topics in Fund surveillance.

We share the view that, while fintech offers many opportunities, these developments also pose new challenges to financial stability, consumer protection, and AML/CFT rules.

We commend the staff for the progress achieved in obtaining a global fintech outlook based on the survey results and country experiences. We take note of the fact that fintech developments vary significantly, both across regions and among member countries. Hence, we consider that a tailored approach, taking into account country-specific circumstances, is critical to deliver a fuller understanding of how fintech would impact efficiency, financial stability, integrity, and inclusion. However, as highlighted by Mr. Gokarn, the list of emerging policy issues seems to be too wide, so more prioritization may be required to guide the fintech agenda within the Fund.

We also want to highlight the relevance of fintech as an instrument to enhance financial inclusion which, in turn, requires proper regulation and adequate infrastructure. From reading the staff document, we got the idea that the Latin American region lags other regions with regard to innovation on this front. We wonder if this may have to do with the specific factors in the region's regulatory framework in addition to the other factors mentioned by the staff in their responses to technical questions.

Regarding crypto assets, as Mr. Meyer stated in his gray statement, we believe that there should be a clear distinction between CBDCs and privately issued crypto assets, as they entail very different challenges and risks. We believe that the rapid rate at which privately issued crypto assets are growing require a prudent approach even, if according to the Financial Stability Board (FSB), they do not yet pose any risk to financial stability.

Lastly, we agree that there is scope for further analytical work on fintech within the Fund. First, we consider that further work on the potential effects of fintech in new forms of cross-border capital flows would be relevant. Second, looking beyond the potential impacts of fintech in the financial sector, it would be important to also consider the possible impact on employment and productivity. Third, the Fund could continue providing value added on policy advice toward mitigating fintech's related financial integrity risks in the context of AML/CFT rules, including through the participation in the financial task force discussions on virtual assets, on which the staff has already been involved. Fourth, we share the view expressed by Mr. Sigurgeirsson about the importance of following the impact of fintech on taxation.

Mr. Stradal made the following statement:

First, the Fund, together with the Bank, has provided a valuable service to our membership with the Bali Fintech Agenda, the survey of its membership, and the regional outreach events. We now have a much better understanding of some of the evolving opportunities and risks, as well as of the emerging regulatory challenges. A critical missing link is, however, a proper mapping of our understanding of fintech to the Fund's mandate and core activities. Similar to the helpful categorization of fintech along financial sector business lines in Figure 1 of the report, we need a categorization of fintech along Fund business lines.

Second, very simplistically and based on one of the takeaways from the original outreach event in Vienna, the Fund has a role as a platform for discussion and knowledge exchange. In advanced economies, the Fund should try to benefit from a knowledge transfer by authorities but typically cannot contribute much at this stage. We should refrain from offering detailed and prescriptive policy advice at this stage. In LICs with constrained supervisory resources, the Fund and the Bank should help the authorities take advantage of fintech to advance financial inclusion while addressing risks from AML conduct and integrity. Fintech is evolving, and monitoring risks to global financial stability that could arise from big tech or decentralization is warranted.

Third, the report is silent on how much we are spending on fintech and whether other activities are crowded out. Purely from a budget perspective, we need to define fintech and the activities the Fund will cover in line with its mandate. It is of particular concern, as the recent IEO reports on financial surveillance and unconventional monetary policy showed, that some of the Fund's core agenda suffer from a lack of adequate resources.

Fourth, we concur with Ms. Pollard’s gray statement that the report at times gives more prominence to the promises of fintech at the expense of the risks involved. It is not clear how the Fund ensures sufficient consistency in the surveillance and technical advice provided without establishing some common understanding of the balance between the two. We see money laundering and the financing of terrorism as key risks that should be closely monitored.

Fifth, the report shows that the regulatory approaches and the policies differ widely, depending on a country’s circumstances and legal frameworks. We reiterate our strong support for the Fund to play a major role in information and cross-country experience sharing, as well as data collection and standardization pertaining to fintech developments. This would not only enable member countries to avoid repeating policy mistakes but also help foster an international policy dialogue aimed at fostering a global regulatory playing field.

Finally, we welcome the broadly neutral assessment of regulatory sandboxes in promoting fintech innovation. A deeper analytical dive into their optimal design is warranted, as Mr. Tombini suggested, including the cohort-based approach, as opposed to those that allow for the continuous application of participants.

Mr. Sassanpour made the following statement:

The joint Fund-Bank work on fintech is commendable. We appreciate the staff’s insightful reports and their engagement with our office. We have issued a gray statement, lending our support to the report’s finding and the work program, so I will limit myself to only a few brief points for emphasis.

The rapid evolution and the penetration of fintech have heralded a sense of optimism for the potential that they hold to embrace economic efficiency and financial inclusion. Embedded risks are also being crystallized. So far, countries’ individual preferences have guided the pace and the scope of technological adaptation, giving rise to national and regional differences, as was noted by the staff.

That being said, there is a set of shared concerns across the membership. Hence, developing a better understanding of the risks involved and their potential impacts on macroeconomic stability are critical for the whole membership. This is an area that, as the Chairman put it, falls squarely within the Fund’s mandate as it relates to financial stability, and it is where the Fund has a comparative advantage to take the lead and create a resource pool through data and research to help the membership through TA and policy advice.

It is clear from the survey that variation in the use of fintech products and the depth and scope of tech utilization more broadly largely mirror the income divide within and across regions. There is a semblance between the fintech gap and development gap.

It is also clear that the LICs are keen to embrace the opportunities offered by fintech to broaden financial inclusion and financial development. They are not shying away from mobile and digital technology. However, the significant infrastructure outlays that are required and the lack of fiscal space to accommodate them are undoubtedly hampering their efforts.

As the Fund seeks to help members navigate the complex fintech issues, collaboration with other institutions is essential, a point which was stressed by virtually every Director. It is also important for the Fund to defer to other institutions and standard setters, where they hold a comparative advantage and they even have a clearer mandate. This is an approach that the staff has taken so far and should continue.

As the staff and most Directors have stressed, cybersecurity is a key common risk facing fintech applications. This is an area that calls for a multi-pronged approach across institutions and countries. Waning multilateralism has slowed down in some areas but hopefully not in this area.

On selected fintech issues, one issue we would like to highlight is the payments and the settlements system, a key concern for some of the countries in our constituency. With a weakening of CBRs, fintech holds a promise of offering alternative efficient solutions, and we would like the staff to undertake further work in this area.

Finally, on resource requirements, at the outset of every major initiative, we flag the competing demand on the Fund’s limited resources. There is no shortage of priorities, and we are hoping that some of the priorities which are dear to us and dear to developing countries are not pushed to the back burner.

Mr. Meyer made the following statement:

A lot is in flux, and our views will certainly evolve on our role and the role of other institutions. I have issued a detailed gray statement, so I will be brief.

First, we broadly concur with the staff that the Fund already provides a useful and valuable service as part of its surveillance and capacity building activities for many of our members in the area of fintech.

Second, we agree that the current approach for the Fund's work appears appropriately focused on risk awareness and mitigation, as well as financial stability issues. Going forward, the Fund should continue to ensure that its work and policy advice on fintech issues is guided by the principle of macro-criticality, remains firmly within the remit of our mandate, and is in line with the international division of labor to avoid duplication or ambiguity regarding assigned responsibilities.

We join others—for example, the U.S. chair—in cautioning against conveying overly strong messages regarding an allegedly urgent need for new or revised international standards, especially from the survey. We note that discussions are ongoing in international fora and that, at the moment, we do not see major immediate areas for new international standards related to fintech developments. That being said, we agree on the principle that international cooperation is essential to address emerging issues, including those related to fintech developments.

My final point, as also emphasized by several other Directors, is that we would have welcomed staff's reflections on the future role of the Fund in the area of fintech as potentially envisaged, as well as the associated resource implications. I have a lot of sympathy for those who made the comment that we should try to integrate those work streams into existing work streams. If you go through the elements of many of those, this is really possible, such as data frameworks, payments and settlement systems, the regulatory frameworks, including the sandboxes, cybersecurity or also, as Mr. Gokarn put it, and inclusion. We should give thought to that, also with regard to the resource implications.

Ms. Mehri made the following statement:

We believe that the Fund should continue its important role in information sharing and raising awareness about the practices and fintech and expanding its engagement in Article IV consultations and FSAPs.

We received many comments from our authorities, some of which we shared on Friday and some of which we received after this meeting started. We will share all the comments with staff, but I would like to raise a few points for emphasis.

On selected fintech issues, we have received some suggestions from the Egyptian authorities. It is important to pay more attention to licensing prerequisites by sharing data of frauds committed in other countries by the same owners and sponsors. As mentioned by other Directors, consumer protection and complaints resolution deserve central attention. It becomes more critical when a single transaction crosses several jurisdictions and more than one service provider. The consumer needs guidance to address the problem.

Some of our authorities suggest getting into more granular aspects of fintech and considering establishing an emerging markets task force to facilitate a regulatory manual, checklist for approval, guidelines for fintech firms' disclosures, minimum accepted know-your-customer (KYC) requirements, and AML best practices. This task force could launch a knowledge exchange portal like the one of the IOSCO.

With regards to the Fund's Global Risk Assessment Matrix (G-RAM), we suggest developing a fintech Risk Assessment Matrix regionwide to minimize risks associated with regional heterogeneity.

Finally, on the experience of the countries in our constituency, our authorities consider that many developments in fintech took place in the last two years and have not been fully captured in this report, although some of these developments have already been captured in bilateral surveillance reports, like Article IV reports and selected issues papers. Given the number of comments we received from the authorities, is there scope to reflect these developments in the staff report before it is published? If not, will it be updated on a regular or annual basis?

Ms. Mahasandana made the following statement:

Judging from the intervention of Directors this morning, we broadly agree on the Fund's directions for fintech work, but they also reflect that there might be a difference between the priorities, and the focus depends on country specifics and the financial structure and financial system of the member country.

My point now is just to emphasize the need for the Fund to continue to engage closely with the country authorities, standard setters, the other IFIs, as well as industry. The outreach program that in our region is very useful. It not only benefits the member countries by providing a forum for sharing experiences and learning from each other, but it also reinforces the Fund's institutional risks in this field. We should have this among the other member countries as well.

The Deputy Director of Monetary and Capital Markets Department (Mr. Narain), in response to further questions and comments from Executive Directors, made the following additional statement:

We are encouraged by the feedback and support for the work and the useful comments that have been provided. We will incorporate them into our work going ahead.

Let me start by answering some of those broader questions which were raised. The first one was about priorities. It is important to note that we are taking into account not just the feedback from the survey, which has helped us to crystallize our own priorities, but also from the ongoing surveillance and capacity development efforts.

It was fairly heartening to note that the priorities, as laid out in the survey, very much corresponded to what we thought the priorities of the membership would have been. For instance, cybersecurity is an area which we have been focusing on for the last two years, particularly focusing on the LICs, where we believe that there was a strong need for resources to be deployed. There, we followed a three-pronged strategy. Some Directors raised this issue and mentioned that they had found the work very useful. Which was, first, to have an annual conference here at headquarters, where we bring together 70 LICs, representing technical people in the central banks and supervisory agencies who work on those issues and expose them to the state of the art in what is happening in some of these areas. We then followed it up by having regional workshops in the regional technical assistance centers

(RTACs). Five have already been completed. Six more are underway. In addition to that, we have done about 10 bilateral requests on TA, typically following some concern by the authorities of either a potential or actual breach which might have occurred in those systems. We have already been providing a lot of TA in this area. This corresponds to the big demand in terms of what the survey has released.

The second priority, which the survey reflects, is the legal and regulatory frameworks. What we have been doing—and this will also clarify the many questions which have been raised regarding our role in this regard, particularly of its standard setters—is we raise these issues in the course of our discussions, as Mr. Kaizuka mentioned. In our communication with the standard setters, what we do is, we bring to the board all the concerns raised by the wider membership, the issues that we see as reflected in our bilateral surveillance and our capacity development efforts. This then helps in the design of standards which are more universal. We then take those standards or other good practices that may be developed back in the course of our FSAPs in order to assess the implementation of these standards. Then, with identified gaps, we help the countries that need to address these deficiencies. That is our role in the entire standard-setting process. We contribute to these matters. We do not set standards.

However, in those areas which are not covered by standards or those areas where national practices differ widely or those areas which are not prone to standards, but which require guidance, we do try to identify good practices as based from cross-country experience and then feed them through our capacity development work. But those are not classically standards which are being set or which have the broad endorsement of any international standard-setting body.

There is sometimes this apprehension that we may be entering into areas that are not owned, but that is not the case. We are clear about our remit and the mandate which has been given to us. We are able to manage any expectations on this account.

There were some questions about the exchange of information. This is an area where we have invested a lot of our time in bringing together countries to exchange information in fintech developments. We hold an annual fintech seminar here at headquarters in April, where we bring in the more technical experts here to discuss the issues that they are confronting.

In addition to that, with regard to the Bali Fintech Agenda, we have held four high-level conferences at the regional level already. The one in Vienna was mentioned. The one in Bangkok was mentioned. We also had one in Rabat and one in Costa Rica. Next week, there is one in Botswana. That will complete the first round of high-level regional conferences on the Bali Fintech Agenda. In all of these conferences, what we have heard is a very strong endorsement for the Bali Fintech Agenda, the elements as they were laid out, as well as a very good articulation of what it is that the members are looking for from us, in terms of either capacity development efforts or in terms of advice. Which brings me to the next steps.

Many questions have been raised about, what do we have in mind? Where are we heading with some of this work? Some of this was already mentioned by the Managing Director in her opening remarks. We are, for instance, working on an SDN, following up on the earlier ones on fintech and cross-border payments, which will address some of the more pressing issues that are being revealed by the current developments in the markets. We are also working on position notes on some of the key issues that we have identified, which will help guide our surveillance efforts in terms of providing the right advice. We are using the deep dives that we have done, which we refer to in this paper to compile this information, as cross-country experiences may be useful to others. There is a range of practices in the papers in terms of fintech notes.

We could not agree more with the comment on integration. Some of the issues that we were discussing as fintech novelties a few years ago are already part of the financial system landscapes in the countries that we are working in. This links into the issue of resources and what the Managing Director said in her opening remarks, that we are increasingly getting focused on reskilling our resources, leveraging the experts whom we borrow from—cooperating institutions and central banks and other supervisory agencies—for our capacity development work to keep abreast.

There was a specific question which Mr. Gokarn raised. He asked for a comment on this, as to whether we would be able to use the information that we have to categorize countries on this trajectory of fintech development and in order to better focus our advice to countries which are on different paths of this trajectory.

This is something which we could contemplate when we have a little more information which we will gather in the next few cycles of our bilateral engagements with countries.

There was a question on the issue of data was raised a few times. I will leave it to my colleague in the Strategy, Policy, and Review Department (SPR) to respond to it. But just to say that this issue is now featuring prominently in all the international fora that we are participating in. It has so many dimensions that it is very difficult for the international community to be able to assign it to any particular body, which probably explains why gray statements suggested that this is an issue which the Fund and World Bank should be looking into. This was an issue which was raised in the Board meeting of the World Bank as well.

Finally, a question was raised on suptech, and to what extent should we be thinking about incorporating it into our own work. Suptech is the use of financial technology by the supervisory agencies for two broad purposes. One is for data collection, and the other is for data analytics. In data collection, there are several countries which have experimented with both push and pull models of extracting data directly from the supervised entity. Then in the data analytics, there is a lot which the financial market and capital market regulators have done to use the enormous amount of data which they collect either for identifying transactions, which deserve more attention, or for determining whether there is some insider trading or other market manipulation going on. That work is ongoing. It is not yet widespread, but we know of countries which have experimented in this area. We would certainly want to know a lot more about how they have succeeded. We know the work done in Austria, in Rwanda, in Brazil in this regard as well.

There was a question on corrections. Mr. Heo mentioned that there were some corrections which were required with regard to updating the items information. I will leave that to my colleague because this requires a lot more technical knowledge than I have.

There was a question also on the engagement with the IFSB. We do engage with them. We are part of the sponsoring members of that organization. We are part of many of their working groups as well. We will continue to dialogue with them. We have participated in some of their seminars, which have looked at fintech particularly in the context of Islamic finance.

Finally, there was a question on filling in the gap in terms of the fact that the survey did not elicit enough of a response from LICs and what we might do to fill in the gap. In the course of our ongoing capacity development and using this exchange of information forums that we have set up, we will be picking up more of this information. We do not contemplate issuing a second version of the survey at this stage, but we will try to make sure that we have got the information in the course of our bilateral engagements.

The last question which was raised concerned the potential emerging markets task force. May I add that the World Bank and the International Finance Corporation (IFC) are going to publish a flagship report. They have started work on a flagship report, which will look at fintech in emerging markets. This is a topic which they might usefully be able to also cover in this regard.

The Deputy Director of the Legal Department (Mr. Leckow), in response to questions and comments from Executive Directors, made the following statement:

I would like to respond to the question raised by Mr. Raghani, as to the extent to which new technologies may alleviate the problems associated with the decline of CBRs. There is a lot of work being done in the area of so-called Regtech, using technologies such as biometric data, artificial intelligence, big data, and blockchain to put in place new mechanisms for identifying problems with particular customers or identifying transaction patterns that may raise questions about money laundering or terrorist financing. A lot of work is being done in the private sector and at the international level to try to assess to what degree these types of technologies might be able to be used by financial institutions and what affect they may have. The FATF is quite active in this area, and Fund staff is participating in those discussions.

While these technologies hold a great deal of promise and are starting to be deployed, the jury is still out as to how effective they will be in the long term.

As Mr. Raghani knows, the questions around the decline of CBRs are complex, but a very important piece of the solution is the strengthening of AML frameworks at the domestic level, including in emerging markets and developing countries. Fund staff is heavily involved in providing TA in this area. With respect to the specific problems of correspondent banking, later this month, we will be hosting a roundtable discussion in Senegal for the francophone African countries, bringing together regulators from the region, along with both international, regional, and local banks to discuss concrete actions that may be taken in this area and also to coordinate TA with other providers.

The Legal Department and MCM just hosted the first course on CBRs in Singapore for regulators from the region, and we will be repeating this course in Africa shortly.

On the question that Ms. Mehri raised about amending or correcting or modifying the staff reports to update information from her constituency, there are limited circumstances where a staff report can be amended if questions are raised or requests are made at a Board meeting. Perhaps we could take this issue up bilaterally with Ms. Mehri to see to what degree her request meets those requirements.

The staff representative from the Monetary and Capital Markets Department (Mr. Shabsigh), in response to questions and comments from Executive Directors, made the following statement:

I will just pick up on a few themes that Directors have raised on international aspects and, related to that, some of the data policy questions.

The survey captured a broad sense that developments in fintech would have implications for the operations of the international monetary system with several authorities, particularly in emerging markets and developing countries, considering that it also may have implications for the operations of the GFSN. This is a topic that has been picked up in several gray statements and in some of the questions as well.

In the paper, the staff have sought to sketch out some dimensions along which advances in fintech may have implications for the Fund. Our sense is that it is very early days for these changes. Given that the scale of fintech operations are still quite limited in the international financial system, it is hard to prognosticate. But what we have sought to do is to basically lay out some channels by which we think technological change may have implications. The first is through the implications for current account transactions, including remittances and trade financing, where fintech may have the earliest bearing in terms of lowering cost and speed and increasing clarity. This has been a topic that has been picked up in some of the early SDNs that we have worked on, looking at cross-border payments, in particular.

The second channel—a topic that several Directors have raised—is through capital account transactions, to the extent that new technologies eventually facilitate cross-border lending, investment and portfolio capital flows, either through new intermediaries and/or by lowering costs and increasing cross-border access to finance.

Third, and likely much further down the road, the potential of new forms of moneys to emerge on the international stage, whether private or at this stage relatively more likely official, in the form of CBDCs, and what such developments could portend for the constellation of major currencies and the means of payments and stores of value.

It is very hard to predict what may emerge and what these may mean for the level of composition and the volatility of capital flows. We will undertake a further analysis of these possible channels in the paper looking at CBDCs. We will keep all of this under review, including what this may mean and entail for the configuration of the GFSN.

Our expectation at this stage is that the changes in this order would be pretty gradual, but given the potential of the technology, as the Managing Director has laid out, close monitoring and review is called for. We will continue to conduct this in the context of our surveillance on this topic.

On the question of data policy frameworks that has come up in several of the gray statements, this is a topic that is relatively new for the Fund to be focusing on. As Mr. Narain laid out, we plan to do some further notes, summarizing some of the knowledge that we have gained in the context of preparing the paper and the deep dive. Some of this will be summarizing the country experience and approaches to data policy issues as well.

There are two things to flag for your consideration. One is that there is a lot of discussion about moves toward data localization, whereby some limits are being put on the mobility of data across jurisdictions. That is a topic we would like to take a further look at.

Lastly, what is quite striking to us is that there are many different bodies within countries that look at the topic of data from different aspects, whether it is privacy, whether it is from a competition policy perspective or from a financial stability perspective. We are quite interested to see the extent to which these policy perspectives are integrated and are coordinated and are delivering what the policy objectives are laid out to be. This is something that we will take up in further work as well.

The Deputy Director of the Legal Department (Mr. Leckow) remarked that the staff would address Mr. Heo's question about a correction with respect to the information on Papua New Guinea bilaterally.

Mr. Tombini asked the staff to address his question about regulatory sandboxes and whether it was worth taking a deeper look into establishing principles for conducting such exercises.

The Deputy Director of Monetary and Capital Markets Department (Mr. Narain) noted that the World Bank was updating its work on that question, which would hopefully result in a note on early findings.

The following summing up was issued:

> Executive Directors welcomed the opportunity to discuss the joint IMF-World Bank staffs' stock-taking of country and regional fintech experiences as a follow-up to the Bali Fintech Agenda. They appreciated staff's timely and comprehensive review of this work, which demonstrates the Fund's role of acting as a global forum for sharing knowledge and experiences. Directors also praised the continued close collaboration between the Fund and World Bank staff within their respective mandates.
>
> Directors broadly agreed that the elements of the Bali Fintech Agenda had informed staff's work and provided a useful framework for country authorities' work in this area, helping countries identify the significant potential benefits and challenges that technological innovations may bring to the financial sector and their economy at large. They welcomed the first Fund-World Bank global fintech survey of policy actions of the membership, and noted that the findings confirm that countries are broadly working on building up an enabling environment while balancing risks, especially related to Anti-Money Laundering/Countering the Financing of Terrorism (AML/CFT) and cybersecurity.
>
> Directors considered that the in-depth review of selected cross-cutting issues provided useful information to policy-makers, as requested by the membership. They broadly concurred that the issues raised may help countries enhance policy deliberations, including with international standard-setting bodies (SSBs), on developing appropriate frameworks in the legal, regulatory, supervisory and data areas, against the background of accelerating technological innovations.

Directors agreed that several key policy issues would require heightened attention from national authorities and international bodies. These include managing competing policy priorities with the aim of harnessing the benefits of fintech while supporting competition and strengthening financial stability, financial integrity, and consumer protection. Directors also emphasized the importance of other priorities, including building regulatory capacity, strengthening cybersecurity, and enhancing data frameworks. They took note of staff's analysis on the need to develop new international standards or good practices to support countries in adapting their legal and regulatory frameworks, although some Directors did not see the need for new standards related to fintech beyond what is already under discussion in the relevant international fora.

Directors called on staff to further foster information exchange, knowledge building, and international cooperation, especially in the areas of cybersecurity, AML/CFT, regulatory and supervisory frameworks, and the payment and settlement systems. Directors stressed the need to continue to work closely with relevant standard-setting bodies, with the aim of promoting financial stability.

Directors encouraged staff to closely monitor fintech developments and further analyze the macro-critical implications and risks at the country and global levels, taking into account resource constraints. They called for further work to be centered around the Fund's core mandate of ensuring financial stability and integrity, and orderly evolution of the international financial system in light of fast-changing fintech developments. A number of Directors encouraged exploring fintech solutions to address the loss of correspondent banking relationships in some member countries. Directors also stressed the importance of further capacity development support and advice in the context of Fund's bilateral country work. They called on staff to clarify and define the nature and scope of the Fund's role in fintech issues.

APPROVAL: April 24, 2020

JIANHAI LIN
Secretary

Annex

The staff circulated the following written answers, in response to technical and factual questions from Executive Directors, prior to the Executive Board meeting:

Global fintech landscape

1. ***We would appreciate any further detail from staff on the outcomes of the CBDC pilots undertaken so far.***

- The survey revealed that About 20 percent of respondents indicated that they are exploring the possibility of issuing but to date there have been two CBDC pilots–Ecuador and Uruguay. The central Bank of Uruguay (CBU) has completed a limited scale six- month pilot during November 2018 – April 2019. The pilot was technically successful to the extent the infrastructure worked well and take up was robust. The CBU is now evaluating the experience and looking at the broader dimensions of CBDC introduction, including potential impact on monetary policy implementation and financial stability.

2. ***It seems from the paper that there is the view that Latin America remains behind many other regions. What could be the major factors for this lagging behind? Does staff consider that it could be the case that the current regulatory framework in Latin America could be hindering innovation?***

- Fintech landscape in Latin America is growing rapidly, despite starting from a low base. The importance of fintech varies widely across countries, depending on the level of economic development, financial market structure and size, and regulatory/policy frameworks. This could reflect either the availability of banking correspondents or agents in many countries, which could reduce the need for SMS/USSD-based mobile money services relative to regions where comparable infrastructure is non-existent, and/or the high degree of informality, which could reduce incentives to receive digital payments. (Source: Berkmen et. al., (2019). *Fintech in Latin America and the Caribbean: Stocktaking*. IMF working paper. WP/19/71). In addition, access to bank accounts and ATMs in Latin America and the Caribbean, on average, is better than some other regions, such as Africa, which has experienced rapid growth in their mobile payments. Further research is needed to disentangle the contribution of different factors.

3. ***In this regard, we would also like to learn more on how staff is studying the evolution of private digital tokens towards identifying emerging threats to financial stability and AML/CFT related activities.***

- Staff is studying the evolution of private digital currency from a financial stability perspective via several channels, such as the through market surveillance which produces the monthly Fintech Update, participation in international forums where these topics are under discussion, (e.g., the FSB Financial Innovation Network), as well as meetings with innovators and industry leaders including in the interdepartmental monthly Fintech seminars. Staff agrees that CBDC should be carefully assessed and hope to provide member countries with frameworks to do so more systematically. With respect to AML/CFT, staff keeps abreast of developments regarding private digital tokens and their potential threats to financial integrity, including through its participation in the Financial Action Task Force discussions of virtual assets (including those related to money laundering and terrorist financing methods in the digital world) as well as through its bilateral dialogue with members in the context of the AIV consultations and FSAPs and with experts in the field.

4. ***Staff recently estimated that average annual losses to financial institutions from cyber-attacks could reach a few hundred billion dollars a year. Is there an updated assessment of the impacts of cyber risk?***

- An IMF working paper https://www.imf.org/en/Publications/WP/Issues/2018/06/22/Cyber-Risk-for-the-Financial-Sector-A-Framework-for-Quantitative-Assessment-45924 in 2017 presented a range of estimated loss scenarios between USD300bn to USD600bn using a value-at-risk framework and leveraging publicly available data. Staff has not updated this assessment. Estimating the impacts from cyber risk is inherently challenging. One factor is that indirect losses (e.g. reputation risk, disruption time etc.) are likely to be far greater than direct losses. Furthermore, loss data is often underreported and lagged owing to the sensitivity of the topic. It is worthwhile to caution that estimates from the market of impacts of cyber vary considerably and the reliability of the projections is difficult to verify.

5. ***Can staff elaborate on this point and substantiate the call for regular reviews of the GFSN in response to fintech developments?***

- Staff will respond to this question during the Board meeting.

6. ***We would also ask staff to clarify the terminology. Does CBDC as used in the staff report refer to new digital payments systems of an existing currency or the creation of a new digital currency by a central bank?***

- The Staff's work in this area, including in Staff Discussion Note's from 2017 and 2018 specifically refers to digital representations of the country's or currency area's fiat currency, and not the effective creation of an additional currency. The 2018 SDN defines CBDC as "a widely accessible digital form of fiat money that could be legal tender."

7. ***On a final note, we agree with the backward-looking statement that "there have been only minor impacts on monetary policy transmission through the bank-lending channel" (para. 85). At the same time, we see a need to distinguish between payment services for which settlement takes place in traditional banking systems and new digital monies issues by "big tech" firms to be used for commerce rather than just peer-to-peer payments (e.g. "FaceCoin"). We consider that implications for monetary policy transmission from those developments may well become significant in the future – a point that could be expressed more clearly. Staff comments are welcome.***

- Monetary policy should theoretically remain effective as it should be able to set interest rates of the most liquid and safe assets in the economy—either central bank reserves, or potentially one day CBDC. However, more work is needed to assess the potential impact on transmission under specific scenarios of adoption of privately issued digital currencies. Under some scenarios, the existence of digital forms of foreign currencies could facilitate domestic dollarization in some economies and thus undermine monetary policy effectiveness (for background, please see paragraphs 52 and 53 of CBDC SDN (2018)).

8. ***In our view, it may also be useful to keep abreast of research on potential security flaws in hyped "unbreakable" systems. For example, a forthcoming MIT study, mentioned in a WSJ blog by Prof. Stuart Madnick of MIT, intends to dispel an important notion that blockchain technology can protect data from misuse. Raising awareness about such issues will be helpful to many country authorities. Staff comments would be appreciated.***

- There have been reports of some concerns regarding potential vulnerabilities in the security of block chain technology which remain to be fully addressed. Further, blockchain technology-based pilot projects, particularly by Central Banks, have shown that blockchains have not matured to a sufficient degree to justify a shift from existing rails. Issues such as scalability, interoperability, legal frameworks and privacy that are critical for financial services are yet to be fully addressed.

9. ***The Bank's Africa Moonshot program to digitally connect individuals, government and businesses by 2030 in particular could be a game changer for SDGs if nationally free Wi-Fi is part of the program. Can staff provide further comments on this?***

- The Bali Fintech Agenda highlighted the important role of foundational infrastructure for the development of fintech in general and for financial inclusion in particular. Fund staff will continue to discuss these developments with the World Bank and reflect on them in Fund work as appropriate.

IMF-World Bank fintech survey

10. *Could staff elaborate on why there is little appetite for international standards in these two areas (i.e., mobile money payment services and P2P lending)?*

- Mobile money payment services and P2P lending have been growing more regionally (mobile money – Africa, P2P – East Asia) than globally and this may explain why these have not featured in the agenda of the SSBs which prioritize issues with international implications. In addition, these two services are typically conducted by non-financial entities (such as Mobile Network Operators or technology companies), whose regulatory bodies are not part of the SSB configuration. However, with the global interest in these two modalities as an important means of enhancing access to financial services, they are now on the international agenda. The IMF can take and is taking an important role to continue to monitor the developments and assess the risks and to encourage coordination among the SSBs where beneficial.

11. *We also note that the representation of LIDCs in the analysis that informs standard setting will be important and we urge staff to ensure that the interests of the full membership including LIDCs, are considered in this context. Staff comments are welcome.*

- See response to question 11.

12. *We would welcome further information as to what other modalities could be used to learn about the experience of a broader set of countries, in particular LICs.*

- The Fund is a member or an observer in several of the SSBs and staff ensure to bring the perspective of the Fund's universal membership to the discussions, frequently informing SSBs of LIDC-relevant issues learnt through our surveillance and capacity building mandates. Some of the SSBs have developed outreach mechanisms to better include the views of non-members, (for example, the FSB regional consultative groups (RCGs) and the BCBS' Basel Consultation Group). The FSB has set up a working group to review the effectiveness of the RCGs, and staff are represented on this group.

13. *It would be useful to see some prioritization of issues, based on the survey results and other information on country experiences that are reported in the paper. Is*

staff visualizing prioritization and, if so, what are the issues being considered as high priority?

- Staff will respond to this question during the Board meeting.

Emerging policy issues

14. ***To ensure an effective regulatory environment, we consider sandboxes are a good tool that could offer valuable policy lessons of failure and success. Furthermore, the role of the self-regulatory bodies is yet to be clearly defined, which may foster knowledge-sharing between public- and private-sector players. Staff's comments are welcome.***

- Regulatory sandboxes are a useful tool to provide insights to policymakers. However, they are not by no means a silver bullet to ensure an effective regulatory environment. In particular, sandbox implementation needs to consider the public policy objectives and intended value added of the exercise, and careful consideration must be given to the level playing field between fintech firms and existing financial entities, resource implications to the supervisor (sandboxes can be costly, and other approaches such as innovation hubs and incubators/accelerators have also been used with success to facilitate regulatory interactions with innovators), sequencing of authorizations and testing and exit from the sandbox. Self-regulatory bodies, where they exist, could play an important role to facilitate communication between public and private-sector players.

15. ***To reiterate our earlier point, it would be useful if staff were to categorize countries based on their location on this trajectory and link this up with the urgency of issues. Could staff comment?***

- The staff will build on the findings of the paper to better categorize and prioritize surveillance and capacity developments engagements with member countries on fintech issues.
- Fund resources and engagement

16. ***Given the interest in fintech as a path to support development, we encourage the production of staff policy notes to guide the tailoring of staff advise proffered to authorities; advice that would still need to reflect country specific priorities and challenges. Meaningful staff guidance is needed for surveillance teams, to better equip them in engaging authorities on potential fintech and cyber security risks and regulatory requirements; as well as on how to structure a policy and legal environment supportive of fintech. Staff views on this are welcome.***

- In the course of their bilateral engagements, staff has already observed a range of practices, and some common elements for consideration and implementation challenges are emerging. As in the case of other aspects of learning and sharing through capacity development engagements, this gained knowledge will feed into the development of guidance to assist staff's advice to authorities.

17. ***We would also encourage identification of fintech experts who can serve as an ongoing resource for analysis, surveillance and TA. We note, furthermore, that almost sixty percent of the surveyed country authorities believe fintech developments would have a major impact on the operation of the International Monetary System (Question 64). To this end, the requisite expertise to stay abreast of developments alongside effective coordination with development partners will be important. We would appreciate staff views on this issue.***

- Staff agrees that it needs to stay abreast of the international dimensions of fintech in collaboration with partners to capture the potential changing nature of international payments and cross-border flows. Staff sees fintech's implications on the functioning and stability of the international monetary system to be more a potentially longer-term topic but needs to advance its analytical work in this area.

18. ***We would appreciate staff comments on this resource issue and what is needed to integrate fintech effectively into financial and regular surveillance.***

- Staff will respond to this question during the Board meeting.

19. ***As noted in the report, with the rise in mobile finance in SSA, there are emerging challenges and risks including AML/CFT, cybersecurity, consumer protection and data privacy issues. We therefore view the Fund as having an essential role to contribute to ongoing efforts by scaling up provision of tailored capacity development and technical assistance, alongside advice to help countries navigate this new terrain. Could staff comment on the availability of CD and TA on these issues?***

- As outlined more fully in the response to question 33, the Fund is already undertaking an active program of tailored TA and capacity development on cyber resilience, focused particularly on low and lower middle- income countries. The Fund also has an active program of TA on AML/CFT issues. Staff will be updating its AML/CFT CD modules as soon as the Financial Action Task Force (FATF) clarifies the modalities of implementation of its new standard on virtual assets (finalization is expected in end-June or October 2019) in order to be able to respond to potential requests from the membership in its efforts to implement the new FATF standard.

Staff is developing knowledge and expertise in other areas such as regulatory and legal frameworks for fintech to support requests for technical assistance.

20. ***Could staff comment on the availability of Fund expertise to provide advice on fintech in Islamic finance?***

- The positive impact on financial inclusion extends to fintech products that are compliant with Islamic finance principles, as fintech could offer increased transparency on sharia compliance particularly in peer-to-peer (P2P) lending. But, Islamic finance Fintech faces similar challenges to the fintech sector in general and more work needs to be done in this area.

21. ***What is the role that the IMF should play to support and inform the work of SSBs in the development of international standards or good practices?***

- The Fund collaborates actively with the SSBs and participates in regulatory and policy discussions at the SSBs. The Fund helps to present the perspective of global financial stability and the benefits of an open global financial system, thus taking account of international interconnections and spillovers, as well as drawing on the experience of the universal membership, many of which are not represented at the table. The Fund, together with the Bank, also plays a major role in supporting the effective implementation of international standards and sharing of experience and best practices through the FSAP program which draws on standards and codes as well as through the extensive program of technical assistance and capacity development.

22. ***Somewhat in contrast to the statement in the Executive Summary that the "paper identifies key areas for international cooperation—including roles for the IMF …", the report contains little specific information on the intended nature and scope of the Fund's role or details on the intended contribution of the Fund to addressing the "urgent issues needing attention", identified in para. 90 of the report. Further information would be welcome. This also includes information on the (additional) resource needs resulting from the Fund's work on fintech.***

- Staff will respond to this question during the Board meeting.

23. ***Can staff explain in more detail what new standards it has in mind and to what extent this call is already being addressed in the ongoing discussions in the relevant bodies? Again, we would be interested in information to what extent FSB, BIS, the relevant Basel Committees, and the FATF have been consulted for this report and what views they have expressed, in particular regarding the identified "urgent issues needing attention" (para. 90) and the Fund's engagement in this area?***

- Feedback from members in the survey, as well other bilateral and multilateral fintech work, suggest that there are areas such as crypto-assets, where additional standard setting work would be helpful – while there is an active program of work across the SSBs on crypto asset risks, development of new international standards is not currently being actively pursued by the SSBs. Staff interact actively with SSBs and international agencies on regulatory topics including Fintech and participate in multiple discussions and workstreams of these bodies. For example, an MCM staff member co-chairs the crypto asset monitoring workstream of the Financial Stability Board (FSB). Staff also made active contribution to the FSB recent analysis on decentralized financial technologies. Our inputs have been well received and incorporated into the discussions. The IMF is also an observer to the Financial Action Task Force (FATF) and in the FSB Financial Innovation Network, CPMI/World Bank Task Force on Payment Aspects of Financial Inclusion, and the CPMI/IOSCO Joint Working Group on Digital Innovations. These bodies help monitor market developments, the potential financial stability benefits and risks from fintech, and assess the need for new international guidelines or standards. Staff consulted actively with the international institutions and SSBs in the development of the BFA. As the current paper is a follow up stock take of subsequent national experience, the paper was not shared at a preparatory stage with the SSBs.

24. ***We would appreciate an overview on how staff plan to integrate aspects of fintech into their existing work and/or what specific guidance staff will promote on these topics.***

- Staff will respond to this question during the Board meeting.

25. ***This begs the question of how much staff time is being spent on fintech work versus enhancing core, macro-critical financial sector surveillance and monetary policy efforts. Could staff provide the number of FTE working on fintech issues?***

- The budget paper discussion in April provided an estimate for spending on fintech (excluding capacity development and cyber-risk) in FY 19 to be around 15 FTEs, or $4.7 million. This includes staff time of those working on these issues in MCM, LEG, SPR, and area departments (e.g. working papers on fintech). The majority of fintech resources in FY2019 was attributable to staff in functional departments. Fintech resources devoted to capacity development are small, though fintech has been designated as a capacity development growth area. We expect a small increase in resources devoted to fintech in FY2020 but in general expect more of this work to be absorbed as part of the Funds ongoing financial sectors surveillance and capacity development work.

26. ***Could staff provide information on resources dedicated to fintech in the Fund's bilateral and multilateral surveillance, as well as in capacity building in the past fiscal year and the expectations for the current fiscal year? We would also like to know more about how the burden of the fintech work is shared between the area and functional departments in the IMF, what the experiences with the current setup are, and whether any organizational changes and/or resource shifts are envisaged in the near future.***

- See response to question 24.

27. ***We would be interested to learn from staff about the expected impact of the additional work on fintech in terms of resource allocation. Staff comments are welcome.***

- See response to question 24.

28. ***We would also welcome more information on the coordination with other bodies such as the FSB, BIS and the FATF, to avoid duplication of work.***

- The Fund has strong relationships with other IFIs and SSBs including the FSB, BIS and FATF (the Fund is a member of the FSB and an observer to the FATF). Staff interact and co-ordinate actively with their members and staff to develop synergies (and in some cases prepare join reports) and to avoid duplication. Staff consulted actively in the preparation of the BFA for example. For further discussion see answer to Question 22.

29. ***In particular, did staff analyze what weaknesses and strengths the Fund has in covering fintech developments, and where the biggest internal challenges lie?***

- Staff will respond to this question during the Board meeting.

30. ***We note that the current CD efforts are limited as outlined in paragraph 10. We would welcome staff elaboration on plans to expand this activity as in-house expertise is built and international standards on regulatory approaches develop.***

- As noted in other responses, staff are engaged in capacity development in cyber security and AML/CFT as well as through the extensive program of capacity development in financial regulation and supervision, central bank and monetary policy operations, debt management etc. As staff knowledge and international experience grows, staff will expand the program of technical assistance and capacity development on fintech topics. As initial examples, a first training course on fintech issues was delivered jointly between MCM and ICD in China early this year, and a regional workshop was organized by AFRITAC South and East with support from Head Office. On cyber security, staff have organized workshops at HQ for member authorities from LICs to facilitate knowledge sharing, supplemented by regional workshops at the RTACs and bilateral TA.

31. ***In this regard, we would find it useful to have a clearer understanding of the amount of Fund resources currently devoted to fintech issues and of potential trade-offs in resource reallocation.***

- See response to question 24.

32. ***More broadly, we would like to ask staff how the work on fintech relates to joint IMF-World Bank work on related topics, such as Regtech or Govtech? How are responsibilities delineated in these related issues?***

- Fund staff at present are not actively engaged on Regtech and Govtech issues, but will continue to discuss with the World Bank potential areas of cooperation.

33. ***Taking into consideration the work done by the standard setting bodies, we would be interested to better understand where staff sees its role and unique advantage in providing countries with adequate support?***

- Staff will respond to this question during the Board meeting.

34. ***We would be interested to learn how staff perceives its role in providing help to countries to better mitigate their cyber risks?***

- The Fund has a work program in place for cyber risk, beginning in 2017. The work program emphasizes the importance of developing cyber resilience, in particular in smaller and lower income countries, which may have lower capacity and thus be more vulnerable to attack. TA efforts are focused on enhancing cyber security supervision in the financial sector for low and lower middle income countries with three main pillars – an annual workshop for low income countries (two have been held so far in partnership with the National Bank of Belgium with future workshops being supported by the FSSF; regional workshops in the RTACs (5 held so far and 3 are planned); and bilateral assistance missions to jurisdictions (10 have been held so far). A forthcoming MCM departmental paper will set out best practice findings from this work. Additional work on improving analytical and modelling approaches will help all countries enhance risk management across the economy.

35. ***We would welcome staff's views on the potential avenues, if any, for the Fund to engage with the private sector.***

- The staff is in regular contact with a wide range of private sector actors to learn and keep abreast of latest developments in this area. Moreover, the Managing Directors High Level Advisory Group includes high level representatives from public and private sector organizations to facilitate dialogue and brief the staff.

36. ***Given that resources for financial surveillance are already significantly constrained, we would be interested in staff's initial views on the resource implications of focusing on fintech issues in FSAPs. Also, are there any lessons learnt from recent FSAPs in terms of development of staff expertise?***

- The FSAP pilots provided a valuable opportunity to gain insights into the topic of fintech through the lens of surveillance. Expertise of the mission team was a key factor to consider when designing the scope of the fintech FSAP pilots. As fintech is not one topic but an entire slew of topics spanning all segments of the financial system e.g. banking, securities, payments, insurance etc. a multidisciplinary team is optimal with expertise in key functions (such as payments where innovation is particularly active) is desirable. A cross-sectoral approach is needed to reflect the nature of fintech developments. This fits relatively naturally with the systemic risk focus of the FSAP. As the financial system adapts and risks evolve it is important that expert staff keep abreast of developments to continue to provide high quality assessments, policy advice and technical assistance. As innovation continues to be absorbed and become mainstream rapidly, fintech is likely to be viewed as less and less of a special topic, and addressing the risks and oversight of structural change in the financial system may increasingly become a normal part of the FSAP.

37. ***Given the capacity constraints and competing demands on CD resources, we welcome staff's views on the implications of fintech-related developments on the Fund's capacity development strategy.***

- See responses to questions 18 and 29.

38. ***To what extent do the Fund's current data reporting standards capture fintech developments?***

- With respect to data required for analysis of Fintech trends and issues, a cross-departmental Fintech Data Selection group has been established to identify and recommend the most suitable fintech commercial data service to support the Fund's analytical research agenda on fintech. The group concluded that, at present, there is no all-encompassing service for fintech data as there are technical and legal challenges to provision (data is fragmented and must be gathered from multiple POS providers and data localization laws prevent granular data dissemination).

- With regard to the treatment of Fintech activities in macro-statistics, the statistics department of the Fund has produced a clarification note endorsed by the IMF Committee on Balance of Payments Statistics and the Inter-secretarial Working Group on National Accounts ("Treatment of Crypto Assets in Macroeconomic Statistics" https://www.imf.org/external/pubs/ft/bop/2019/pdf/Clarification0422.pdf) which provides guidance on their statistical treatment based on the current methodological standards and classifications (but which may need to be revisited if conditions substantially change in the future).

39. ***Given resource constraints and multiple objectives of the Fund, we continue to emphasize the importance of creating synergy with other international bodies and avoiding duplication and see the need for a holistic strategy to better integrate work on fintech into the Fund's core responsibilities. Staff's comments are welcome.***

- See response to question 27.

40. ***Staff have provided policy recommendations on risk mitigation in eight Article IV Consultations, conducted in-depth fintech discussions in three pilot countries, and provided capacity development through peer-to-peer information exchange and workshops. What is the staff's assessment on these actions so far and what are the implications for the future directions of the Fund's engagements?***

- Surveillance and capacity building in fintech areas are at an early stage. The first Executive Board discussion on fintech issues was less than a year ago. There is a normal process of adaptation, gradual learning and integration into surveillance that the Fund embarks on whenever is faced with a new or emerging issue. The experience so far has been positive. The Fund receives an increasing number of requests to engage. Responses to these questions are being shaped gradually.