Opening Remarks for the 4th IFC Workshop on Data Science in Central Banking

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Good morning, distinguished guests, colleagues, and friends,

It is my great pleasure to welcome you all to the **4th Workshop on Data Science in Central Banking** organized by the BIS Irving Fisher Committee on Central Bank Statistics (IFC) and hosted by the Bank of Italy.

As we gather today, we are reminded of the **rapid advancements in data science and its profound impact on central banking**. Indeed, the sheer volume and complexity of financial data now available call for more sophisticated techniques for data management and analysis. This trend is reinforced by the new opportunities opened up by artificial intelligence and machine learning. This workshop is a testimony to our collective commitment to harnessing innovation to enhance central bank' operations, policy-making, and overall effectiveness.

As emphasized in the last 2024 IFCs Annual Report just endorsed by the BIS All Governors a few weeks ago, **the current focus on data science and AI supports the broader objective of improving statistical methods and fostering innovation in central banks**. This IFC report underscores that leveraging new technologies can be instrumental to enhance data quality, improve analytical capabilities, and support evidence-based policymaking. The Report also calls for reviewing the related ongoing initiatives pursued by central banks and for providing a platform for sharing knowledge and best practices.

Let me recall that the **three previous IFC data science workshops** have been dealing with, respectively, (1) machine learning applications; (2) applications and tools in data science; and (3) data access and sharing. This time we will over the next three days delve into the various aspects related to the **use of generative AI in**

central bank activities. We will hear from esteemed experts and practitioners who will share their insights and experiences, providing us with valuable knowledge and practical tools to navigate the evolving landscape of data science.

I would like first to extend a special welcome to **our keynote speaker, Julien Simon, Chief Evangelist at Arcee.ai**, who will be discussing the tailoring of small language models for enterprise use cases. His expertise and vision will undoubtedly set the tone for our discussions.

Then the sessions of the **workshop will cover various critical areas**, such as natural language processing tools, AI for summarization and information extraction, supervisory technology, text analysis for market monitoring and monetary policy purposes, and data privacy and anonymization.

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Let me share with you a few thoughts on these issues:

First, the new techniques we will discuss are not only very timely, but they are also essential to leverage data science to address the complex challenges we face in modern central banking. In particular, **the integration of generative AI and advanced data analytics into central banks' operations can significantly enhance their ability** to make informed decisions, assess economic trends, and work to promote monetary and financial stability. More generally, IT innovation provides brand new perspectives. For instance, open-source software offer numerous benefits supporting official statistics and data analysis, including cost savings, flexibility, and the ability to customize solutions to meet specific needs. Another example is that modern data management approaches such as data lakes and data meshes architectures allow for new ways to store, organize, and access data [*Note that I said data lakes not "data ponds", and data mesh not "data mess"!!*]. This calls for careful planning and for not blindly following the crowd and fashionable buzz words. The main goal is to concretely help central banks to more effectively leverage their information assets, improve the integration and quality of their data, and support more sophisticated analytical techniques.

Second, your presence here today, coming from various jurisdictions all over the world and representing central banks, other public authorities, international organizations, academia and the private sector, **underlines the importance of the goal of this workshop, which is to showcase concrete projects, share**

experiences, develop in-house knowledge and also reduce reliance on external service providers.

Third, central banks, as producers of official data, have a key role to play to promote the access and dissemination of credible information to various external stakeholders, including other domestic authorities, international institutions, academia, and the general public. But **better data is also key for supporting real-time, evidence-based policymaking in central banks**, which increasingly rely on trustworthy data and sophisticated analytical and forecasting capacities to support their decisions.

Fourth, the relevance of artificial intelligence for central banks cannot be overstated, as it offers immense opportunities to enhance productivity, improve decision-making, and foster innovation. In particular, **Generative AI has the potential to revolutionize data analysis and interpretation, offering deeper insights and more accurate predictions.** For instance, the use of large language models can significantly enhance our ability to process and understand vast amounts of unstructured data, ranging from economic reports to news articles, thereby enabling us to make more informed policy decisions especially in the areas of monetary policy, financial stability, and regulatory oversight.

However, and this is my fifth point, **GenAI also presents significant challenges and risks**. Central banks must navigate issues such as data privacy, security, and ethical considerations. The potential for systemic risks, such as homogenization of information and procyclicality, requires careful management. As central banks increasingly rely on data-driven approaches, it is essential to ensure that sensitive information is protected, and that data is used ethically and responsibly.

And my last point is that addressing these challenges calls for **developing robust governance frameworks.** This is key so that we can harness the power of AI while mitigating its risks, ensuring that our financial systems remain stable and resilient. At the same time investing in advanced IT infrastructure and fostering collaboration and coordination as we do today can help to stay abreast of emerging threats and implement best practices.

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To conclude, this workshop aims to gather a diverse audience of practitioners, specialists, and interested stakeholders from central banks, international

organizations, national statistical offices, and beyond. **Our primary objective is to highlight ongoing projects and exchange experiences that can help foster in-house expertise and lessen reliance on external service providers.** For instance, a number of projects that will be presented in the next few days have replicable codes developed with open-source software and can be usefully shared among all interested stakeholders. Moreover, the presentations will enhance our understanding of the opportunities and risks associated with new Generative AI technologies. This is key for central banks willing to navigate the evolving financial landscape and ensure that they are well-positioned to meet future challenges.

I therefore encourage you all to actively participate in the sessions, engage with the speakers, and share your own experiences and perspectives. **It is through this collaborative spirit that we can truly advance our understanding and application of data science in our field**. Before closing, I would like to thank the organizers, speakers, and all participants for your dedication and contributions to this workshop. I am confident that our time together will be both enlightening and inspiring, and I look forward to the fruitful discussions and innovative ideas that will emerge.

Thank you, and welcome once again to the 4th Workshop on Data Science in Central Banking.