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Report on the Lámfalussy Lectures Conference 2023*

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Named after Alexandre Lámfalussy – the father of the Euro, a prominent Hungarian-born economist and renowned expert on European finance – the ninth Lámfalussy Lectures Conference organised by the Magyar Nemzeti Bank (the Central Bank of Hungary, MNB) was held on 6 February 2023, where high level decision-makers and leading global financial experts discussed the most topical issues in today's financial landscape: the prospects for central bank digital currencies (CBDCs) and the role of central banks in promoting a green economy. The goal was to engage in a comprehensive dialogue and prepare together for the economic challenges of the future. The title of the event was "New dimensions of central banking in the post-Covid era". The day before the conference, the Lámfalussy Award was presented to Robert Holzmann, Governor of the Oesterreichische Nationalbank, while Zsolt Kuti, Executive Director responsible for Monetary Policy, Financial Analysis and Statistics of the MNB received the Popovics Award.

1. Opening speech

In his opening remarks, *Mihály Patai*, Deputy Governor of the Magyar Nemzeti Bank, highlighted that we could not avoid talking about inflation, which was unquestionably "Public Enemy" Number One these days. He believed that the worst already was behind us worldwide and was optimistic for four reasons:

(1) demand management was working in relation to inflation, as demand last year fell worldwide and for example in Hungary retail sales were contracting;

(2) prices of key raw materials had already decreased in many cases;

(3) fiscal and monetary policies had started to converge, practically all around the world. In this changed international economic and financial situation, fiscal and monetary policymakers needed to cooperate and take unprecedented measures;

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* The papers in this issue contain the views of the authors which are not necessarily the same as the official views of the Magyar Nemzeti Bank.

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(4) all over the world, but specially in Central Eastern Europe, part of the inflation was profit driven. In Hungary, in particular, inflation was partly rooted in the very high profitability of certain industries. Knowing this issue, there was a hope that the political elite would act accordingly.

In order to fight inflation, the MNB would definitely cooperate with the Hungarian government, harmonising each and every step with them.

He pointed out that the afternoon panel was about the green economic transition and the possible role of central banks in greening the economy to support more sustainable, environmentally-friendly development. The MNB received a green mandate in 2021 and therefore it was part of the central bank Hungary. It was important to see what others think of this issue.

The other panel was on digitalisation, particularly on central bank digital currency. For *Patai* personally, the most important issue was whether the central bank digital currency would serve the interest of the customer or serve it better than the existing payment system.

2. Lámfalussy Lecture

Lámfalussy Award recipient *Robert Holzmann* noted that the work of Lámfalussy was more relevant in the current circumstances than many people may think and underlined Lámfalussy's mantra: *"Monetary policy, like all other policies, remains an art, not a science*."

Holzmann's presentation had three parts: First, he looked back at the period preceding the current "return of inflation". He concentrated on one of the defining features of euro area monetary policy during the last decade: the highly accommodative unconventional measures, such as negative interest rates, asset purchases and funding for lending schemes. It was ten years ago this past July that *Mario Draghi* gave his famous "*Whatever it takes*" speech – so the time seemed ripe to reflect on the use and effects of unconventional measures. The standard view in policy circles is that unconventional monetary policy has a predominantly positive economic impact. At the same time, however, highly accommodative monetary policy could produce severe side effects, in particular on productivity. In the presence of financial frictions, very low interest rate levels could contribute to the survival or new market entry of low-productivity firms by easing their financing constraints and reducing incentives to repair their balance sheets, rather than promoting expansion and innovation. Therefore – by now – the majority view was that the euro area and others should officially discuss quantitative tightening. *Holzmann* stated that the European Central Bank (ECB) would begin with quantitative tightening from 1 March 2023.

Second, he looked at the present challenges. Monetary policy must be credible, now more than ever because it was crucial to keep inflation expectations anchored and to minimize the costs of disinflation. For precisely this reason, the members of the Governing Council of the ECB did not disregard the influence of the current inflationary surge by taking a "wait-and-see" approach. Ultimately, the losses euro area policymakers incurred by consistently missing the inflation target came at their own peril. Inaction – or weak action – in the fight against inflation would have backfired as it would have eroded the public's confidence in the commitment to price stability. The timely response was key in keeping inflation expectations close to the target. Nevertheless, current inflation rates in the euro area remained too high. Most importantly, people clearly continued to feel the impact of inflation in their daily lives. Hence, today, the risk of overtightening seemed dwarfed by the risk of doing too little. *Holzmann* considered himself at least partly "*Lámfalussyian*" when reaffirming that monetary policy must continue to show its teeth until there was credible convergence to the inflation target, which was also felt by the wider public.

Third, *Holzmann* looked ahead and reflected on the future of monetary policy, broadly speaking. Over the past few years, a lot had been said and written about economic and financial heterogeneity in the euro area, including its ramifications for monetary policy. The ECB certainly had the power to address short-run financial fragmentation in the euro area whenever it impaired the transmission of monetary policy. Still, in the medium to long run, the ECB's instruments could not substitute for a genuine, market-driven integration of capital markets. As the Committee of Wise Men, under Lámfalussy's chairmanship, highlighted: only a tightly knit capital market would create the level playing field necessary to absorb asymmetric shocks and to prevent the occurrence of diverging financing conditions across the euro area. Concurring with this vision, forging a European capital market should constitute an economic, political and regulatory priority of the European Commission and all EU member states. A unified capital market would ease frictions inhibiting firms' access to external finance, and most importantly, equity finance. Only a truly developed capital markets union can break the sovereign-bank nexus, revive cross-border transactions and thus facilitate risk-sharing in the euro area. A capital markets union would provide the best mechanism for funding promising endeavours, thereby boosting productivity growth. It would also contribute to more independence from central bank funding and thus reduce future risks linked to the asymmetric transmission of monetary policy in the euro area. A well-integrated capital markets union may also reduce the need for fiscal interventions in case an asymmetric shock hits a member state. In modern democracies, deep, liquid capital markets were best achieved through savings motivations that were common to all individuals over their life cycle – housing ownership and retirement financing – and the related financial market institutions.

Finally, *Holzmann* stressed that non-monetary, structural policies should boost productivity that increased the labour force participation of the elderly to compensate for population aging and that reduced the savings glut in the global north by transfers for productive investments toward the global south. For example, a broadly conceived, effective green agenda would offer new opportunities in this regard.

3. Keynote Speech

Catherine L. Mann, External Member of the Monetary Policy Committee of the Bank of England, gave a speech entitled "*Turning Points and Monetary Policy Strategy*". She talked about how they use data to spot turning points in the economy and how that fed into her policy decisions. In her opinion, some central bankers were seeing a turning point in data to which they were responding with an inflection in their respective policy paths. Relevant turning points related to the mandate of the central bank. Inflation was key for all central banks, but some had to be equally mindful of other metrics of macroeconomic performance, for example employment. One approach to identifying turning points put substantial weight on forecasts from large macroeconomic models, because these took account of the complex inter-relationships among economic variables and policy. However, one must be humble these days about the stability of the relationships, for example of inflation dynamics and the monetary policy transmission mechanism. This meant that it made sense to complement the macro forecasts by looking at a range of more granular data. A closer inspection of data showed that inflation components particularly exposed to external drivers were not all moderating. Although energy prices were capped for now in the UK and goods prices were decelerating, but food prices continued to surge. Services inflation posted at a 30-year high, at or over six per cent for five consecutive months. The stabilization of headline inflation, therefore, was not yet the harbinger of a turning point towards a sustainable return to the 2 per cent target.

She presented charts indicating that the UK's demand condition was notable in failing to return to the pre-Covid level of GDP, much less approach its pre-Covid trend. Yet, inflation was stubbornly high in the UK, where there were other unique problems: increases in early retirement and long-term illness had reduced labour supply and Brexit had reduced trade and investment efficiencies. Turning to the labour market, rising unemployment was an ex-post indicator of the business cycle. But the early warning of turning points in the labour market could foreshadow a turning point in wage growth, which might herald a turning point in the rate of price inflation. The ratio of the number of vacancies to the number of unemployed, which was a leading indicator and summary statistic of labour market tightness, had fallen in recent months, but remained at record highs driven both by vacancy levels

and low unemployment rates in the UK. This was a unique combination historically in the UK labour market, highlighting why current labour market conditions did not resemble the behaviour after previous supply shocks. If there was a mismatch between UK labour demand and supply, wage growth could stay stronger for longer, presenting an upside risk to inflation.

The OECD's Composite Leading Indicator provided a qualitative assessment of early signals of turning points in business cycles, drawing on a vast amount of underlying data. A fall below the long-term average indicated a negative deviation from trend and thus warned of recession. This was consistent with the view that the UK was not only suffering from the Covid and energy shocks, but also from the negative supply shock, basically the "worst of all worlds".

Financial market measures, particularly the yield curve, could also be used to infer market participants' perceptions of turning points, for demand and inflation. When the slope turned negative, the yield curve was said to be inverted, which was viewed by some as an early indicator of a recession.

Mann emphasised that inflation expectations had played a particularly important role in her monetary policy decisions and that household expectations were particularly important for inflation dynamics. Only if households are willing to pay their prices could firms realize their expected pricing power; if there was a buyer revolt that could signal a turning point. She stressed that predicting inflation had been particularly difficult over the past few years. It was not surprizing that macroeconomic predictions had not been able to keep pace with the inflation shocks.

She concluded by asking "Why keep raising nominal rates now?" First, if there was uncertainty about the degree of inflation persistence, it was better to assume a high degree because the costs of making a mistake if the true inflation process was more persistent are larger, in other words more costly, in terms of the inflation output trade-off, than if the true inflation process was less persistent. Second, there were identified upside risks to the inflation outlook in the UK. From a risk management point of view, monetary policy had to lean against upside biases as wage and price inflation were still so high. Third, if inflation was more persistent, then the Bank Rate would need to rise again after the pause, to be followed later with reversal. In her view, a tighten-stop-tighten-loosen policy looked too much like fine-tuning to be good monetary policy. It was both hard to communicate and to transmit through markets to the real economy. Although there was uncertainty around turning points, this should not motivate a wait-and-see approach, as the consequences of under tightening far outweighed the alternative. In her view, the Bank needed to stay the course, and the next step in the Bank Rate was still more likely to be another hike than a cut or hold. Finally, she highlighted the tipping point on climate change.

The Bank of England had been a leader in assessing the implications of climate change for central bank policy and implementing greening of the corporate bond portfolio.

4. Morning panel: Money and technology – prospects for central bank digital currencies

In the video clip introducing the topic, the most relevant questions that arose were highlighted: The design of CBDCs is a global effort of collaboration rather than competition. Will central banks have a say in the future of money? What are the benefits of digital currencies for central banks and the economy? Are CBDCs the future of finance? Answering these questions, one needs to look at future currencies and money from different aspects such as digital transformation, revolution in payments, new financial architecture and digital currency experimentation.

4.1. Fireside chat on examining the recent research and application developments

In his introduction, the moderator, *Barnabás Virág*, Deputy Governor of the MNB, emphasized that central banks must do their best to deliver a low inflation environment for society and the economy, but that the key topic of this panel was the digitalisation of money. For central banks, there were many motivations behind the issue, such as the digital revolution, improving monetary transmission, crypto assets and financial inclusion. Currently, close to 100 central banks were dealing with the issue of CBDC and some were already running pilot projects. All of the major central banks – such as the Fed, the ECB and the People's Bank of China (PBoC) – were considering the introduction of CBDC.

China started a research team on digital currencies as early as 2014 and launched their Digital Currency Institute in 2016. This meant that China was among the first pioneers of CBDC and the country had started testing the asset in 2020. One year ago, the e-yuan had more than 260 million individual wallets, and there were a couple of million yuans worth of transactions every day during the winter Olympics. Based on these data, the e-yuan was one of the most advanced projects globally, in terms of CBDCs.

Regarding the motivation of the PBoC to start research and progress so early and the most important driving factors behind it, *Mu Changchun* Director of the Digital Currency Research Institute, PBoC explained that the aim was to improve the efficiency of the central bank payment system by building a faster payment system, widening access to it from different sectors, to extend the service hours to increase capacity and to meet the requirements of the digital era. Another motivation was to provide a backup for the retail payment system. Financial inclusion was also an important motivation since financial services should also cover the population in

remote and poor areas as well. The PBoC had managed to achieve these goals and digitalise the payment instruments and did not charge fees for individual users. Foreigners could have a digital wallet without opening a traditional bank account in China.

One less commonly known feature of CBDCs was that they could bear interest. There had been warnings against the dangers of this feature, foreshadowing a collapse of banking systems and financial intermediaries. The ever-widening literature, however, argued the picture was not nearly as dark as seemed at first glance. The interest-bearing feature could bring many benefits without distorting banking systems. In addition, it could significantly improve transmission of monetary conditions, giving a new tool for central banks and renewing how central banks could conduct monetary policy. In the view of *Morten Linnemann Bech*, Centre Head of BIS Innovation Hub in Switzerland, it seemed like a good idea potentially to have a continuous interest rate. In the case of a retail or a general purpose CBDC, it should be set at zero per cent but it would be wise not to eliminate that choice by design.

Regarding the issue of how the e-CNY could become a profound platform for new, innovative banking services, involving e.g. smart contracts, *Mu* pointed out that e-CNY was a universal payment instrument. It supported a variety of innovations and allowed individual and corporate services to be interoperated to realise synergy. Smart contracts were centralised and managed in order to provide a standard environment for the whole society and not to use for any illegal transactions. The key was to minimise costs of smart contracts and to ensure prepayments were secured.

According to *Bech*, the BIS had delved into the domestic uses of CBDCs as well, such as in projects involving automation – for example the project Mariana, which instead of intermediaries used automated market makers, practically programs taking care of settlements, in cross-border transactions. He stressed that programmability was one of the promises of this new digitalisation and could have great benefits. There were smart contracts in the BIS Innovation Hub. There was a big debate about who could program and what could be programmed. In the case of CBDC, there could a permission setup where only a limited number of participants were allowed in. Some argued that it should not be allowed for money to be programmed, because it would not be money anymore.

As far as privacy issues were concerned, the BIS Innovation Hub was trying to expose different type of privacies that could be implemented with the CBDCs. There was a project where the payer was private but the one who received the money was not private. It would also be helpful for tax purposes and manage some anti-money laundering concerns. Privacy was definitely a priority issue but without

constraints and with full anonymity without the necessary regulatory rules and risk control measures, CBDC might be used for criminal activities and therefore it would never be the right choice. In China, managed anonymity was applied, i.e. only the authorised operators could collect and store necessary data for services and operational purposes only. The PBoC only processed the transferred inter-institutional transaction information.

Relating to geopolitical issues, according to *Bech*, the hope and the vision for CBDCs were that they should be able to help solve issues in cross-border payments starting on the regional and later on a more global level. CBDCs could restrengthen globalisation. Agreeing with that view, *Mu* explained that CBDCs should also improve international settlements and payments. The PBoC was taking part in one of the most important projects with regards to the international use of CBDCs, the mBridge.

Virág concluded the conversation by saying that it was quite certain that CBDC would be a part of our lives in the near future, but that we needed a cautious approach and a well-designed project to take the advantages of new technologies.

4.2. Panel discussion

The moderator of the panel, *Dániel Palotai*, Executive Director, IMF introduced that CBDS is hotly debated among the central bankers in the global community, as either in a retail or a wholesale form, but it is very likely to affect everyone's life. The introduction of the future form of money is a very complex and overarching area. This topic is also high on the agenda of international organisations like the IMF and BIS. This is not surprising, as it has serious repercussions and significant implications for monetary policy, financial stability, cybersecurity, competition, but even geopolitics. However, it is not just an intellectual exercise, as directly or indirectly, it will definitely influence the financing of the real economy going forward. To implement a successful CBDC, central banks have to make sure that the new instrument will be broadly used. Making it happen, central banks have to be in close cooperation with vendors, technology providers, payment market participants and not least, with the future users themselves. This requires a very complex project management attitude from the central banks. They have to be very coherent in decision-making and, in some regard, need to act like FinTechs, as they have the ambition to disrupt the current payments market with a strong value proposition, they have to ensure that their new product will react to valid market needs on time. Some of the central banks will live up to these expectations, some will be less successful, and likely most of them will be copying the forerunners. In this regard, Palotai highlighted two more messages from the IMF's perspective: he firmly believes that a policy should aim to leverage all the benefits of the digital technologies but at the same time decision-makers have to make sure to be able to mitigate the risks that come with innovation and change. The IMF has also adopted

a very comprehensive digital money strategy in 2021. The IMF aims at helping the efforts of central banking community in a coordinated manner and concentrates on areas close to the Fund's core mandate, like implications of digital money for the international monetary system, or what should be the modalities to improve cross-border payments and what are the effective policy responses to crypto assets.

The key messages of the participants were the following: *Marius Jurgilas*, Senior Vice President, Super How: As the world becomes increasingly digital, the concept of central bank digital currencies has gained a lot of attention. While the idea of a retail CBDC, where consumers can use a digital version of their national currency for everyday transactions, has been widely discussed, he had doubts about its practical use case. On the other hand, the use of CBDCs in wholesale transactions, such as securities transactions, holds a lot of potential. Not only that, CBDCs should also facilitate and not impede innovations in the space of Decentralized Finance. *Shu-Pui Li*, Advisor to the Governor, Central Bank of the UAE: Learning from the experience of 3 CBDCs projects, especially the recent real-value CBDCs pilot transactions of mBridge involving about 160 cross-border transactions with total value of USD 22 million, the promising benefits of CBDCs and the power of the new technology and development approach can be realized. *Petia Niederländer*, Director Payments, Risk Monitoring and Financial Literacy, Oesterreichische Nationalbank (OeNB): Advanced technology and change in customer behaviour are shifting payment preferences towards digital payments. The last two years of pandemic has allowed innovations in payments to leapfrog the usual adoption phases, creating competitive advantage for companies and markets with strong investments in technology. On the other side, payments infrastructure and processes did not change and felt behind in terms of resilience, robustness, fraud prevention and efficiency. Retail CBDCs – such as digital Euro – allow central banks to offer resilient, robust and efficient infrastructure to pay with central bank digital money in a digital economy. *Thammarak Moenjak*, Chief Representative, Bank of Thailand, London Representative Office: New technologies (including the Distributed Ledger Technology) seem to offer great potential for a new form of digital money, in terms of efficiency, financial inclusion, and innovation. Central banks thus have the duty to help bring key stakeholders together to explore such potential, to ensure that benefits could be effectively reaped and possible harmful effects minimized. Here, different jurisdictions have different contexts and concerns. What can be learnt so far from the Proofs of Concept is that to roll out CBDC in practice requires an ecosystem-wide effort, and many issues remain to be addressed to ensure a successful rollout.

Niederländer shared some results of the survey made by the OeNB: (i) two-thirds of the participants never heard about digital euro, (ii) half of them said there may be some personal interest about the idea, (younger people expected personal benefit, but there was a very diluted understanding of it) (iii) cash as a mean of payment

should remain, (iv) people were strongly satisfied with the existing payment options. The conclusion was that there was a necessity of thorough discussion with the general public, with the decision-makers and with the financial intermediaries, the banks, which would distributing it. However, this kind of conversation is still not happening, but it should happen very quickly. Another issue is the regulation, which is expected to be published in the second quarter of this year.

Jurgilas explained the ECB had issued a consultation on the functionalities of the digital Euro. One particular function will be switched off, that is the store of value, meaning that holding significant amounts of digital Euro will not be allowed because of the concern draining liquidity from the commercial banking system. The question is what the money is without the function storing value and how that differs from programmability, because it is a conditionality of payment for example, however the ECB said there would be no programmability in case of digital Euro.

About the potential programming of digital currencies, *Moenjak* mentioned that it can be on three levels: (i) at the issuer level of the money; (ii) at wallet level in case of retail CBDCs; (iii) at the actual money unit level. Some benefits are e.g.: (i) programming can lower the counterparts risk, allowing peer-to-peer trading; (ii) the automation of complex transactions; (iii) innovation allows many use cases in terms of programmability, like simplifying supply chain financing. For the successful rollout one needs (i) good governance; (ii) soft and hard infrastructures, including appropriate legal background, proper accounting rules, what kind of technology to use and (iii) the most important is the preparedness of the stakeholders. Whether wholesale or retail CBDC would be rolled out first depends on (i) access to cash in the economy, (ii) reliability of the existing payment systems and (iii) the desire to leapfrog the already efficient existing systems (e.g. Real Time Gross Settlement System).

Mr. Li stressed that central banks could learn from FinTechs. In five-years' time, there could be a kind of tokenized financial world and the traditional account based financial world. He believed that the tokenized world would come very fast driven by the innovations of the FinTechs. If we do not provide a medium exchange for them then FinTechs will use crypto currencies for settlements. The FinTech evolution is coming, central banks cannot "wait and see" but to get themselves prepared from regulatory and infrastructure perspective.

Finally, *Jurgilas* indicated that as far as the raised question of financial inclusion is concerned, everything had a price. If we want every citizen of the society to be included on a particular service, it has a cost, and we have to balance if that cost is adequate to our society.

5. Afternoon panel: The role of central banks in enhancing the green economy

5.1. Fireside chat on central bank green issues

The afternoon discussion focused on finding the answer as to what extent central banks needed to be involved in climate policy and what steps needed to be taken to tackle the consequences of climate change. In the first round, a fireside chat took place with *Sean Kidney*, CEO of Climate Bonds Initiative and Professor for Sustainable Finance at the SOAS Centre for Sustainable Finance. At the MNB's Green Finance Conference in October 2022, Professor *Kidney* was awarded the International Green Finance Lifetime Achievement Scientific Award, which was received by him in person on the occasion of the fireside chat with *Csaba Kandrács*, Deputy Governor of the MNB. The Lifetime Achievement Scientific Award, established by the MNB in 2021, honours those professionals who have exhibited outstanding performance in green finance research.

Kidney shared his thoughts on the special role and toolkits of central banks in the field of the environmental sustainability. He emphasized that we have more predictive power than ever before in human history, and so the first part of our job was to understand and assess the risks and then to react quickly. On the one hand, central banks could regulate the markets (for example via capital ratio requirements and asset purchasing programmes for green bonds), but more importantly they could use their soft power and engage in the discussion. That was how we could provide guidance and leadership towards decarbonization. He also pointed out that there was no shortage of capital: nowadays, the challenge was how to mobilize the capital in the right direction. *Kidney* highlighted that the world was facing extraordinary changes. In the midst of adapting to these changes, we needed to understand how to render our economies successful and resilient. In recent years, a series of crises had shown that all events can be traced back to the disruption of our natural environment. Therefore, the popularity of green bonds was a strong indication that there was demand for change and that change had already started.

The moderator, Deputy Governor *Kandrács* emphasized that central banks in most countries had now embraced fight against climate change and other sustainability issues. He underlined that the MNB remained committed to enhancing the sustainability agenda in Hungary. Deputy Governor *Kandrács* agreed that the MNB's green mandate anchored in law in 2021 was a huge opportunity and we must take advantage of it.

5.2. Panel discussion

Regarding the approach of the United Nations Environment Programme Finance Initiative's (UNEP FI), the moderator of the afternoon panel discussion, *Gábor Gyura*, Sustainable finance consultant at UNEP FI, underlined that UNEP had been working with commercial banks, asset managers and insurance companies for more than 30 years now. It had a convening power, trying to convince private sector entities to embrace sustainability.

Henner Asche, Deputy Director General at the Deutsche Bundesbank, pointed out that in central banking it was advisable to follow a clear top-down approach on green finance. The Bundesbank fulfilled the climate action plan of the Eurosystem with strict timelines and participated in producing the global climate scenarios. As regards financing the transition, he emphasized that addressing the climate change required massive investments and therefore it was important to mobilize private capital and that the public and private sector must work hand in hand to find the right funding mix. The impact of very high prices for fossil fuels could be twofold: it created incentives to speed up the transition to green energy and also enhance energy security, but on the other hand the high prices made the extraction of fossil fuels more profitable for a longer period. He believed that the risk of greenwashing – which was a real problem for the financial market – could be reduced with better quality data. To touch upon the issue of current challenging inflationary environment, he highlighted that climate change and inflation were inextricably linked. We could see that climate change affects inflation via three channels: i) climate change caused shocks to the economy ("climateflation"); ii) high energy prices accounted for a substantial share of headline inflation and this was unlikely to change in the near term ("fossilflation"); and iii) the increased capital investment to comply with climate objectives also caused inflation ("greenflation").

Linda Zeilina, Founder and CEO of International Sustainable Finance Centre (ISFC), emphasized the importance of data and research activities regarding green finance. The ISFC did not necessarily work together with central banks currently: its main role was to conceptualize different types of learning activities and education. In her opinion, even starting a conversation on the sustainability topic was very important, which the central bank of Hungary had recognized correctly and in a timely manner. She added that there was a growing consensus that we should move from a voluntary to a mandatory approach regarding climate-related financial disclosures.

As regards the key policy areas of the International Institute of Finance (IIF), *Sonja Gibbs*, Managing Director and Head of Sustainable Finance, highlighted that the IIF was working together with central banks regarding sustainable and transition finance. Among the biggest achievements in green finance, she mentioned two key results: on the one hand, we now had a much better understanding of the climate

risks and opportunities than five years ago, and on the other hand the development of sustainable finance markets had increased rapidly. Besides its excellent technical work on climate scenario analysis, the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) had galvanized the private sector and encouraged them to develop a climate risk toolbox. According to IIF's data, global climate flows had grown to USD 1 trillion last year and ESG flows had tripled since 2020.

In China, the outstanding volume of green loans had reached more than USD 3 trillion. This was added by *Cheng Lin*, Director of Center for International Collaborations at Beijing Institute of Finance and Sustainability. He gave a short summary on the work of the People's Bank of China (PBoC) in the field of green activities. Besides launching green finance guidelines, the PBoC headed the China Green Finance Committee with a top-down approach. He emphasized that the equity market would play an important role in green and sustainable finance.

6. Closing remarks

In his closing remarks, Deputy Governor *Mihály Patai* expressed his hopes to welcome the distinguished guests again on the unique occasion of next year's Lámfalussy Lectures Conference in the spring of 2024. In his special announcement, he revealed that the MNB would be celebrating a double anniversary in 2024: the centenary – the 100th anniversary of the reestablishment – of the central bank of Hungary and the 10th edition of the Lámfalussy Lectures Conference series.