**II Course on Financial Stability
Digital Course**

**Opening Remarks:
Financial Stability in extraordinary times**
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Welcome and acknowledgements

- Good morning. It is a pleasure to welcome you to the II Course on Financial Stability, this time digitally and co-organized by the Bank of Spain and CEMLA. The course features a distinguished group of international academics and policymakers, who will generously share their expertise in different dimensions of financial stability analysis, aiming at improving central banks' capacities to effectively monitor and address financial stability risks.

- I would first like to thank Mr. Angel Estrada, Director General of Financial Stability, Regulation and Resolution at the Bank of Spain and his team for the fruitful collaboration in organizing this course. This year, the course builds on the expertise of the Bank of Spain which has led some of the most important initiatives worldwide to incorporate financial stability as a key objective for central banks. During the course, we will learn about the Bank of Spain´s experience in setting up ambitious initiatives in areas ranging from macroprudential stress testing to financial stability monitoring.

- In addition, I would like to thank external lecturers that will contribute to provide our participants a comprehensive overview of financial stability. These include Prof. Dimitris Tsomocos from the University of Oxford, and Mr. Costas Stephanou, Head of Financial Stability Analysis at the Financial Stability Board. Moreover, the course would not be possible without the initiative of our local organizers, including our IT and administrative staff at CEMLA.

- Already in its second edition, we hope that this course will become a reference across the region and that it will contribute to train our membership with the analytical capacity to better deal with the new challenges in financial stability analysis and monitoring.

- The course takes place in a thought-provoking time for practitioners and researchers interested in financial stability. In fact, Covid-19 and its detrimental economic consequences has brought the first "real" test for financial stability after the Global Financial Crisis (GFC). The current crisis has hit the world in a context in which new macroprudential policy frameworks and globally coordinated policies had been recently implemented.

- I believe firmly that these initiatives had been enormously beneficial for confronting the

impact of Covid-19 on the financial sector. Also, recent advances in the fields of macroprudential stress tests and financial network analysis has proven to be effective and adaptable methodologies to address financial stability risks, as I will explain later.

- But before addressing which are, in my view, important challenges in the fields of stress tests and financial interconnectedness analysis, I wanted to take a step back and invite you to think about how financial stability has been gaining ground in central banks' objective functions.

Financial stability as a central bank objective

- In the last decades, and especially after the GFC, we have seen that monitoring and managing financial stability risk has become a key task for central banks. However, it is not without controversy that central banks have incorporated financial stability as an objective in parallel to the usual goal of price stability. Indeed, pursuing a dual objective of price and financial stability can entail the possibility of situations in which the two objectives appear to enter into conflict.

- An example of the above is a situation in which a central bank is required to assist a large and systemically important bank which financial situation depends on low interest rates for funding, in a context where monetary pressures suggest that a tighter monetary policy would be advisable. Any rise in interest rates will put pressure on the bank´s interest margins, with consequences to the whole system via potential contagion effects.

- Facing this dilemma, traditionally two conflicting views have prevailed (see Prati and Schinasi, 1999). On the one side, an open market operations view suggests that a central bank should hold its commitment to price stability, leaving the role of liquidity reallocation to interbank markets, which can internalize contagion risks and safeguard financial stability. As long as solid collateral exists, solvent banks facing liquidity stress can access a central bank discount window as well as interbank markets, reducing the risk of a central bank needing to intervene in its role as Lender of Last Resort.

- Alternatively, a second approach takes a more pragmatic view and recognizes that discriminating between insolvent and illiquid banks can be a challenging task for market participants, especially in stress scenarios in which informational asymmetries and moral hazard rise. If such market frictions prevail, a banking supervisory function of central banks can help to monitor institutions and to disentangle situations of liquidity from solvency stress (IMF, 2004). In this view, central banks have an informational advantage that can be welfare improving. This advantage is most visible when we think about the informational requirements needed to properly implement methodologies such as network analysis and stress testing.

- It should be noted, however, that disentangling illiquidity from insolvency issues can be quite complicated. Particularly, in many cases, what at first glance may appear as a liquidity problem, can be a symptom of a deeper solvency one.

- Additionally, the apparent conflict between price and financial stability may not be a problem after all if monetary policy accounts for the appropriate time horizon. Indeed, it could be argued that there can be no sustained price stability without financial stability. Nevertheless, clearly in the wake of the GFC central banks had to acknowledge that the need to balance price and financial stability was much more urgent than previously thought. I will dwell on this in what follows.

- Interestingly, the challenging objective of balancing monetary and financial stability objectives has led to different institutional and governance arrangements worldwide, which is also reflected in our region (see Jácome, 2016). For example, at the moment of their creation the central banks of Argentina in 1935 and Brazil in 1964 received an explicit mandate to prevent liquidity stress in the banking system, whereas this role was absent in the original mandates of the central banks of Colombia (1923) or Chile (1925), to mention a few examples.[1] Recent empirical literature is still not conclusive about whether certain governance schemes are *per se* associated with a better performance in terms of safeguarding financial stability (see Koetter et al, 2014 and Levieuge et al., 2019).

- However, and regardless of *de jure* governance schemes, the experience of recent crises has led central banks to converge into a dual role of addressing price and financial stability objectives using a modern and flexible policy toolbox. This convergence – which has become most visible in the current crisis – has been motivated by a better understanding of two important features of financial crises.

- First, the widespread presence of market frictions that rise in situations of stress make it unlikely that monetary policy alone will ease the access to liquidity by affected banks. Second, even for central banks with a single mandate of price stability and inflation targeting, the stability of the financial sector can be seen as a necessary precondition for monetary policy to work, as otherwise the usual channels of monetary transmission can be disrupted.

- Certainly, fulfilling this dual task of price and financial stability requires developing institutional frameworks and technical capacities. To this regard, there are three areas that I would like to highlight in which central banks require a permanent effort to preserve their capacities in managing financial stability risks.

  First, central banks require an ample and swift access to regulatory data provided by financial institutions in order to manage both idiosyncratic and systemic risks. This challenge implies also building up capacities to analyze complex data and to develop

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[1] In fact, the influence of the Kemmerer mission sent from the US in the first half of the XX Century to advice some Latin American countries in establishing central banks led to the interesting feature of having most countries in the Pacific coast (including Mexico) with central banks separated from banking supervisory authorities, whereas countries in the Atlantic coast follow models in which central banks pursue both monetary and banking supervisory objectives. These "Pacific" vs. "Atlantic" models of central bank mandates persist until today.

metrics of financial stability monitoring, an aspect that will be covered in the course (see Adrian et al., 2019).

Second, financial stability objectives require flexible governance schemes in which central banks can interact with other supervisory and fiscal authorities to react promptly when risks are identified. This task is relevant as often central banks, despite of being able to identify risks ahead, need to coordinate their policy actions with a wide range of institutions, both domestic and global ones.

Third, central banks need to keep an adaptable approach to financial stability, building up capacities to incorporate innovations in the field. Examples of this are macroprudential tools at the borrower-level, and stress testing frameworks. Both of these policies, which will be also discussed in the course, have been developed and implemented recently, becoming in a short period a new international standard for central bank actions.

- In my following remarks, I would like to briefly highlight two themes that are at the core of the course. A first aspect is macroprudential stress testing, while the second one is the analysis of financial networks, systemic risk, and interconnectedness.

Stress Testing

- Macroprudential stress tests are done to detect macro-financial vulnerabilities of the financial system. The methodology that has been developed for stress tests is both versatile and complex. This allows tailoring stress tests for different purposes, while raising technical and resource-driven challenges. Let me emphasize the potential of employing stress tests for macroprudential purposes that might justify the effort:

  ✓ First, stress test methodologies have great potential to be used for the calibration of macroprudential policies, such as countercyclical capital buffers (van Oordt, 2018). Stress test results on the banking system are used in many jurisdictions to set forward-looking capital guidance. They are therefore an important complement to accounting-based capital ratios and underpin the macroprudential aspect of the new revised Basel capital framework.

  ✓ Second, stress testing frameworks are adaptable to different scenarios according to policy needs. Most recently, central banks implemented Covid-stress tests to gauge the resilience of banking sectors to the recession caused by the pandemic.

- Despite all the benefits that adequate stress testing frameworks can bring for central banks, there are some important challenges that this tool must address in the short and medium term:

  ✓ With all its potential, macroprudential stress testing is still a relatively new policy tool. Progress is needed to make full use of stress testing potential. A key challenge is to develop and implement methodologies that reflect the complexity of macro-financial linkages and banks' adaptive behavior to crisis situations. This includes incorporating feedback loops between macroeconomic variables and bank balance sheets, allowing

dynamic balance sheets that include endogenous capital measures, and integrating interdependencies between financial institutions and contagion mechanisms in the modelling framework.

✓ These modelling advances are still in their early stages of development and require great investment in capacities until they are fit for setting policies. Exchanging experiences and discussing methodologies will help facing these challenges.

Interconnectedness

• Allow me now to underscore the following aspects on interconnectedness.

• Broadly speaking, the analysis of interconnectedness and interdependencies across various markets and activities (layers) has gained prominence in financial stability. This is nowadays commonly done with focus on systemic risk. In effect, the GFC revealed how interconnected the financial system really is. This had led to consider interconnectedness as a central feature for financial stability analysis and monitoring.

• I would like to stress a few important lessons drawn from recent advances in the field of interconnectedness and network analysis:

✓ Let me start by saying that a key lesson for financial stability in a highly interconnected system is the one of liquidity risk. It is now well understood that under conditions of intense systemic stress, liquidity dries up very quicky as counterparty risk increases rapidly. Indeed, participants in financial markets, acting out of precaution, will hoard liquidity, as this would seem to be individually the best course of action. However, as all of them do the same, this will lead to a very adverse equilibrium for the system. Central banks need to act in a timely and forceful way, acting all the way from a sort of market maker of last resort, to lender of last resort. This was a first crucial lesson from the GFC and, I believe, it was well learned, as central bank actions in stabilizing financial markets in March and April can attest to.

✓ Second, the GFC revealed that the supervisory data to evaluate and monitor interconnectedness in the financial system were simply not there when it was most needed. Opportunely, many financial authorities around the globe have already started to fill this important data gap. A related issue has been all the work done in the last few years concerning CCPs and the clearing of financial derivatives, which use to be an immense OTC market, as well as other Financial Market Infrastructures.

✓ Third researchers started to enhance interconnectedness measures to improve our understanding of the evolution of the financial system's structure. This has mainly entailed a systemic risk perspective, which has become a central concept when analyzing financial networks.

✓ Fourth, financial distress can be transmitted not only by direct losses but also by increasing funding rates and haircuts, and/or by reducing funding availability, and/or through asset fire sales. More empirical and theoretical work is needed to understand how financial

distress is transmitted through different layers in financial systems and, in turn, to the real economy.

✓ Fifth, financial contagion is central for measuring systemic risk because of the amplification of initial shocks and its potential transmission through the financial system. Having said that, interconnectedness is not always bad. For instance, Martinez-Jaramillo et al. (2019) discuss cases in which higher connectivity is a positive feature from a financial perspective.

✓ Also, there are other forms of interconnectedness which have been less studied that might be more important for the transmission of contagion. For example, interconnectedness related to Overlapping Portfolios and with the real economy.

✓ I expect a lively exchange of ideas, and methodological points of view in the field.

Agenda and final remarks

• Let me conclude by briefly walking you over the contents we have set for this course.

• Today, the first sessions will be devoted to introduce analytical concepts in financial stability and to discuss methodological approaches to measure financial stability risks.

• Tomorrow Tuesday, the course will address state-of-the-art methodological approaches in the areas of network and interconnectedness analysis and stress testing, in sessions led by Mr. Serafin Martinez from CEMLA and Ms. Nadia Lavin from the Bank of Spain, respectively.

• On Wednesday, the session will be led by our distinguished guest Professor Dimitrios Tsomocos, from the University of Oxford. In two consecutive talks, Professor Tsomocos will guide us through the design and implementation of general equilibrium frameworks for financial stability analysis.

• On Thursday, the session will be focused on discussing macroprudential frameworks from multiple dimensions. These dimensions include, for instance, understanding the rationales that motivate the introduction of macroprudential policies and the regulatory reforms within the Basel III framework.

• Lastly, the final session on Friday will wrap-up the course with talks devoted to the current stance of the international policy agenda on financial stability. Here, the objective is to provide participants with an overview on how the topics discussed in the first four days are being addressed on a global scale by initiatives led, among other institutions, by the Basel Committee on Banking Supervision and the Financial Stability Board.

• Before concluding, I would like to welcome you again to the course and emphasize that this initiative is part of CEMLA's ongoing effort in underpinning financial stability monitoring capacities in Latin America and the Caribbean. We are therefore looking forward to promote further collaboration and research initiatives among central banks that can improve our

common understanding of financial stability challenges especially in these uncertain times.

- Hoping that you have a fruitful discussion and a productive introduction to state-of-the-art approaches in financial stability analysis, I encourage you to become active players of the course. Thank you for your attention.

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