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INTERNATIONAL SEMINAR ON CENTRAL BANK POLICY MIX 2022

Central Bank Policy Mix for Stability and Economic Recovery

Bali, Indonesia
13th-14th July 2022

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BANK INDONESIA INSTITUTE
2023

International Seminar on Central Bank Policy Mix 2022

CENTRAL BANK POLICY MIX FOR STABILITY AND ECONOMIC RECOVERY

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- Yoga Affandi

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FOREWORD

In the current global landscape, characterized by numerous challenges, the urgency for refined macroeconomic policy strategies becomes increasingly crucial. The convergence of escalating geopolitical shifts, the profound implications of climate change, and the lasting effects of both the Global Financial Crisis and the Covid-19 pandemic, necessitate a reassessment of conventional economic approaches. This situation is particularly pronounced in Emerging Markets such as Indonesia, where the aftermath of COVID-19 has given rise to volatile capital flows, presenting new challenges to traditional monetary policy frameworks.

The complexity of these challenges surpasses the capabilities of any single policy domain. It is evident that adopting an integrated approach, encompassing monetary, macroprudential, and fiscal policies, is of paramount importance. The convergence of recent health, economic, and environmental crises has shed light on the need for an integrated understanding of macro-financial relationships and a synchronized approach to policy formulation at both the national and international levels.

Building upon our experiences since the aftermath of the Global Financial Crisis, the Bank Indonesia Institute has been at the forefront of delving into these issues. Since 2016, our annual Central Bank Policy Mix international seminar has served as a platform for exchanging insights and learning from global experts and diverse national experiences. This year, as we navigate the path to recovery from the COVID-19 pandemic and adapt to a new changing strategic environment, our seminar centers around the theme "Central Bank Policy Mix for Stability and Economic Recovery." Its objective is to address the complex and evolving challenges in the domain of central bank policy mix, taking into consideration the impacts of digital technology and climate change.

In line with Indonesia's role in the G20 Presidency in 2022, the seminar aims to provide a comprehensive collaborative perspective by gathering insights from experts and exploring innovative policy solutions from across the globe. In particular, the seminar seeks to foster a meaningful dialogue among experts representing both advanced and emerging economies, with a particular emphasis on addressing the challenges posed by the COVID-19 pandemic, technological innovation, and environmental issues. The focus will be on developing effective policy solutions that facilitate recovery from the pandemic while concurrently pursuing sustainable development goals.

Participants will gain a deeper understanding of the frameworks and challenges related to the central bank policy mix, with a particular focus on the specific challenges faced by central banks in emerging markets in the post-COVID-19 era. The objective is to equip attendees with a theoretical and practical understanding of how central bank policy mix is implemented, enabling them to address strategic challenges and promote sustainable economic growth through further refinements.

This seminar represents an opportunity to collaboratively chart a part towards economic stability and recovery during these challenging time. By leveraging a wealth of shared knowledge and diverse experiences, it serves as a significant milestone for the future of central bank policy mix.

Jakarta, December 2023

Yoga Affandi

Head of Bank Indonesia Institute

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KEYNOTE SPEECH

"Central Bank Policy Mix in a Challenging Global Landscape"

Juda Agung
Deputy Governor of Bank Indonesia

Honorable Speakers, Professor Sayuri Shirai from Keio University, Mrs. Budsakorn Teerapunyachai from the Bank of Thailand, Mr. Christopher Erceg from the IMF (MCM), Mr. Ilhyock Shim from BIS Asia Pacific, Mr. James Walsh, IMF Senior Resident Representative in Indonesia, Mr. Anand Prakash from the Reserve Bank of India, and Pak Solikin, Ibu Yati & Pak Yoga from Bank Indonesia. And I would also like to greet Ibu Miranda Goeltom, former Senior Deputy Governor of Bank Indonesia. Ladies & Gentleman, Assalamualaikum warahmatullahi wabarakatuh.

A very good morning to all of you. It is such a great pleasure for me to deliver a keynote speech for this G20 special event. Today's seminar is part of the G20's side events, and focuses on a discussion on one of the main agendas in the financial track - exit strategy to support economic recovery.

I believe this event, which is being hosted by Bank Indonesia in collaboration with the Indonesian Economists Association, will be a fruitful platform to discuss issues regarding the central bank policy mix. The theme of central bank policy mix for stability and economic recovery is indeed relevant and timely for two reasons:

First, the global economy is currently confronting a number of challenges that cannot be addressed only by a single central bank policy instrument – interest rates. Second, post COVID-19 multiple challenges, such as growth recovery, high inflation, inequality, digitalization, climate change, are also cause for stronger coordination among policy makers - central banks, governments, financial authorities, and so on. These circumstances highlight the need for not only central bank policy mix, but also strong coordination between the monetary, fiscal and financial sectors, as well as real sector policies.

Distinguished Guests, Speakers, Ladies and Gentlemen,

the global economy is now facing a serious risk of stagnation. The impact of the COVID-19 pandemic and the ongoing Ukraine/Russia geopolitical tension have materialized in the recent global growth outlook. Last month, the World Bank revised down its global growth projection for 2022 to 2.9%. The OECD also cut its global growth projection for this year to around only 3%. The IMF may follow suit, with further cuts after their previous forecast in April. Inflation is on the increase around the world, with food and energy prices hitting record highs, which has an implication on living standards across the globe. Aggressive monetary policy tightening to tackle inflation in several advanced countries has tightened global financial conditions and has been driving market volatility recently.

From an Indonesian perspective, the recovery of Indonesia's economy remains intact on the back of growing domestic demand and exports. The recovery has also been supported by ample liquidity in the financial system and the recovery of credit growth. Bank Indonesia expects the domestic economic recovery to endure, supported by increasing mobility as well as ample sources of finance and business activity accompanied by high export performance.

Inflation is on a rising trend, driven by supply side pressures as a corollary of higher international commodity prices. However, core inflation remains within Bank Indonesia's target range of 3 plus minus 1%. Meanwhile, volatile food inflation has increased, primarily influenced by higher commodity prices and supply side constraints caused by inclement weather. Inflationary pressures on administered prices remain high, impacted by airfares and energy prices.

Ladies and gentlemen,

To respond to the current challenges, Bank Indonesia's policy mix is currently aimed at maintaining macro-stability, facilitating the recovery of the economy and fostering the digital economy and finance. At the Board of Governors monetary policy meeting last month, it was decided to maintain the policy rate. However, Bank Indonesia will remain vigilant about inflationary pressures and their impact on the inflation expectation, and prepare to adjust interest rates if signs of higher core inflation are detected. BI continues to maintain adequate liquidity to support the financing of the economy and to maintain financial system stability.

Second, macroprudential policies remain accommodative to encourage financing for the economy and to address the scaring effect of the economy in certain sectors.

Third, the stabilization of the exchange rate policy is directed at achieving Rupiah stability so as to support economic growth and manage inflation. This is carried out through triple intervention - in the spot market, DNDF, and the purchase of SBN government bonds from the secondary market amid the ongoing financial market uncertainty.

Fourth, with regard to the payment system, acceleration of the digitalization of the payment system continues to be encouraged for the integration of the international digital financial economy, thereby stimulating economic activity and serving as the engine of economic recovery. This is done through several initiatives such as BI-FAST, QR Indonesian Standards and Open API. We are also strengthening coordination with the central and regional governments, as well as relevant institutions, through national and regional inflation control teams, to manage inflationary pressure on the supply side and bolster production. And, of course, Bank Indonesia continues to carry out monetary and fiscal policy coordination with the government to maintain macroeconomic stability and to support the national economic recovery process.

Ladies and gentlemen,

Going forward, in my view, we need to enhance and strengthen our policy mix framework, as will be discussed further in today's seminar. First, the central bank needs to provide a reliable macro-financial linkage model. We have made good progress in understanding the interactions between micro-financial linkage, but we must recognize that the absence of a unifying framework to study this two-way interaction has resulted in limitations in practice.

Second, the challenge is not only about integrating optimal monetary policy and macroprudential policy within the policy mix framework, but also integrating digital and payment policy into this framework. We need to have a better understanding about the implications of growing digital finance and interactions with traditional central bank policies.

Third, we also need a better understanding of the growing digital economy and finance and the implications of this on our traditional economy and finance.

And finally, of course, are our concerns about climate change. We need to further pursue how to finance the green economy. This is part of our support for the sustainability of economic growth.

Distinguished Ladies and Gentlemen,

We are very fortunate to have some prominent speakers joining this program who will share their insightful thoughts and experiences on the concept and implementation of central bank policy mix, as well as the challenges ahead. I also wish that my keynote speech and the increasing acknowledgement of the central bank policy mix will trigger a fruitful discussion today. Thank you very much and please enjoy today's seminar on the central bank policy mix. Wassalamualaikum warahmatullahi wabarakatuh.

CHAPTER 1
CENTRAL BANK POLICY MIX: SYNERGY TO NAVIGATE THE OPTIMAL EXIT STRATEGY

Solikin M. Juhro

Head of Economic and Monetary Policy Department, Bank Indonesia

The viewpoint and stance regarding the central bank policy mix, directed at achieving stability and fostering economic recovery, are currently under examination. This examination aligns with the prevailing global intent focused on fortifying economic resurgence. The timeliness of this event is accentuated by its synchronicity with a universal dedication to bolstering economic recovery. Moreover, the significance of this event is underscored by being the seventh gathering organized by the Bank Indonesia Institute since 2016, featuring internationally recognized seminars. This continuity stands as a testament to the unwavering commitment to seek viable solutions in addressing the multifaceted challenges at hand.

The concept of the central bank policy mix was questioned and analyzed. The emphasis was on prioritizing theory over practice, aligning with various disciplines. Despite this principle, in the realm of central banking and financial sectors, practice typically precedes theory. The query raised was about the focus of implementation at the central bank since 2010 and how it has been prioritized. The fundamental strategy rests on acknowledging the complexity of the challenges faced, necessitating a multifaceted approach. Embracing the Tinbergen Rule - which highlights the requirement for multiple instruments in addressing various internal and external shocks in a complex environment - is central to this approach. Hence, there's a recognition that multiple challenges demand multiple instruments for resolution. Within this framework, the optimal utilization of central bank tools is vital. Moreover, effective coordination with pertinent policy authorities, such as the government, is crucial. The objective is not solely about real sector policy but also about fostering structural reform.

This is also relevant in the digital era because we are all facing accelerating complexity as well as a hyper-connected world. As such, we need a policy mix that we can use to tackle such complex challenges. In line with this, we have been crystallizing our thoughts around this policy mix.

We will cover some issues, such as the post-GFC challenges including our policy evolution from ITF, to flexible ITF, and then moving over to the central bank policy mix; the challenges we are facing ahead; and what we have to do to become a relevant central bank in the future. I will go deeper into some of the issues, but some I will skip.

While traveling on a journey and navigating our challenges, we move from one equilibrium to another equilibrium. With the onset of the Global Financial Crisis, in 2008 and 2009, we were boosted by what we call the 'Great Moderation' - that is favorable economic growth as well as stable inflation. But this Great Moderation could not guarantee (stability), and could not isolate the global economy from crises, due to a lack of capability on the part of policy authorities and central banks in identifying the potential vulnerabilities that stem from the financial market. That's why we experienced the GFC in 2008, 2009. Basically, the landscape changed, and the dynamic global environment and taper tantrum etc. caused shocks to the domestic economy. We then saw the emergence of macro-financial linkages, not

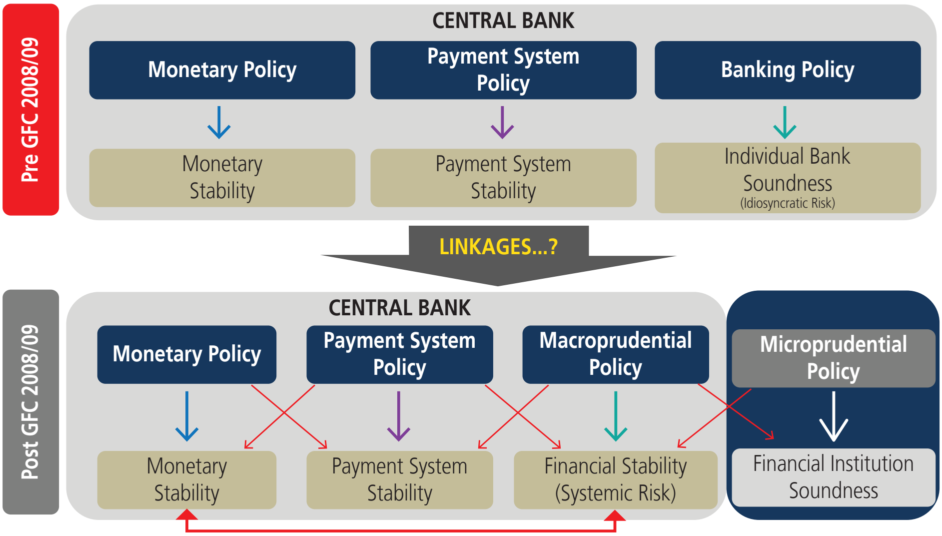


Figure 1.1. Post-GFC Central Bank Policy: Pivotal Linkages

only from the perspective of macroeconomic stability, but also in the real sector and financial sector. Thus, there was a kind-of boosting of vulnerability in the economy.

Macro-financial linkages have been identified since the Global Financial Crisis, inducing vulnerability in the system. According to Minsky's instability hypothesis in the financial market, adverse shocks in a financial system tend to escalate and make the shock and its impact on economic instability increasingly big. This phenomenon is known by the common terminology of financial accelerator, and there is also procyclicality as well as risk taking behavior in the system. These interactions thus make our system less stable, and we have to tackle them. We can show the complexity of our challenges that stem from the financial sector and real sector, both domestically and globally. These are the implications of what we learned from the Global Financial Crisis in 2008, 2009.

- First, there is no macroeconomic stability without financial system stability. As I mentioned, the 'Great Moderation', low inflation, and sound economic growth could not isolate the global economy from crises - because there are vulnerabilities in the financial sector that we cannot identify, a lack of capability from central banks, and a lack of capability from policy authorities in identifying the vulnerability potential we are talking about.
- Second, capital flow dynamics lessen monetary policy effectiveness, because there is volatility and also procyclicality which is induced in the financial sector.
- Thirdly, exchange rate dynamics, which are mostly due to market sentiment, not fundamentals.

These are the issues we have to tackle, which shows why we cannot rely on only one traditional instrument, interest rates for instance. Instead, we have to utilize more instruments. We have them and we need to orchestrate them optimally. Multiple challenges suit the employment of multiple instruments. This also requires an integration framework of monetary policy and policy in the financial sector. We also have to manage the 'Trilemma' – Turning the Impossible Trinity into the Possible Trinity.

If we visit back before 2008, 2009, it seems like we had a sound sleep back then. We could wake up in our bed at that time, safe in the knowledge that monetary policy will address monetary stability, payment system policy will address payment system stability, and banking policy will address individual bank soundness. However, in the post Global Financial Crisis period, this cannot happen. There are more complex challenges and more work to do, because there are more complex linkages - because what happens in monetary policy will have an impact on payment system and financial stability. Furthermore, what happens in the other policy domains, payment system and macroprudential policy, also impacts what happens with monetary stability. Post-GFC, more intense linkages have been implied which have also induced vulnerability in the system. This is why we need a more integrated policy framework.

In more detail, for those who want to look more deeply, you can see in the other references what has happened with our policy response - there are not just straight lines, but also intersections and interconnections and linkages among them, in terms of how these factors impact policy transmission and how they impact the ultimate goal of macroeconomic stability. In terms of the evolution of our policy framework, it started from ITF, moved to flexible ITF, and then went to the central bank policy mix.

This is basically what happened with ITF, or inflation targeting framework, which was stipulated in the early 1990s. The essence of the procyclicality through the inflation target announcement will anchor inflation expectations - this is how ITF worked. But when we all faced the Global Financial Crisis, was there something wrong with ITF? No. Even Mishkin, in his paper, said that none of the lessons from the financial crisis in any way undermines the nine basic principles of the science of monetary policy - there is nothing wrong with ITF, actually. However, when we implement and use it to tackle complexities, it doesn't work. As such, we have to orchestrate other instruments and enhance them, which is where flexible ITF came from.

What are the nine principles, the basic principles, of monetary policy? Price stability is the main goal as a means of benefiting economic welfare, as well as institutional capability, credibility, commitment, and independency. These are the basic principles of sound monetary policy. There is nothing wrong with this idea, but when we implement it to meet complex challenges, we have to redefine it and reconstruct the implementation strategy.

In the case of Bank Indonesia, since 2010, we have enhanced our framework, with inflation remaining the main target of monetary policy. Basically, inflation is still our overriding objective, but we have to integrate monetary policy and macroprudential policy. As I mentioned, there are linkages between the macro and financial sides, while the central bank exchange rate policy needs strengthening, as does coordination with the government and good communication, communication not for the sake of transparency, but as an important policy instrument to tackle complex challenges.

Basically, when we deal with instability in a big amplitude of the cycle, we cannot handle it traditionally, just using interest rates. We have some other instruments - countercyclical instruments that don't only stem from the policy domain, but also from the macroprudential domain. That's why we have to use them – because if we only use interest rates, there will be a huge cost for the economy. As such, we have to orchestrate and use the other instruments optimally, not only from monetary policy, but also from macroprudential policy. This is an illustration that everybody can learn from the book.

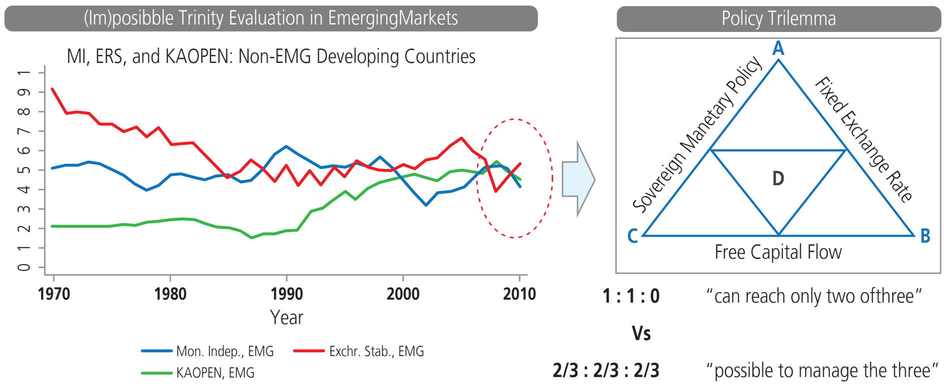


Figure 1.2. Impossible Trinity Solution

As to Trilemma Management, this refers to the traditional concept that we can achieve our goals by using only two out of the following three - monetary policy sovereignty, exchange rate stability, and an open capital account. However, basically, this kind of concept doesn't exist in reality because UIP (Uncovered Interest Rate Parity), as well as other things, doesn't work in reality - as per the Fear of Floating hypothesis from Calvo and Reinhart whereby central bank policy tends to move to corner solutions rather than moving to intermediate solutions. With a simple illustration, rather than 1, 1, 0, we can see that it is optimal to use 2/3, 2/3, 2/3. As a whole, this also adds up to 2, but it does not sacrifice the other things.

This is beyond conventional wisdom again, because we cannot see this kind of diagram/chart in other traditional textbooks. Here, we have an integrated central bank policy framework from the perspective of monetary policy as well as macroprudential policy in terms of instruments, operational targets, intermediate targets, and the overriding objectives of not only price stability, but also as related to financial system stability and the strengthening of communication and policy coordination.

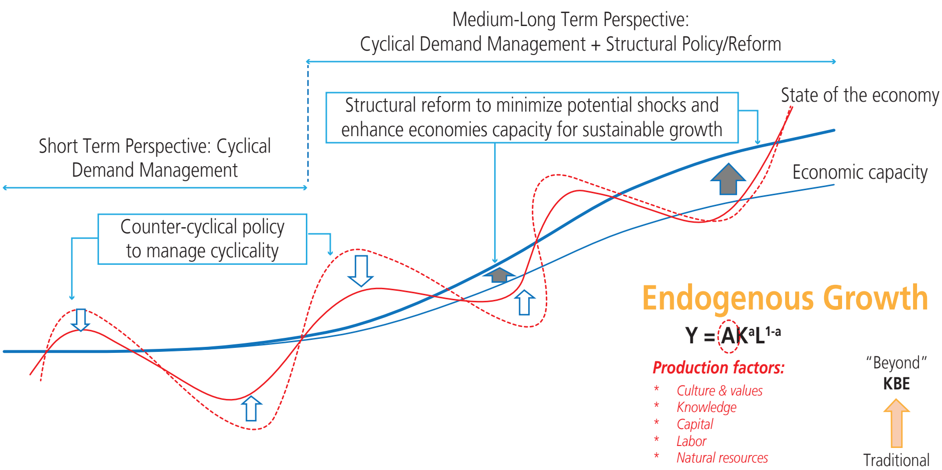


Figure 1.3. Beyond Boundary: Mitigating Cyclical and Structural Risks

Is this all enough? No, not yet. Because what we are facing is not just cyclical policy or cyclical risk, but also structural risk. During the pandemic crisis, there were growth disruptions and supply disruptions that caused increasingly lower growth. As a central banker, we cannot say this is not my problem, my problem is price stability. No, we are facing cyclical as well as structural risk. There will also be interconnected risks, systemic risks. These are all complex challenges that we have to tackle with our various instruments, orchestrating them optimally.

This is a more articulated version of the simple form showing the move from flexible along a path that takes in objectives, institutional arrangements, and supportive policies, as we move from standard ITF to flexible ITF, and then to central bank policy mix. In this regard, we think that the IMF has also recognized the need for a more integrated policy framework and they are now dealing with this. This represents the second wave of a policy transformation since the ITF in the nineties.

In terms of Trilemma Management, at Bank Indonesia we have a monetary and macroprudential policy instrument mix to handle policy sovereignty. As such, we cannot only use the monetary policy instrument of interest rates, but instead we have a set of instruments. In order to make a clear policy signal, we also utilize macroprudential measures to manage liquidity and financial stability. Basically, if you want to see the central bank response, you should move beyond conventional wisdom. We cannot just say the central bank has not yet raised interest rates, so it is behind the curve. No, it's not that simple - because we have minutes, calibrations, and good plans, which are communicated, and we use other policy instruments like liquidity normalization in the case that was raised by DG Juda Agung. This gives us a more complex picture about the interconnections of the system that we are dealing with. As for exchange rate management, there is no such thing as a fully flexible exchange rate. There will be more fine tuning to lessen exchange rate volatility as well as capital flow management.

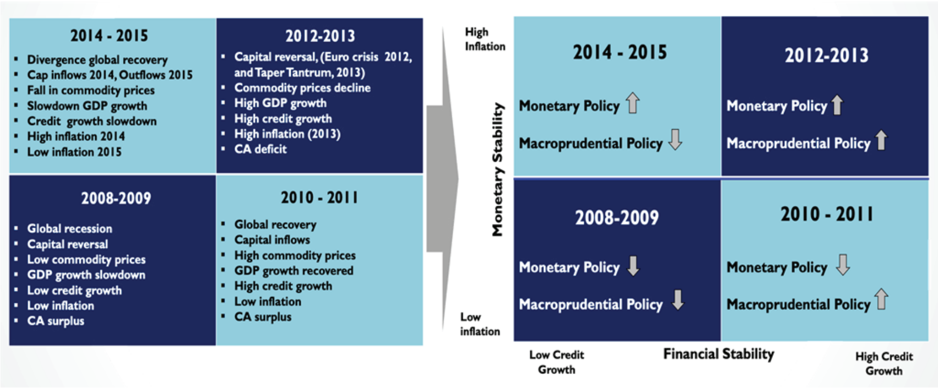
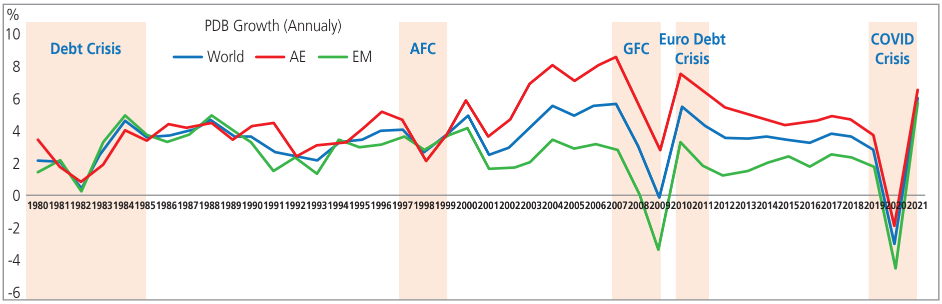


Figure 1.4. Post-GFC Policy Challenges and Bank Indonesia's Policy Mix (2010 to 2015)

We have some more images about what we experienced a couple of years ago (Figure 1.4). Basically, these show the complex challenges from the dimension of financial system stability as well as monetary stability. A case will arise where we have to tighten our monetary policy and also macroprudential policy, as well as a time for monetary policy and macroprudential policy loosening. However, there will also be cases of monetary policy tightening and macroprudential policy loosening. In other words, it's complex. That's why policy communication and policy coordination are essential in dealing with such situations. We are thus dealing with complex challenges. We cannot use only one instrument - only interest rates. We have to use the whole set of instruments we have, and we have to coordinate and communicate better with the public.



Sumber: IMF WEO, diolah

Figure 1.5. Economic growth

As for the challenges ahead, this is the post-crisis exit strategy policy - how to find good, better, or optimal solutions, given that we are enduring prolonged and contagious crises with shorter inter-crisis periods. If we cannot manage this properly, there will be a risk of another crisis. This is important. We see it now - we have just got out of the pandemic but are now dealing with geopolitical conflict and other issues like protectionism, which we will also potentially have to tackle with these kinds of measures. In this regard, we cannot work alone, but rather need to have stronger policy synergy - not only nationally but also at the international level.

Moving onto the risk of stagflation against the stability and growth nexus. Central banks and all authorities are dealing with this important matter. It's another reason why we cannot use only interest rates but have to use instruments outside of interest rates. As DG Juda mentioned, for instance, in 2022 our multi-policy will focus on stability, but other instruments, macroprudential policy, payment system policy, and other supporting policies will be oriented towards growth promotion.

Where are we going? To be a relevant central bank, to be a relevant authority or regulator, we have to deal with all kinds of complex challenges. There will of course be changes to maintain policy credibility, the goal of stability, and also to make sure that our transmission mechanism, at a tactical level, can run smoothly.

Coming to central bank policy mixed 4.0 in the new era, what have we learned, what does history tell us about macroeconomic policy strategy? We have been through a long period of history since 1960, moving from the post-war stabilization period to the beginning of financial liberalization. Goal orientation was still simple at that time, because in the post-war period, there was a growth promotion orientation. However, time and the challenges have moved forward and become more complex, as exemplified by the Asian Financial Crisis, Great Moderation, and then the Global Financial Crisis in 2008, 2009. Things did not stop there. We had the global landscape shift, taper tantrum, and then the onset of the pandemic crisis leading to diminishing globalization and rising digitalization, which presents some complex challenges. We have thus had to move our goal orientation with good orchestration of our policy instruments. The important thing, as Mr. Mishkin mentioned, is that we are still anchored on price stability and also institutional capability as the basic science of central banking policy. This means that in the future, we have to strengthen our institutional capability and create stronger policy synergy and coordination - because we are facing more complex challenges.

- How to navigate an optimal exit strategy, and thereby become a relevant central bank? Strengthening policy synergy and institutional arrangements is a must - because with complex challenges, we cannot disrupt the functions of the central bank. On the contrary, we have to strengthen the functions of the central bank, which rise with additional credibility.
- Beyond stability means we have to encourage new sources of growth. As the central bank, we look at the broader perspective of economic welfare, but in doing so we have to coordinate and strategize our policy with the government and also with other relevant authorities.
- Reinforcing central bank policy mix in the new era - in the digital era, central bank policy mix is still a viable and relevant strategy. However, we have to push it, we have to move beyond conventional wisdom, we have to be able to operate beyond conventional wisdom using novel practices.

I will skip the modelling issue and move to the takeaways we can get from this auspicious event:

- The multiple challenges we face imply that we have to utilize multiple instruments. This is the basic premise we are bringing into this discussion.
- The post-GFC monetary policy framework has been evolving until now and will continue to do so in the future, because more complex and bigger unknowns require more synergy and a more integrated policy framework than flexible ITF and central bank policy mix.
- The meaning of achieving stability is "in the context of supporting sustainability or supporting sustainable growth". This needs to be integrated if we want to

achieve a better outcome, and we have to make sure that our policy is to the benefit of all people.

- We also have to manage digital dividends, inclusion, efficiency and innovation. The G20 side-events have all come up with the same message - how to reap benefits in managing the digital era?
- Strengthening policy synergy between the central bank and the government is a sufficient condition. The central bank is not the only game in town, we are not the only player in these stakes. We have to strengthen coordination, strengthen synergy, and forge a common spirit to recover together and recover stronger.

CHAPTER 2
PROGRESS TOWARDS AN INTEGRATED POLICY FRAMEWORK

Christopher Erceg

International Monetary Fund

I just want to begin by thanking the organizers at Bank Indonesia, including the Deputy Governor, for inviting me to participate in this very important G20 event. I wish I could be there, but I'm certainly honored to be able to participate virtually.

I want to begin by noting that this talk draws heavily on the work that I've been engaged in with my colleagues on the IPF, although I want to emphasize that the views are my own. I've titled it "Progress towards an IPF", because I want to underscore that the development of an integrated policy framework really is an evolutionary process. And that's exactly why it's very useful to have this sort of engagements in which we can exchange views with each other and learn from different country perspectives.

In that vein, I'll begin with the outline you see here, with some motivation for the IPF work- which I'm sure is very familiar to most of you. Fortunately, Pak Solikin's presentation really provided a great introduction to what I'm going to say and aligns with it in many respects. We'll begin then by discussing some of the broader insights of our IPF work before turning to some work that is gleaned from our modelling work. This modelling work is useful for illustrating some of the key issues in which we're engaged, but also helps set the stage for a really concrete discussion of some of the challenges and next steps that face us.

I'll begin very quickly by stating what's already very familiar - that capital flows, of course, can really promote portfolio diversification, boost economic growth, facilitate financial market deepening. As such, they have a lot of benefits, but they also pose very major challenges. This means that the policy prescriptions that are appropriate for advanced economies, in favor of using conventional policy rate adjustments and allowing exchange rates to adjust flexibly, may not yield really satisfactory outcomes for many emerging market economies. Given this, there's a strong case potentially for using additional tools, including foreign exchange intervention and capital flow management tools, at least when there are certain frictions and vulnerabilities present. These would include shallow markets, meaning markets that are characterized by poor liquidity, sizable currency mismatches - you oftentimes have substantial unhedged FX debt on the books of financial institutions or corporates. And, finally, poorly anchored inflation expectations, such that monetary policy lacks full credibility, and shocks that move the exchange rate - as was emphasized earlier - can pose very difficult challenges for monetary policy. Therefore, of course, in practice we see countries using a wide variety of tools.

These include macroprudential tools, which are widely used by both advanced economies and emerging markets, but also foreign exchange intervention and capital flow management tools, which are primarily used by emerging market economies. Countries sometimes succeed quite well in using multiple tools, but there isn't really a sufficiently refined framework to assess and guide the integrated use of these tools. Hence, enter the IPF.

The goal of the integrated policy framework is really to provide a unified framework for the use of multiple tools to achieve both macroeconomic and financial stability goals. So how should these tools be used in concert in different circumstances? It's a hard question, and we really have to draw on a number of different approaches to make progress in addressing this question. These include modelling - it's critical to have a framework that, though stylized, may help us link through the key channels through which these variegated tools operate, and how they can work together or substitute for each other. Of course, we need empirical analysis to understand transmission and how it varies with country characteristics and initial conditions.

Finally, we need case studies – because, of course, we have to be attentive to experience and make sure our framework can help speak to those experiences, both to make sure we understand what has happened in the past, but also to deal with potentially new challenges. We've done a lot of work in these areas at the fund (IMF). Some of the work is cited at the bottom of this slide and includes work on an IMF Board paper that provides a high-level overview of our analysis, as well as more detailed work in various working papers on the modelling side. This is complimented too by a large number of empirically oriented papers.

I'll begin by just stating a few key results of our analysis in very general terms, and then later use our models to make some of this more concrete.

- The first point is that there's no really one size that fits all. I think this very much accords with what Pak Solikin discussed a few minutes ago. Optimal policy combinations depend very much on the nature of shocks, on country characteristics, and initial conditions. You can think more concretely of some of the frictions I mentioned above, such as the degree of anchoring of inflation expectations, as having a lot of bearing on transmission and on how these policies should be used.
- I think the next key point would be that countries with deep FX markets and continuous market access can really follow standard prescriptions of using conventional policy instruments and allowing full exchange rate adjustment.
- In countries with significant frictions, it's really important that other tools be on the table at least to potentially play a constructive role in helping achieve macroeconomic and financial stability goals.
- In this case MPMs, macroprudential measures, FXI and CFMs can all potentially help enhance monetary autonomy and improve financial stability.

Those are some key high-level findings, but to be a little bit more concrete we did a lot of analysis of the potential benefits of using precautionary CFMs on capital inflows that would be applied well before shocks hit, to try to reduce financial stability risks. We found, basically, a lot of support using both our modelling frameworks as well as empirical analysis to support really shifting policy along these lines. This, thus, underpinned a key policy change in the IMF's review of the institutional view that was recently completed in March, which would support the pre-emptive use of CFMs/MPMs under some conditions.

This really is influencing the policy framework, but it's important to underscore that our findings don't rationalize the indiscriminate use of IPF tools. It is certainly the case that tools shouldn't be used to maintain a misaligned exchange rate, for instance. It's also important not to use these tools to preclude really necessary macroeconomic adjustments. For instance, if the exchange rate is coming under pressure, because ultimately the country should be tightening fiscal policy, it's important to adjust the latter and not potentially spend a lot of reserves in foreign exchange intervention. It therefore really cuts both ways. We want to think about how the framework should guide the use of these tools and oftentimes point towards more parsimonious use in some cases.

I'll now just provide a brief helicopter tour of our quantitative model. It'll help you understand some of the results that I mentioned earlier, as well as offer a more concrete basis for some of my subsequent discussion on next steps. I should say by way of background that this model builds heavily on a conceptual model whose development was spearheaded at the fund (IMF) by Gita Gopinath several years ago, and it was really developed and worked on with her colleagues. This conceptual model is a simple three-period model that develops a lot of qualitative insights into how and when to use IPF tools. It's therefore an important complement to the work that I'll discuss. However, the model that I'll discuss is much more quantitatively oriented, and I'll illustrate that in just a moment.

By way of backdrop, it builds on a class of empirically oriented Keynesian models. These are open economy models, and they start out with the usual Keynesian building-blocks of sticky prices and wages. However, they also include a number of additional frictions that are very relevant for emerging markets:

- Imperfect monetary policy credibility is a big one, so inflation expectations aren't well anchored.
- Financial intermediaries have limited risk-bearing capacity, and I'll talk about that in a few minutes. The key implication is that the uncovered interest risk premium is going to rise as the net foreign liabilities of a country rise. If they become more indebted, then the UIP risk premium tends to rise - and we'll explain some of the implications of that in just a minute.
- Another friction is that households face borrowing constraints, so that shocks can force a "sudden stop".

These frictions essentially mean that emerging markets face pretty difficult trade-offs in dealing with shocks that move around the exchange rate.

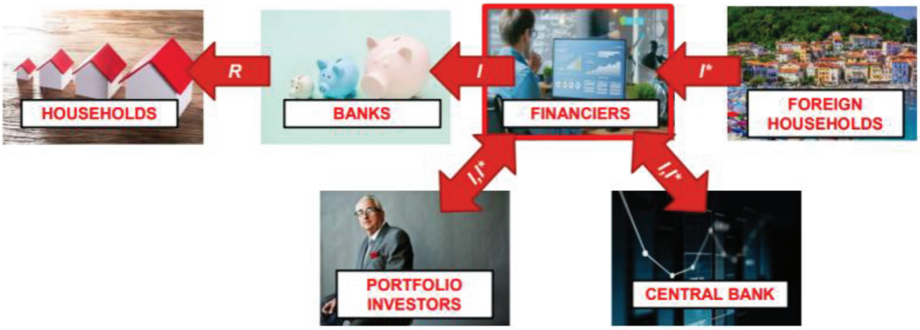


Figure 2.1. Financial Structures in Quantitative Model

In terms of a very brief overview of model structure, this looks quite complicated - but if you look at the upper right panel (Figure 2.1), what we have are international financial institutions in the model that borrow from foreign investors. Here, they're called households in the stylized model. What is really critical in the framework is that the financiers borrow abroad in dollars to finance accumulation of home assets in local currency. These therefore are domestic assets that are issued by the governments to finance its deficits, by private investors, and by the central bank to finance its accumulation of international reserves. These financiers basically have limited balance sheet capacities, so if you have portfolio investors fleeing, then they've got to pay a higher premium on their borrowing in order to finance their holdings of domestic debt. That means higher interest rates for domestic debts, which in turn means a higher uncovered interest rate premium. If the home economy wants to keep their exchange rates stable, they have to really raise interest rates a lot in the case of investor flight, or if they want to keep their interest rates lower, they can do so, but at the cost of a big fall in the exchange rate which would generate a lot of capital flight and high inflation. That was basically a very quick synopsis of how key frictions in the model works.

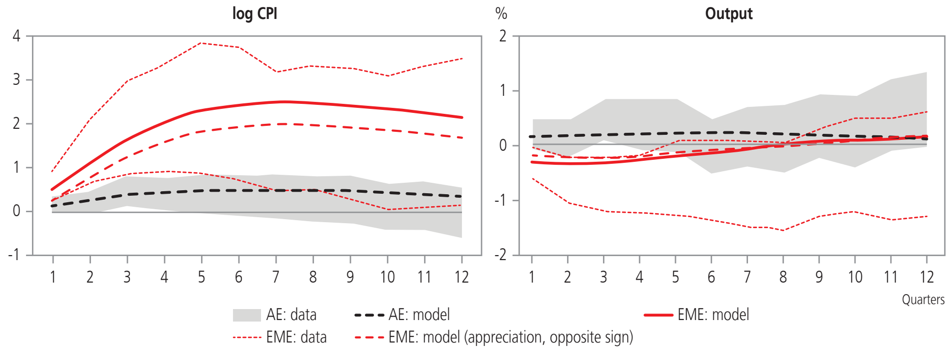


Figure 2.2. Transmission of Exchange Rate Shocks in the Q-IPF

To give you a little bit more color, what we try to do is calibrate the model to match key empirical evidence, including essentially to match the different responses of emerging market economies relative to advanced economies in responding to an exchange rate depreciation. In this vein, what we show here are the effects of what you can think of as being a shock that causes the exchange rate to depreciate by 10% on both emerging markets, which are shown in red, and on advanced economies, which are shown as the dashed black line (Figure 2.2). If you look at the left response, which is the CPI response, it shows that the 10% depreciation boosts the CPI by a couple of percent in the emerging market economy. Then looking at the right panel, we're causing output to contract, so this is a very difficult shock that poses trade-offs for the emerging market economy. By contrast, this is actually a stimulative shock for the advanced economy because it causes net exports to rise and GDP to rise, as seen in the right panel, and just puts a little bit of upward pressure on inflation. It thus looks like a stimulative aggregate demand shock from the perspective of the advanced economy. This brings home the idea that these shocks have very different transmission across emerging markets versus advanced economies. This then presents a big question about trade-offs.

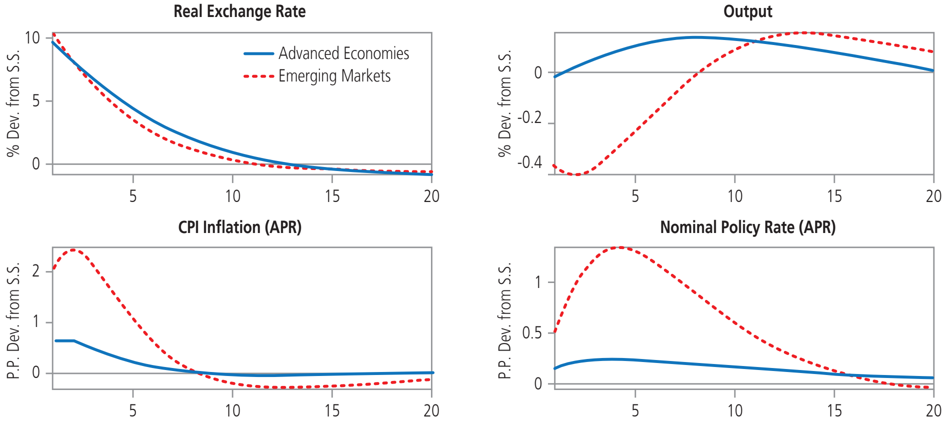


Figure 2.3. Risk Appetite Shocks Pose Difficult Trade-offs

Just to go into a little bit more detail here, similar to the empirical slide, essentially what we do is calibrate our model in a way that can help account for this sort of behavior. In particular, we show how emerging market economies face much more difficult trade-offs in response to shocks that move the exchange rates. Looking at the upper left panel (Figure 2.3), we see a shock that causes the exchange rate to depreciate by 10%, and our model will measure it in both advanced economies and emerging markets. In the advanced economies, as I mentioned, where exports are boosted, where output is prompted to respond (as seen in the blue upper right panel – Figure 2.3), there's only a little bit of upward pressure on inflation and the policy rate just has to go up a little bit. That's in the lower left panel, the CPI inflation response, about a half percent, an empirical impulse response, and the policy rate just goes up a little bit.

By contrast, the emerging market economy experiences much more inflationary pressure. You see that in the lower left panel where the CPI response is a couple of percent, which forces the emerging market central bank to tighten the policy rate a lot, which causes output (in the upper right panel – Figure 2.3) to contract. You can see then that these are much more difficult trade-offs. And yet, we can still consider the potential benefits of using foreign exchange intervention in that setting.

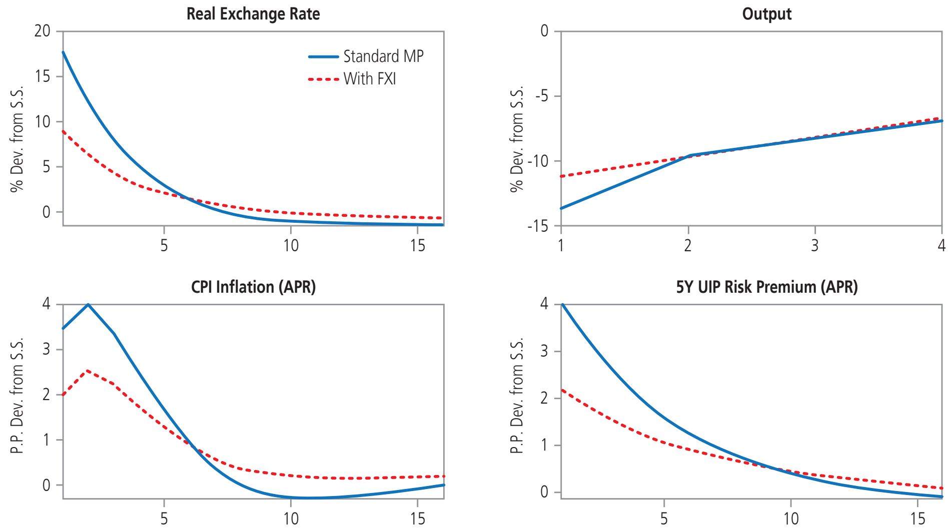


Figure 2.4 Benefits of FXI in a Capital Outflow Scenario

In this scenario, we're going to consider a capital outflow scenario that builds on the previous case. It involves a large outflow of portfolio investors that is accompanied by a fall in foreign demand. It's therefore the sort of shock that unfortunately we've seen during the Covid period and recurring even more recently. It is thus very germane to try to consider. In this case, what we see is that the exchange rate without FXI (in the upper left panel – Figure 2.4) in the emerging market economy (we're just focusing on emerging markets here) depreciates by almost 20% initially despite a sharp rise in interest rates. We don't show the interest rate rise, but output contracts remarkably which you see in the upper right panel (Figure 2.4) where output falls by about 14%. Foreign exchange intervention in this environment basically means that the central bank is going to sell some foreign exchange to these financiers which allows them to reduce their balance sheet which means that the risk premium on their holdings can decline – so that they don't have to pay as much to dollar investors because their balance sheet is smaller. You can see in the lower right panel (Figure 2.4) that the UIP risk premium has declined. The net result is that this cushions the exchange rate depreciation. The exchange rate still depreciates, but here only by about 10% (as seen in the upper left panel - Figure 2.4), the output contraction is much smaller, and CPI inflation rises by less.

That's just a little bit of illustration of our models. To recap in a little bit more general terms, the models are very useful in terms of illustrating key transmission channels through which shocks and policy actions operate, and highlights how key structural features – here we've highlighted a few which influence transmission such as the anchoring of inflation expectations, foreign exchange market depth - play through and affect transmission.

It also shows how multiple tools, such as foreign exchange intervention, can help achieve goals, and - although we haven't shown it here - they can help quantify benefits. I've done that in a recent paper on managing monetary policy trade-offs which is on the IMF website – I joined with Tobias Adrian and a number of my other colleagues. Finally, it helps illustrate how IPF tools can be used optimally within the prism of the model. How should you combine these tools?

A related point that I alluded to earlier is that it also helps us understand conditions under which FX intervention really shouldn't be utilized. It might be the case, for instance, that a country should be tightening monetary policy a lot more in response to inflation pressures or in response to external pressures. The country is relying too heavily on FXI, and that could be problematic - especially if it doesn't have adequate reserves. I think it points in multiple directions as to how countries should better use these tools.

This is just a schematic for thinking about some of the challenges ahead. In terms of practical challenges, we have a number of key challenges.

- One of the challenges is that it's certainly easy within the context of models to identify shocks but much more difficult in reality. The models highlight the benefits of using foreign exchange intervention in the case of exogenous risk appetite shocks - these investors just decide to leave and the central bank can use foreign exchange intervention to, essentially, allow intermediaries to not have to borrow expensively in foreign markets. It thus allows them to scale down their balance sheets, and this really - as we've just seen - reduces the exchange rate impact of the shocks. However, what if the capital outflows are driven by investor concerns about the fiscal stance, for instance, and/or the country's external position? In that case, FXI might not be desirable. As such, we have to be able to distinguish what the shocks are.
- Another challenge is uncertainty about transmission. FXI might have only transient effects on the UIP risk premium, and so you'd have to use a lot of

foreign exchange reserves to really be effective. CFMs might be effective, but perhaps only on a transient basis because maybe they could be easily evaded. Therefore, we have to be able to understand how persistent the effects of these policy actions will be. In practice, of course, there are also many different types of CFMs and it's hard to identify their effects empirically. In that vein, we were quite engaged in trying to think about doing more work on outflow CFMs, because the work there is really limited - and part of that just reflects very difficult identification challenges. You could just imagine that oftentimes countries put in place outflow CFMs exactly in crisis circumstances. It is thus hard to tell whether the partial effect of these actions is really lessening these sorts of fractures. It's similar to a government spending shock, when you see government spending increase in response to a financial crisis, and you still get the crisis, but you want to be able to identify the effects of the government spending. In government spending, however, you have a kind-of natural instrument, like military spending, while with capital flows it's much more difficult. This is a big challenge, but a very important one.

We also want to learn more about the longer-term costs of utilizing these sorts of tools. The use of tools such as FXI can be very effective and helpful in the short run, but it could forestall market development, and it could also potentially create a significant moral hazard. For example, if the central bank is really the main player in the market, and investors expect that the central bank will intervene to support the exchange rate - this could, for instance, create a build-up of foreign exchange risk that creates more problems down the road. We therefore have to be attuned to these potential longer-term costs in weighing the potential benefit.

We're also certainly very interested in spillovers, which are important both for thinking about how policies can affect neighbours, but also how policies that are put in place by a large number of smaller economies might have more global impact. Thus, we are certainly interested in spillovers. I should say parenthetically that spillovers aren't always negative - sometimes they might have an adverse connotation, but you can certainly have favourable spillovers from policies that promote not only the financial stability of the country itself, but also its neighbours.

Finally, it's important to have richer fiscal policy. That means not only more detail on expenditure components and tax policy, but also thinking about heterogeneity in behaviour across different types of agents. It might be more similar to permanent income agents and others that might more or less consume their current disposable income. That's certainly a very important aspect going forward.

These are just a few considerations that help define our work program going forward. To some degree, it involves building richer models. Certainly, there's a lot of communication that we have to think about in really using multiple tools in a way that takes account of country specific circumstances. There are certainly significant communication challenges as well. With that said, however, I think there's still much to do. IPF is an evolutionary process, and the progress thus far has been substantial. Our work has helped underpin really significant changes in the policy framework, for instance, in the case of the IMF institutional view. Going forward, we think it really will facilitate our ability to deal with formidable challenges ahead. In that vein, it's important to underscore, as the previous speakers have said, that the task won't be easy, but it really is critical to learn from each other to help better address these risks.

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Q&A SESSION 1

1. Question from Jim Walsh, IMFs Resident Representative, Indonesia:

Thanks very much for both of these presentations, which were very informative. One commonality that you can see between the two frameworks, the IMF's Integrated Policy Framework and the Central Bank's Framework for Policy Mix, is that they both recommend FX intervention in the case of smoothing volatility, which seems like it's a very good threshold for when to enter the market if we see a sudden increase in volatility. However, how do we think about when the central bank might exit the FX market? How do we decide whether we're continuing to smooth volatility or whether we're impeding a needed adjustment? I think that's a difficult question for any central bank to answer, so I'm curious as to how our models - both at the IMF and at BI - would address that issue.

Answer from Mr. Solikin Juhro:

With our framework, we also want to make sure that there will be compatibility and consistency in the achievement of all the macroeconomic variables. Macroeconomic stability means that we should be consistent in achieving exchange rate stability and supporting price stability, while also staying in line with stability in financial sectors. Beyond that, it is actually tactical. For instance, in this current situation, we want to make sure that our policy instruments can tackle the exchange rate in line with the fundamentals, but on a tactical level, we have to make sure that unrestrained volatility in the market is lessened. That's why our statement and our strategy is to make sure not just that we are in line with the fundamentals, in line with the compatibility of macroeconomic stability objectives, but also to make sure that we are in line with market mechanisms, make sure that there will be noise in the market, thereby making intervention part of our strategy.

Again, in terms of intervention, we are not just using those traditional intervention strategies, not only the spot interest rate. Instead, we are more innovative in our interventions, with a dual-intervention strategy using Domestic Non-Deliverable

Forward transactions to remain compatible in building market expectations, and also - in the financial market - to make sure that government bonds induce a more conducive (climate) in the financial system by using the triple intervention. This is the diet of central banking; not all the things - due to their complexity - can be captured by the model.

Answer from Mr. Christopher Erceg:

This is very good question. I think it's helpful to bring in some nuance when we think about volatility, as there could be volatility that is induced by real shocks that don't cause any major financial functioning issues. In such a case, I think the IPF would say, at least for many countries, that it would be desirable to simply allow the exchange rate to adjust in response to these real shocks that don't really create market functioning issues. However, volatility is oftentimes a signal of deeper problems associated with market functioning, so using both kinds of macro measures - measures of spread through covered interest rate spreads in practice and uncovered interest rate premia which are quite difficult to measure, but still can be met. If we see those sort of spreads rising, then that would be more of a rationale for intervention. You can think of the similarity to central banks intervening in markets more generally - that they want to see evidence of market dysfunction to rationalize intervening to reduce financial spreads. In a similar way, you want to see similar evidence to rationalize significant foreign exchange intervention. This also helps provide a framework for thinking about when to wind it down. Just like central banks try to facilitate a return to market-based financing through the way they price interventions and the way they conduct them, this would be similar on the foreign exchange side.

2. Question from Faudi, Gadjah Mada University:

My question is for Christopher. I read that one of the features in your model is about borrowing limits in an open economy New Keynesian model. As far as I know, in most Keynesian models we have two different types of households. Households that save money and households that borrow money. I am wondering therefore about how you incorporate borrowing limits in borrower households?

Answer from Mr. Christopher Erceg:

That's an interesting question. In the stylized model that I just described, it really is just a tight constraint on the net foreign liability position of households – and they're the only borrowers in this simple framework. You can just think of net foreign liabilities not being able to exceed, say, 20% of GDP - and if they do so, then essentially the home economy hits a sudden stop. That's characterized by a big increase in domestic borrowing spreads that allows the constraint to be satisfied. This is really quite stylized - we are working on ways of, essentially, generalizing that to make it a little bit less rigid. Certainly, however, it is in spirit with a large body of literature that characterizes sudden stops in in these sorts of terms. It's therefore a handy way of thinking about how a shock that causes the exchange rate to depreciate, causes the net foreign liabilities of an economy to increase in the near term, and to potentially generate a sudden stop. I think you're also alluding to more refined frameworks that would have not only borrowers, but also savers in the economy. We have worked on those sorts of models in the context of developing a macroprudential framework. Jesper Linde, for instance, has developed a model with exactly this sort of heterogeneity. They're more complex and hopefully we'll be able to unite it into our open economy model.

3. Question from participant:

I have three questions for Pak Solikin. The first is in relation to digital financing, digital currency. How is Bank Indonesia coping with the development of digital currency, digital financing? Because we know from the global financial crisis, it was caused by ample financing. So how can we cope with that? Also, how does the Bank Indonesia policy mix take into account the development of the nurturing of green financing? How does Bank Indonesia cope with green financing, sustainable financing for the future? Also, how will Bank Indonesia's policy mix prepare to overcome some negative impacts from the geopolitical issues we are facing now in relation to the current global conflict? Also, a question for Mr. Cristopher Erceg - in relation to digital currency and digital financing, in your view how would that affect, in relation to the integrated policy framework model, the frictions that you mentioned when you build your model? Also, how would it affect capital flow management schemes, as well as the management of exchange rate policy intervention?

Answer from Mr. Solikin Juhro:

Regarding digital currency, we are entering a new era. The digital transformation is getting faster with more accelerated technological progress along with the emergence of cryptocurrency. Digital money is thus part of the strategic environment we are facing. Unfortunately, I didn't touch upon this issue in my presentation, but basically the future of money is one of the challenges of the central bank, in addition to the other challenges related to issues of stability and sustainability - including green financing. As to digital currency, this is among the main concerns that all central banks, including Bank Indonesia, are dealing with now. Because, in order to be relevant as a central bank, to be a relevant regulator, we have to put the issue of digital currency on the table. We are now developing digital Rupiah, as our Governor Perry Warjiyo often mentions. Bank Indonesia is preparing digital Rupiah that should be end-to-end. We are working now on the policy design and technological design, with the support of other authorities because this is not an easy task. However, the existence of digital currency is a sufficient condition, because we cannot just expose cryptocurrency as it would trigger instability. However, digital currency should be part of central bank policy in dealing with macro stability as well as to boost potential economic growth in the future.

I think that during this forum, there will be deeper discussions on other issues related to digital currency. Maybe tomorrow and Friday you can follow this. Basically, digital currency is something that we have to prepare. We will then make it an end-to-end process to make sure it is part of our policy strategy in dealing with complex challenges and making transmission mechanisms smoother, as well as to support the central bank in achieving its goals of dealing with stability and promoting economic recovery.

As to green financing, later on in the next session, Dr. Yati Kurniati (will elaborate). Part of the policy synergy that we conducted during the pandemic as well as post pandemic was not just related to monetary and fiscal stimuli, but also related to accelerating the digital economy and finance, and also green financing. There are indeed some regulations that seek to enable green financing and the green economy to be conducted with more space so as to deliver economic goals broadly. As to the geopolitical conflict, I can see online that there are other similar questions. I will answer this when I address those questions.

Answer from Mr. Christopher Erceg:

The digital currency question is an important one. It is certainly the case that stablecoins pose financial stability risks. Stablecoin providers are typically outside of the normal regulatory perimeter. In addition, it's quite possible that the provision of stablecoins introduces disintermediation from the domestic banking system. Those are certainly two important potential rationales for tightening the macroprudential toolkit, possibly through using CFMs. There are certainly grounds for it. There would be stylized ways of addressing that within the context of our model. For instance, making the balance sheet of these financial intermediaries less secure, more subject to flight. I think that that would be one way of capturing it, but we certainly want to do more work in this regard. It's a complex question.

4. Question from Deny P. Purbasari, Gadjah Mada University:

We have questions for both of you. Earlier, the gentleman in front asked about geopolitical issues – The war in Ukraine has had an impact on the global economy. Every country has implemented policies optimal to rescue its own economy, but some policies have had negative spillovers onto other countries. Also, some EMD has fallen and worsened market expectations. Can we do something to ease these economic stresses and have some kind of policy coordination? And for how long can we do it?

Answer from Mr. Solikin Juhro:

We are now facing the headwinds risk from the pandemic. It is easing and we are entering the endemic phase, but still there will be tail risk. But now we are also facing the headwinds risk of the geopolitical conflict between Russia and Ukraine. The impact, the spillover, has been through three types of channels - financial channels, trade channels, and commodity channels. However, when we address the issues or challenges, we cannot view it from just one type of perspective; we have to look at all the things that make us spill over and impact all other variables. Basically, we have to see what the impact of the financial channel is, what the potential risks on capital flows are, as well as the potential risk on domestic prices and also potential risk on domestic economic growth. We also have to look at the potential impact from the FFR hikes - this is also part of the integrated issues that we are dealing with. Finally, we see that spillovers have an impact on inflation, growth, and financial system stability - and we need to know how to deal with these issues. Also, as I mentioned, and as also explained by the DG Agung, Bank Indonesia has conducted strategy based on the policy mix strategy. With the biggest challenges related to stability, we tackle them with monetary policy instruments. There will also be risks to growth, because there will be supply disruptions as well as impacts on exports & imports. This is why macroprudential policy and payment system policy are dealing with an accommodative focus and strategy to encourage economic activity.

There are also other things related to money market developments as well as green policy in the macroprudential regulations, including the development of small-scale enterprises. This however is not enough because we cannot work alone. That's why, as we explained in ou presentations, we have to use a more coordinated way – policy synergy & policy coordination should be strengthened. If we talk about a sufficient condition, how long will this take? We have no time limitation, because this is part of the policy strategy - we cannot just say "okay, we'll do coordination in such a kind of way with limited time." No, we have to strengthen our policy synergy all the time.

We are pleased that over the last couple of years, we have had a good quality of coordination, stronger coordination, between the government and the central bank and other authorities. We share a common understanding about the nature of the issues we are dealing with, and how to deal with them. In our assessment, with our fiscal and monetary policy as well as other policies under KSSK (National Financial System Stability Committee), we are doing good things at a good pace to manage macroeconomic stability and financial stability.

As for digital acceleration, we need to make sure we can gain a digital dividend, inducing efficiency and increasing economic productivity, as well as inducing inclusion in the economy.

Answer from Mr. Christopher Erceg:

I think the question is very well framed. Many countries are facing high domestic inflation pressures that are amplified by the very large external shocks that have led to large increases not only in energy prices, but also other goods. This has posed immense challenges, probably most so for very vulnerable economies that have limited fiscal space. As alluded to in the question, countries have experienced capital outflow pressures, exchange rate depreciation, and this sort of instability is not only bad for themselves, but really more generally so, including for their neighbours.

In that vein, I think that policies which involve enhancing the global safety net are efficacious in helping, alleviate some of these pressures, including liquidity support from international institutions. This is certainly a key challenge right now.

5. Question from Ella, Bank Indonesia:

This is a question for Christopher. How do you define the optimal condition or balance of policies in IPF? What are the indicators of this optimal condition?

Answer from Mr. Christopher Erceg:

Well, it is certainly a question that depends on how we define objectives. I think to start out concretely, there are really two components that are critical. One is ensuring macroeconomic stability, and roughly speaking that is going to be based on how well policies do in closing output gaps or employment gaps and inflation gaps - so keeping inflation on your target. That's the macro stability component. And the other is financial stability in making sure that the risks of really disruptive effects on financial conditions that can interrupt the disintermediation process are attenuated. Those are quite critical, and countries, of course, can have many different objectives - but those are the ones that figure prominently in our model analysis.

In terms of balancing those trade-offs, I think we have to generalize results in the literature that think about trade-offs that involve balancing tensions on the macro side. You also need to think about how, when you're faced with a supply shock, monetary policy faces the challenge of trying to keep inflation as close to target as possible while keeping output from declining a lot. Those are the sorts of conditions that underlie optimal policy in this type of model.

6. Question from Danny, a college student:

How do you plan to (or perhaps you already have done it) incorporate a payment system into the Bank Indonesia policy mix? And how do you incorporate the payment impact on the other two policies, monetary and macroprudential policies?

Answer from Mr. Solikin Juhro:

I think this is a very relevant question. We are dealing with new realities and the evolution of dynamic thought in developing the central bank policy mix. This has a fundamental implication on our policy modelling. This is in line with the integrated policy framework developed by the IMF that we have been developing since 2010. Slide number 28 will give us the big picture of what Bank Indonesia's policy mix is doing.

Basically, we now have ARIMBI (Aggregate Rational Inflation - Targeting Model for Bank Indonesia). This is a kind-of semi-structural DSGE model based on new conditions. We are grateful, of course, to the IMF for helping us to develop this framework under FPAS - the Forecasting and Policy Analysis System.

We have been developing this from 2010, during our flexible ITF period. Now, under the policy mix, we have made more integration between the monetary policy framework and the macroprudential policy framework. We have no payment system policy framework yet. However, we also have a set of policy instruments - I just want to make sure you understand how we work and what the policy model framework is, rather than just answering a question which you can find and read in our papers. These instruments consist of policy rate, foreign exchange intervention, reserve requirement, and also intermediation ratio to push up the intermediation.

We have also done fiscal policy for enrichment, because currently policy conditions between the central bank and the government are most important in dealing with such a situation. That's why we have put a fiscal policy block in our modelling framework, and we hope that this can articulate more growth in the endogenous growth component, as induced by this kind of coordination. Now, we basically have a monetary policy framework, macroprudential policy framework, and also a fiscal policy framework under our new Bank Indonesia policy mix modelling framework - based on the new conditions model and the IMF-developed FPAS.

For the bigger picture, in facing the new era, we are now working on a payment system policy, because we have to have a more complete picture about the central bank policy mix and the government. With the payment system policy mix, we will be able to utilize optimally digital economy & finance related instruments. At a later stage, this will include CBDC, be it wholesale CBDC or retail CBDC. Currently, we are working with digital economy and finance instruments, so that we can optimize the way the central bank is able to induce the endogenous growth component and then establish more optimal goals in achieving macroeconomic and financial system sustainability, alongside price stability, exchange rate stability, and financial stability to support sustainable economic growth. This is what we mean by the optimal role of the central bank in the new era.

Key Points Session 1

First, the multitude of challenges confronting the EMEs demands a policy mix response utilizing multiple instruments. The post-GFC monetary policy framework enhancement in Indonesia is characterized by Flexible ITF. It continues to attach to an inflation target as the overriding objective of monetary policy, and further framework enhancement implies that a central bank policy mix is ultimately important in managing the central bank Policy Trilemma in the current climate which is marked by widespread uncertainty. The Integrated Policy Framework will, of course, help facilitate a better understanding of how to use multiple tools. That concludes our first session today.

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CHAPTER 3
CENTRAL BANK POLICY MIX: MANAGING EXTERNAL STABILITY IN INDONESIA

Yoga Affandi

Executive Director and The Head of Bank Indonesia Institute

This topic, I believe, in this event is very timely because we are currently living at a time of very high uncertainty and confronting unprecedented challenges. In the session, I will focus on how Indonesia deals with this high uncertainty and discuss the role of central bank policy mix in maintaining external stability.

I would like to give you the outline of my presentation to give you the idea of what we are going to achieve in this session. In the first part, I would like to discuss:

- How the world is facing serious challenges - something that was also mentioned by Pak Juda Agung. The global economy is facing inflation, inflation is rising, both in emerging markets as well as in advanced economies, and global economic indicators are also worsening.
- Increasing global market volatility has spillovers into domestic economies. We would also like to look at the volatility risk coming from the global spillover.
- Then we would like to look at what the portfolio flows are, because countries which rely on external financing, especially from portfolio flows, are posed with some vulnerabilities.

In the second part, I will talk about the findings.

- How Indonesia manages external stability. Pak Solikin has already outlined this, but I will also focus on this external stability itself, which is properly defined as exchange rate stability at this time.
- I will also discuss some emerging markets' case studies.

In the third part, I will draw three lessons learned:

- The first is the need for a central bank policy framework. I will focus on that.
- The relationship between central bank policy mix and financial market development. There is clearly a very strong link between these two. I will introduce some of the measures that Bank Indonesia has adopted during this period of external turbulence.
    - ➢ We have triple intervention and we have DNDF
    - ➢ For the medium term we have local currency settlement.
- The importance of communication and coordination.

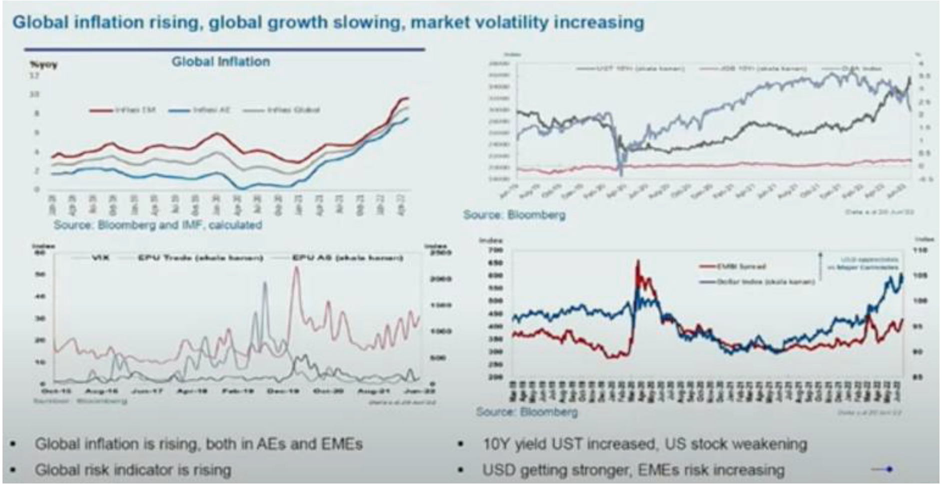

Figure 3.1. Global Challenges

I will then conclude with some key takeaways. The three issues that I think are very important. We see that global inflation is rising, as you can see in the upper left chart, both in advanced economies and also in emerging market economies. Global economic indicators are also worsening. Both the risk and volatility of global assets are still at a high level. Global financial risk indicators in June, as you can see in the bottom left chart, were still high and had in fact increased from many positions. This is in line with the uncertainty of the prevailing geopolitical tension as well as the global tightening policies. Market volatility is also increasing. We can see, for example, the financial condition indices in the US and EU, which are not here in the graph, have also increased because of the tightening of US monetary policy. We can see in the bottom right chart and also in the upper right chart, the 10-year US treasury has also increased. We can also see that US stocks are weakening. In contrast, we see that the US dollar is still strong, which is causing emerging market risk to continue increasing, as you can see in the bottom right chart. That's the number one issue.

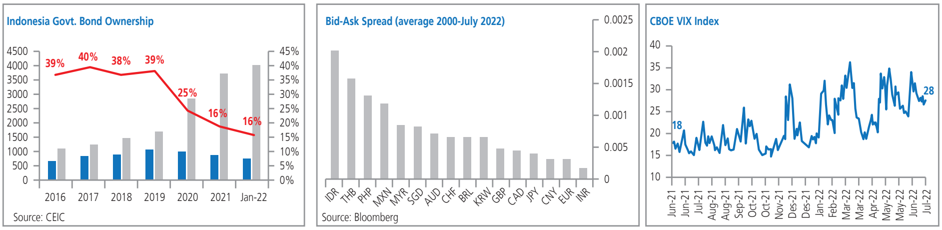

Figure 3.2. Volatility Risk from Global Spillover

The second issue is the volatility risk coming from the global spillover. This high market volatility is a challenge for external stability, as reflected in the volatility of the exchange rate. I believe that volatility risk is due to two factors.

- Firstly, it's about the financial market structure - the fact that the financial market is quite shallow in Indonesia. If you look, for example, at the Bid-Ask spread in the middle chart, you see that market efficiency is relatively lower than in its peer countries. Also, we can see that the high percentage of foreign ownership in government bonds creates some vulnerabilities. Of course, recently there has been a decrease in foreign ownership of Indonesian government bonds, as you can see in the left chart.

- The second factor is risk perception. Yield seeking investors are mostly influenced by short-term risk perception, which also creates volatility as the market is driven by sentiment. We are clearly facing a volatility risk that is clearly increasing because of this global spillover.

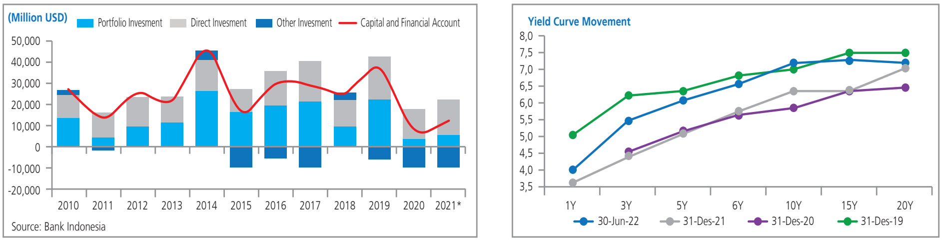

Figure 3.3. Portfolio Flows Carry Risk

The third issue is how we finance our current account deficit with portfolio flows. This does actually carry risk in terms of volume and prices. You can see in the left chart that capital flows increased after the Global Financial Crisis. However, during the Covid-19 period, this changed with capital flows moderating in 2020 and 2021. In Indonesia, portfolio investment inflows are primarily in the form of government bonds and stocks. As such, market sentiments can also push higher yield growth. That's why I think financing portfolio flows also carry risk in terms of prices. Volume and prices are thus things we need to be concerned about. If we are funding the economy with these portfolios, then we need to understand this, look at it, and be concerned. These were the three issues that I wanted to mention here.

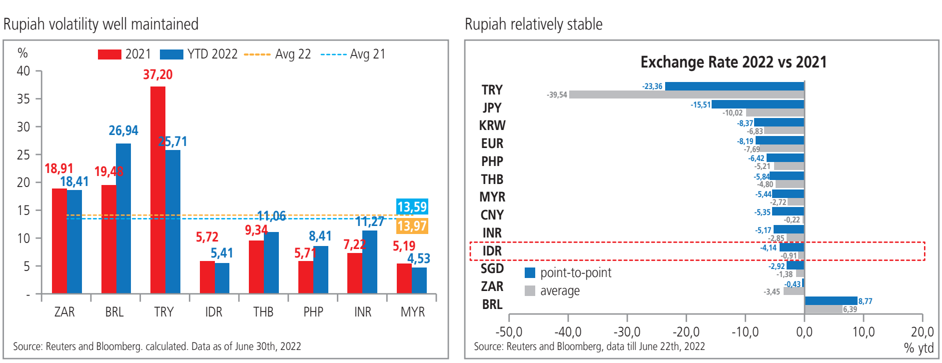

Figure 3.4. Managed External Stability amidst Increasing Uncertainty

As to the findings, I believe that Bank Indonesia has actually strengthened the policy mix to ease the external pressure. You can see here, in the left-hand graph (Figure 3.4), that Rupiah volatility is well maintained and lower than the corresponding volatility of its peer countries. Indonesia, as already mentioned by Pak Solikin, launched the DNDF in 2018, as part of the triple intervention strategy. We can see the exchange rate in the right chart (Figure 3.4). The Rupiah is relatively stable despite the recent uncertainty coming from the global market. We have clearly managed the external stability amidst increasing uncertainty.

I will also show you the macro indicators, but, of course, the challenge ahead is how to manage stability amidst increasing uncertainty. We can see that during the Covid-19 period, Indonesia has performed quite well. However, we can also see that recent uncertainty has put pressure on external stability. This indeed poses a challenge. The balance of trade surplus is still well maintained, and foreign reserves are still adequate albeit slightly declined. We can see in the first quarter of 2022, GDP was very strong, very robust at 5.01%. Based on these two empirical findings, I would suggest that the role of central bank policy mix in addressing the challenges related to external stability has become increasingly important. In Indonesia's case, policy mix is not only in the form of short-term policy response, but also in the form of long-term and structural policy - this is something that we need to understand.

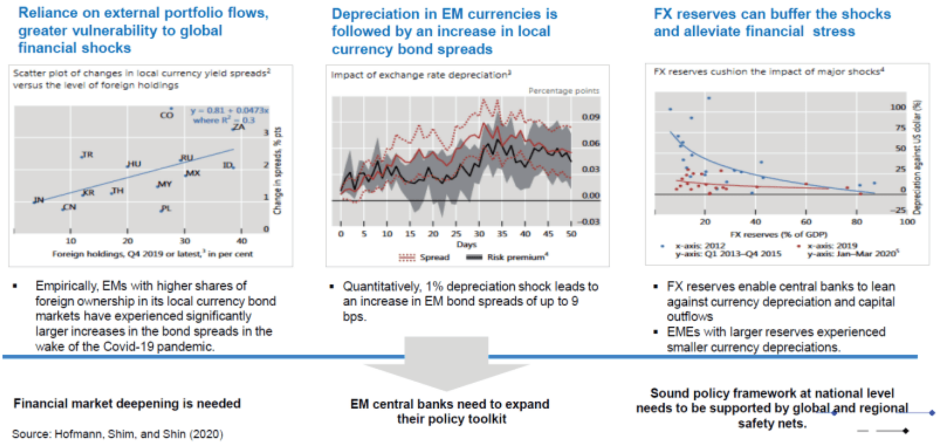

Figure 3.5. The Effectiveness of Various Policy Tools

I will also mention some studies, some of which actually come from my colleague here, Dr. Ilhyock Shim. This is about the effectiveness of various policy tools. I would like to talk about these, not only from Indonesia, but also from the emerging markets. This is a study from the BIS by Hofmann, Shin and Shim - the gentleman sitting right next to me.

- In the first chart (Figure 3.5) , you can see that a reliance on external portfolios will lead to greater vulnerability and, in turn, global financial shocks. There is a positive relationship between local currency yield spreads and the level of foreign holdings. Clearly, therefore, the recent reduction in Indonesia's foreign ownership could shed a light on how to reduce the vulnerabilities in our external sector. I mentioned earlier that foreign ownership is down to 16%. This has clearly reduced the vulnerabilities in our external sector.

- Secondly, the depreciation of emerging market currencies is followed by an increase in local currency bond spreads. There is thus a strong link between depreciation and bond spread that should clearly emphasize the development of financial market development. What we would like to have is a market that can absorb shocks instead of amplifying them.
- Third is the role of FX reserves. It is shown here that FX reserves can buffer shocks and alleviate financial stress. Thus, FX reserves enable central banks to lean against currency depreciation and capital outflows.

The three components of this case study highlight that:

- First, emerging market central banks need to expand their policy toolkit, hence the policy mix championed by Bank Indonesia.
- Second, financial market deepening is required - it's needed, it's necessary.
- Third, foreign reserves have an important role.

These are the points coming from these emerging markets case study. The previous study was an empirical study, but I would also like to mention here another study coming from BIS as well on the importance of policy mix, as supported by their simulated case study.

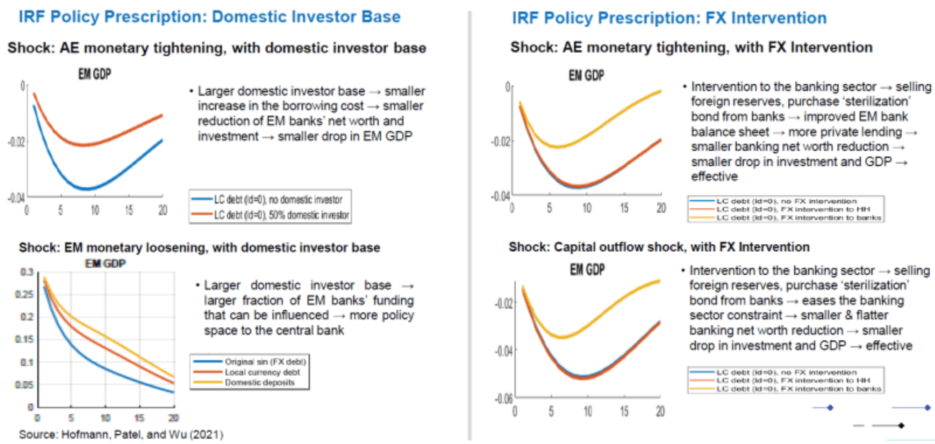

Figure 3.6. Policy Mix Cushioning Economy from Shocks

In the upper-left chart (Figure 3.6), the role of domestic investors in emerging markets has actually cushioned the impact of advanced economy monetary tightening, as shown by the smaller drop in GDP in the case of larger domestic investor base. If you look at the upper-left chart (Figure 3.6) and focus on the red/ orange line, you can see that the reduction of GDP is lower than the other one, as shown by the blue line.

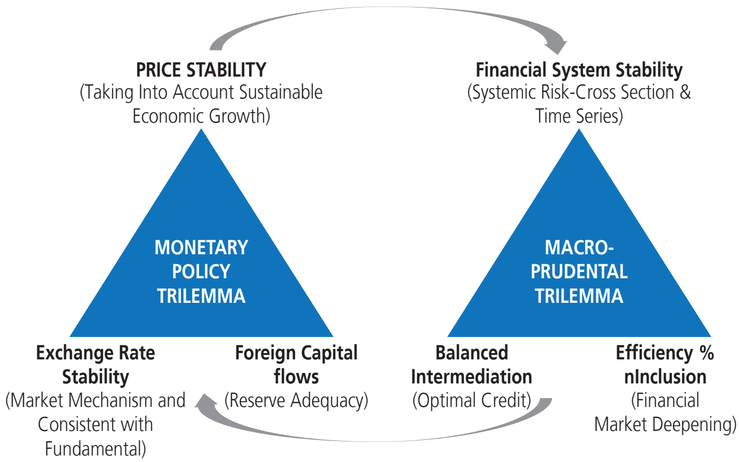

Figure 3.7. Monetary & Macroprudential Policy Trilemma

The other case is in the lower-right chart (Figure 3.6) with the capital outlook shock, with FX intervention - this is also shown to have this smaller reduction. What I'm trying to underline here is the importance of policy mix, as shown by the role of the domestic investor base as well as by the role of FX intervention which cushions the economy from shocks. This comes from the BIS study.

Let me move onto the third part, which is the three lessons learned:

- The first lesson learned is the need for a central bank policy mix framework. This, of course, is not a surprise because it was also the conclusion from Pak Solikin's presentation. We know that after the Global Financial Crisis, financial stability became a prerequisite to achieve price stability. In other words, we cannot achieve price stability without having financial system stability. Hence, the central bank policy mix must address not only the Monetary Policy Trilemma, as seen in the left triangle, but also the Macroprudential Trilemma, as seen in the right triangle (Figure 3.7). A recent study suggested that emerging market policy makers could also optimize the effectiveness of Trilemma policy by showing more concern for macroprudential policies, along with exchange rate stability and monetary stability. In the case of exchange rate stability, exchange rate policy actually plays a strategic role to achieve price stability as well as financial system stability, through maintaining external stability in which the exchange rate is directed to be consistent with the fundamentals and mitigating short-term volatility as part of the central bank policy mix.

As already discussed by Pak Solikin, central bank policy mix is actually designed to manage the Impossible Trilemma. We have these three points of the Impossible Trilemma. We would like to exercise this through managing the exchange rate, managing capital flows, and integrating monetary and macroprudential policy. Thus, instead of providing one corner solution in the economic system, we would like to have the central bank policy mix as a middle solution. We need to do the following:

- align exchange rate management consistently, for example with our inflation targeting framework;
- conduct exchange rate intervention to reduce short term volatility;
- maintain an optimal balance between the space for appreciation and space for depreciation, while also considering the foreign reserve adequacy.

Based on this inflation targeting framework, interest rate targeting is directed toward ensuring that inflation projections remain within the target. However, we are also aware that the exchange rate can have a pass-through effect on inflation. There is also the fact that foreign capital flows can create misalignments between the exchange rate and fundamental value. Based on these two factors, foreign exchange intervention could serve as a policy toolkit to reduce short-term volatility, consistent with the ITF.

- The second lesson learned, which is the interlink among financial marketing deepening, monetary transmission, and financial stability. For emerging markets, the exchange rate is a highly relevant link between financial marketing deepening and financial stability. Liquid and developed financial markets, including derivatives markets for hedging purposes, along with FX deregulation and the development of money market instruments, will support financial system stability. This thus necessitates efforts aimed at financial market deepening in order to stabilize the exchange rate as well as the external balance. For monetary stability, the effectiveness of monetary policy transmissions requires a deep financial market. Since monetary and financial stability are intertwined with financial financial market development, it is very important to have these initiatives, these policy innovations, to support monetary and financial stability in developing financial market deepening. The key message here is to have this financial market deepening in order to have financial and monetary stability.

I will continue by outlining some of the efforts made by Bank Indonesia as part of our central bank policy mix. The first one is about triple intervention, the second one is DNDF, and also the recent medium-term strategy known as LCS.

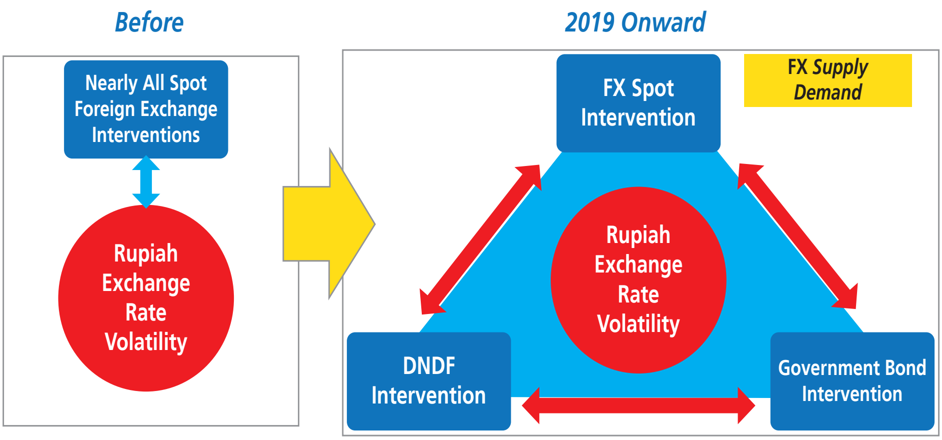

Figure 3.8. Triple Intervention

With the launch of DNDF, the exchange rate intervention strategy implemented by Bank Indonesia has been updated to a triple intervention strategy. This was developed to safeguard the Rupiah exchange rate stability. The intervention, of course, is conducted in a measurable manner by taking into account the adequacy of foreign exchange reserves. Initially, intervention was conducted only through spot interventions, and then later on we saw a dual intervention strategy characterized by the addition of the secondary market for government bonds. Subsequently, in 2018, we saw the implementation of DNDF – Domestic Non-Deliverable, Forward Intervention - to complete the FX intervention, becoming the so-called triple intervention. This is one policy innovation that has been developed in Bank Indonesia to increase, to deepen, the financial market as well as to safeguard the exchange rate stability.

DNDF is actually a policy innovation developed as an alternative hedging instrument in the domestic market. It is a standard foreign currency derivative transaction against the Rupiah, a "plain vanilla" in the form of a forward transaction with a fixing mechanism carry out in the domestic market. It is carried out using the local currency instead of the US dollar or other foreign currencies.

DNDF can have three roles here, depicted by the triangle on the left of the chart (Figure 3.8):

- ➢ To support Rupiah exchange rate stability;
- ➢ To support risk management by market participants with FX exposure; and
- ➢ To support market deepening and market enhancements.

Thus, though the implementation of DNDF, market players can better distribute and plan foreign exchange demand. As such, high demand for foreign exchange can be temporarily accommodated in the DNDF market - it does not directly cause demand in the spot market.

As to LCS, we may be aware that the pressures on the Rupiah exchange rate can also come from a reliance on US dollar currency. The characteristics of the domestic financial market are still shallow and it is perceived as a "riskier asset", making Indonesia more vulnerable to global shocks. That's why, I think, we should apply this strategy to reduce the interdependence on hard currencies and encourage market participants to use the local currency for trade settlement (LCS). The implementation of this local currency settlement will have an impact in the medium term by reducing the demand for hard currencies, thus accelerating financial market development, reducing the volatility of the IDR exchange rate, and improving market efficiency.

As to the features and mechanism of LCS, recently we had a local currency settlement between BI and PBC established in September 2021. However, I will not dwell on this.

- The third lesson learned pertains to the importance of coordination and communication. We know that coordination and communication is a key aspect of a successful policy framework in Indonesia. Policy synergy has become increasingly important in the policy toolkit, including in managing external stability.

  In terms of coordination, the synergy between institutions - in this case Bank Indonesia and related authorities such as the Government, OJK and LPS in the KSSK (Financial System Stability Committee) – is aimed at maintaining a positive perception through:

  - ➢ structural reform in the real sector; and
  - ➢ financial market deepening.

  In terms of communication, meanwhile, we have noted a need to improve transparency and better understand market behaviour, as well as a need for financial market deepening. In fact, a recent study from the IMF showed that the monetary policy surprises have a significant impact on money market rates, for example – but only up to maturities of one month. There is however no significant impact on the bond market and exchange rates. That's why I think improving liquidity and activity in the money market beyond the one-month maturity will help improve the transmission of monetary policy. That's why, I think, the transmission of monetary policy communication to the financial market will also do better with that improvement in the transmission of the monetary policy mechanism. The third aspect of communication is to understand market behaviour. As it relates to exchange rate stability, the ability to guide market expectations is crucial here. The delicacy of understanding market behavior is critical in deciding the communications channel to deliver our message and, most importantly, to positively affect the financial market.

These are the three lessons learned that I would like to convey. I will conclude the presentation with some key takeaways.

- First is the need for a central bank policy mix. Exchange rate stability is a key policy in the central bank policy mix to maintain external stability. Exchange rate policy is directed towards maintaining the stability of exchange rate movements along their fundamental trend to ensure consistency in achieving the inflation target. We are still working in the ITF framework, but the stability of exchange rate movement is needed to mitigate excessive volatility that may put pressure on financial stability. We thus need to enhance the central bank policy mix to ensure exchange rate stability. The beauty of a policy mix is that we have the framework that can enhance and facilitate the innovation of the policy.
- This brings us to the second point - policy innovation itself. Maintaining exchange rate stability needs to be done through all necessary ground of policies. First, as I outlined earlier, policy innovations such as triple innovation, including DNDF and LCS, are introduced and this has strengthened financial market development. We know that DNDF is aimed at supporting stability, market development, and also risk management, while the objective of LCS is to accelerate financial market development, reduce the dependence on hard currency, and improve market efficiency. This is, in my opinion, the beauty of policy mix. We have this policy innovation and there are several initiatives that have also been conducted as part of the financial market development agenda.

- The third and final takeaway is that there is a need to design well-planned, well-calibrated and well-communicated policies in this highly uncertain world. In this regard, strong coordination to strengthen structural reforms in the real sector as well as in the financial sector is key, as too is the importance of communication because it is essential in guiding market expectation.

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CHAPTER 4
CAPITAL FLOW MANAGEMENT TO MAINTAIN FINANCIAL AND EXTERNAL STABILITY IN ADVANCED AND EMERGING MARKET ECONOMIES

Ilhyock Shim

Head of Economics and Financial Markets for Asia and the Pacific, BIS

Firstly, thank you, moderator, for your kind introduction. Before I start, I would like to thank Bank Indonesia, especially Mr. Yoga Affandi, for inviting me to this very important seminar. This is my second time and last time, which was about this time last year, I had to join the seminar virtually. I'm very happy, as this is probably my first speech offline in about two and a half years. I'm very excited, so thank you for providing me with this opportunity. Let me now try to remember how to do these things physically. It's been a while, but I'll try my best.

Before I start, what I'm going to present is my own view, not necessarily the views of the BIS. The request I got from Bank Indonesia was to focus on capital flow management, especially in advanced and emerging market economies. Unlike the other presenters, who have given a very broad view on the policy framework, my presentation will be solely focused on capital flow management.

- I would like to give a very brief background on the two different aspects of capital flows - local currency versus foreign currency;
- I will then provide a quick definition and classification of CFMs;
- I will then mention what we can call FX-related macroprudential measures or instruments;
- We will then have an overview of CFMs used in EMEs over the past 20 years;
- I will then focus a bit on CFMs for real estate flows, which is a small area, but relatively important for advanced economies.

- I will then come back to the broader issue of CFMs in macro-financial stability frameworks;
- I will conclude with ongoing discussions on managing capital flows.

In the 1990s, Asia and Latin America, as well as many other countries, endured financial crises. Most of these crises involved those EMEs that were borrowing in US dollars from banks. Subsequently, many EMEs, especially Asian EMEs, made extra effort to develop their local currency financing across the bond market, and tried to avoid borrowing FX currency. However, still to date, we have both FX borrowing and local currency borrowing - both from foreigners. That's what the EMEs are doing, just to give you some context.

Original Sin refers, basically, to EMEs not being able to borrow in their local currency. This is driven mainly by currency mismatch on the borrowers' balance sheet. It is often combined with maturity mismatch in short-term borrowing.

The new concept of Original Sin Redux, put forward by Agustín Carstens and Hyun Song Shin, focuses on currency mismatch on the foreign investors' balance sheet. Local currency bonds are issued by EMEs, and there is no FX mismatch on the borrowers' side. However, the lenders or investors based in the US or Europe invest in local currency in EMEs, but their liabilities or investors are mainly concerned about US dollars or Euros. As such, there's a currency mismatch on the lenders or investors' balance sheet. This is very different than the traditional Original Sin context. Here the focus is on exchange rate fluctuations on EME local currency bond markets, and bond flows have a very important impact.

Let me just quickly define CFMs. This is almost too easy, in a sense, to define because it's very broad.

- Any policy actions on various types of capital flow – that is CFM.
  - ➢ what kind of directions? it can be tightening inflows, loosening inflows, tightening outflows or loosening outflows. You can think about the 2x2 matrix here.
  - ➢ As to target flow, what kind of capital flow are we talking about? It could be bank flows, bond flows, equity flows, real estate flows, direct investment flows, or other flows; and
  - ➢ who are affected by the actions? It can be residents, non-residents or both.

- Very broadly speaking, CFMs can be classified into two groups - what we can call 'FX-related prudential measures' and what used to be called 'capital controls'. I understand that 'capital controls' is probably not a term often used nowadays.
    - Capital controls can be controls on capital flows - it is applied typically only to non-residents, because the focus is more on the inflows. Foreigners bring money into the domestic economy, either in the form of bank loans or portfolio investment.
    - The other category is prudential measures related to foreign currency exposure, or foreign currency liabilities, which applies typically to both residents and non-residents.

There's another way of classifying capital controls, which is an old-*ish* concept nowadays, from about 10 years ago. There are two things:

- So-called long-standing controls, whereby a permanent barrier is placed against international capital markets such that it limits all kinds of capital flows, including beneficial ones.
- So-called episodic controls, which are basically a countercyclical way of using the capital controls, such that they are open during tranquil times but closed when capital inflow becomes too strong.

More interestingly, how do we actually see these prudential tools and CFMs in different dimensions?

- Let's start from Hyun Song Shin's 2012 paper – a Central Bank of Chile conference paper. He classified macroprudential tools into asset-side tools, liability-side tools, and bank capital-oriented tools.
- We can similarly divide macroprudential tools into residency-based tools (so-called capital controls), currency-based tools (so-called prudential measures), and more general tools with a domestic focus, but which indirectly can affect capital inflows.
- We can also think about these capital flow measures in terms of targeted asset markets or flow support markets, such as the stock market, real estate market.

	Policy Tool	Advantages	Drawbacks
Asset Side Tools	Loan-to-Value (LTV) cap	Low administrative burden	Ineffective during rapid housing boom
	Debt service-to-Income (DTI) cap	Ties loan growth to wage growth	High administrative capacity needed for data on income
	Loan-to-Deposit Caps	Low administrative burden	Distorts bank funding Not applicable to foreign banks
	Reserve Requirement	Low administrative burden	Ineffective with low interest rates, burdens central bank
Liabilities Side Tools	Levy on non-core bank liabilities	Price based measure. Acts on broad liability aggregates	Needs legislation. Cannot narrowly target FX vulnerability
	Levy on FX-denominated bank liabilities	Price-based measure Enhances monetary policy Counters FX risk	Needs legislation Narrow base of levy
Bank Capital-Oriented Tools	Countercyclical capital requirments	Conforms to Basel III	Difficulty in calibration Level playing field issues
	Forward-looking provisioning	Modifies bank incentives	Objections from accounting standard setters
	Leverage cap	Modifies bank incentives	Not price based Open to circumvention Vulnerable to bank FDI

Figure 4.1. Taxonomy of Macroprudential Tools

This table also comes from Hyun Song Shin's 2012 paper. On the left-hand side (Figure 4.1), you can see asset-side tools, liability-side tools and bank capital-oriented tools, accompanied by some examples.

You can do the same thing - in terms of asset-side tools, liability-side tools and bank capital-oriented tools - for capital controls, FX-based prudential measures, and more general prudential tools. These are also accompanied by some examples, but what's important here is that we can think about those tools from different dimensions. We can also do the same thing for the bond market, equity market, and real estate market.

Moving onto FX-related macroprudential instruments:

- In terms of definition, monetary or prudential or fiscal policy tools, if specifically calibrated to FX exposures or the FX liabilities of banks and non-banks, can be called FX-related *macroprudential* measures. They're slightly different from FX-related *prudential* measures, because you can actually also include other non-prudential tools.

- EMEs have used various FX-related macroprudential instruments to date, such as:
  - ➢ FX-denominated liability-based reserve requirements – so you can have reserve requirements only on FX liabilities;
  - ➢ Limits on currency mismatch, FX positions, and FX-denominated loans.
  - ➢ More recently, we have started to see FX liquidity requirements or FX LCR.

	Emerging market economies				Advanced economies			
Instrument type	Asia (9)	Central & eastern Europe (14)	Latin America (6)	Middle East and Africa (4)	Asia-Pacific (3)	North America (2)	Western Euorope (18)	Total
Countercyclical buffers	6	13	1	0	**0**	**0**	**29**	49
Structural systemic risk capital surcharges	16	44	9	6	**4**	**6**	**65**	150
Other capital surcharges	1	17	4	2	**0**	**4**	**21**	49
Limits on FX mismatch, position or liquidity	**10**	**34**	**27**	**1**	0	0	6	78
Capital inflow-or- FX liability-based reserve req	**10**	**63**	**32**	**0**	0	0	0	105
FX liquidity coverage ratio	**4**	**6**	**3**	**1**	0	0	5	19
FX net stable funding ratio	**0**	**4**	**0**	**0**	0	0	2	6
FX liquid asset ratio	**0**	**10**	**0**	**0**	0	0	0	10

Source: K Kuttner and I Shim, "Countrycylical macroprudential policy", memeo, 2021.

Figure 4.2. FX Macroprudential Tools

- In contrast to emerging markets, advanced economies rarely use these kinds of FX-related macroprudential tools, instead focusing predominantly on domestic financial cycles such as the estate market.

This table (Figure 4.2) gives you an idea about what kinds of FX-oriented macroprudential tools have been used by EMEs versus advanced economies. The blue numbers in the lower-left part of the table show the limits on FX mismatch, capital inflow or FX liability-based reserve requirements, and other liquidity requirements focusing on the FX side. It is apparent that EMEs have been using these tools a lot, while, in contrast, advanced economies rarely use these tools.

I'm now moving into an overview of CFMs in general in selected EMEs. This is based on my paper with Claudio Borio and Hyun Song Shin, which is forthcoming in a book later this year. This table (Figure 4.2) shows how the different CFMs were used by nine EMEs between 2000 and 2019. The country names are on the top with the directions on the side - tightening inflows, loosening outflows have, in a sense, the same effect in terms of decreasing domestic credit; while loosening inflows, tightening outflows can increase domestic credit. Different countries have taken different measures for different directions. In this kind of exercise, it's actually quite important to think about what the CFM is, and what the dimensions are, just to give you an idea of how this kind of database is constructed.

Using Indonesia as an example (this database is actually what I used to construct this table and the previous table), there are different descriptions, different types, and all kinds of different flows affecting residents, non-residents, and so on and so forth. My point here is that this is a fairly complex exercise. I used to do a lot of work on macroprudential measures and people complained because macroprudential measures are very complex, with different tools. However, once you dive into CFMs, you'll be surprised that there are actually more diverse things going on in CFMs. You really have to think about each specific type. Chris Erceg mentioned earlier that research has been going on but there are not that many papers on the outflow CFMs. This is already thinking about a specific type of CFM which has to be analyzed in a very different context - you basically have to write different papers for different types of flows because they're so different, they have different goals, and they have different transmissions, and so on.

Figure 4.3. Deployment of CFMs over The Cycle

This chart (Figure 4.3) basically summarizes the types of CFMs taken by eight of the nine economies I showed you before, and just gives some added detail. Any bars that move upward above zero represent tightening - meaning trying to slow down credit growth from outside. There are different flows – bank, bond, equity, real estate – represented by different colors. Any bars pointing downward represent loosening, or increasing credit. If you sum them up, the net amount is the black line. If you look at the black line in 2009, in the middle of the GFC, you see the average is negative, meaning there was more loosening than tightening. In 2013, at the time of the taper tantrum, the black line is also below zero, which again means more loosening. However, at other times - when there was strong capital inflow into EMEs - the black line is above zero, which means there was more tightening.

CFMs have been generally used as a countercyclical way to tackle capital flows, and many countries - on average - have done the right thing so far.

In terms of effectiveness, I should admit that, indeed, compared to macroprudential policy literature, in the CFM literature the message is quite mixed - because there are actually not that many papers thinking about specific flows. Compared to macroprudential policy, the number of papers is still quite small. Moreover, those papers are sometimes saying very different things, giving mixed messages. There are nevertheless some reasons for that. First, there's no consensus yet about exactly what the definition of CFM is. CFM, as I mentioned, is a huge area. Some people only look at the macroprudential/prudential tools, while others look more at capital controls, and some people look at both. Depending on what you're looking at, the considerations can be very different.

Three papers show, in general, that FX-related prudential measures tend to be more effective than other CFMs. Even though they're effective, they tend to be effective in the short term, and there are a lot of leakages as well as, I would say, circumventions in this kind of case. Overall, CFM can be effective, but not as effective as macroprudential measures. We have to really pay attention to what kind of CFM tools you're looking at.

Now, I'm moving into the real estate market again. The main reason I'm showing this one is to talk about the case of advanced economies.

- Traditionally, foreign and domestic investors are treated equally - meaning that inflow can come from foreign or domestic sources; they are the same credit eventually in the domestic sense.
- However, there is a lot of evidence that of all kinds of flows, foreign investor flows are more volatile. These flows are also very sensitive to global financial conditions or risk-on/risk-off dynamics.

- This is also true for real estate flows, or the real estate market. Real estate prices and credit are very important for domestic financial imbalances. I'm sure this is true for both advanced economies and EMEs.
  - ➢ In the real estate market, quite often non-residents play an important role in, not all but, many jurisdictions.
  - ➢ In that sense, it's actually very important for central banks and other government agencies to think about the disaggregated data on credit to the real estate sector, meaning how much of the credit is from foreigners versus domestic players? And, what are the major market segments they're looking at? That is going to be very important.

Let's think about the emerging market first. We are talking about foreign investors getting into the commercial real estate market in emerging markets. In response to this:

- Some EMEs have introduced prudential measures or taxes targeting foreign investors. These are targeting non-residents, so they could be called capital controls, and this is very important for the domestic macroprudential context.
- For example, Hong Kong introduced a residential property *sort-of* tax on property which is acquired by someone who is not a Hong Kong permanent resident, in other words a foreigner. They are subject to a special 15% stamp duty. Also, Singapore has introduced a 10% additional buyer's stamp duty on foreigners purchasing real estate. This is much higher than the corresponding rate that applies to domestic players. This has also increased over time.

How about the advanced economies? Some of the advanced economies have actually also adopted similar types of measures to those in the EMEs on foreigners' purchase of real estate in the domestic market. In Canada, for example, British Columbia introduced a land transfer tax for foreign buyers, while Ontario introduced a non-resident speculation tax on the purchase of residential property in certain cities. Similarly, Australia and New Zealand also have some restrictions on foreign investment in residential property.

Advanced economies typically don't really care about portfolio inflows because their financial markets are very deep, and their FX markets are very efficient. However, the real estate market is a very different thing because it is so important in the domestic macroprudential sense. Therefore, they pay special attention to the real estate market, and some countries even introduce what you could call CFM, in a sense, on real estate flows.

I'll now go into a broader policy framework discussion. The next few slides are based on the BIS Working Group. BIS formed this Working Group of Asia Pacific central banks three years ago. The Working Group has actually looked at this policy framework issue very carefully, including Bank Indonesia. I'm going to introduce the group's general findings. Before I go into the details, following up on Mr. Affandi's point, exchange rate stability and capital flow management are very closely related. It's almost impossible to separate them. As such, any policy action you take on capital flow management should have an impact on, and should also concern, FX stability, and vice-versa. In that sense, FX intervention and CFMs quite often move together. This is a very important point to mention before I go further.

- Exchange rates are, of course, allowed to be flexible during normal times in EMEs, and they may act as a shock absorber in normal times.
- However, when FX volatility become excessive, especially the risk of flow dynamics
    - ➢ All Asian EME central banks, according to the report, use FX intervention, at least occasionally.
    - ➢ Volatile FX movements can create financial stability risks.
    - ➢ When intervention is not sufficient, then some authorities also use CFMs.
- I should also again emphasize that capital flow measures should depend on the types of flow and investor.
    - ➢ For example, FX-related macroprudential measures for domestic financial institutions typically, but also CFMs which quite often target non-residents.

The important starting point here is the overall monetary policy framework for emerging Asian central banks. They predominantly use flexible Inflation Targeting, this is a common practice - that's a starting point. Despite that, central banks in emerging Asian also use different tools for different objectives.

We basically try to match central bank objectives and instruments. It starts from external stability as one objective, then domestic financial stability as the next objective, and then macroeconomic stability - meaning both price stability and various growth aspects. The very first part is CFM intervention, macroprudential measures, policy rates, and so on and so forth. To achieve external stability, emerging Asian central banks all use FX intervention and some also use CFM or even macroprudential measures and policy rates. I would say that FX intervention is the most common, but all the other different measures are used quite actively to achieve external stability – which makes this a very difficult task for EME central banks. In comparison, for domestic financial stability, EME central banks in Asia predominantly use macroprudential measures, and for macroeconomic stability they mostly use policy rates.

I'm now moving onto the ongoing discussion on managing capital flow volatility. BIS has been using this term, 'macro-financial stability framework', for at least 20 years, if I remember correctly. It's a long-held concept and the idea is that you need to think about macroeconomic and financial stability at the same time. They are not separable. To achieve that, you have to use monetary, fiscal, macroprudential, microprudential, and CFM measures at the same time.

This is a very general concept, and over the past five or six years, this issue has come up again in the context of Integrated Policy Framework and other contexts. BIS has also been working heavily on this issue, with a few publications coming out from it. Let me just emphasize here that for both advanced economies and EMEs, the key policy tools are monetary and fiscal policy - but they can be complemented with macroprudential policy, which is now widely used both in advanced economies and EMEs. In addition, EMEs have given weight to FX intervention as an additional monetary policy tool, while CFM can also be used when other tools are not working very well.

The following are relevant in terms of more international discussions, an international context including the G20, on CFMs:

- BIS has this concept of macro-financial stability policy frameworks;
- IMF has the IPF and Institutional View, and as Chris Erceg already mentioned, there are also pre-emptive or precautionary CFMs which now form part of the toolkit.
- OECD has its own Code of Capital Movement Liberalization.

Of those three, I would say that between the IMF and the BIS there's actually not that much difference nowadays - they are quite similar. The OECD has slightly different views, but this is also changing over time.

Let me just conclude by going back to Original Sin and Original Sin Redux. What can central banks do in terms of FX flows versus local currency flows?

Original Sin:

- During strong capital inflow periods, it is very important to accumulate FX reserves, as already mentioned by Mr. Affandi – the importance of the accumulation of FX reserves.
- Because Original Sin is on the borrowers' balance sheet, it is important to reduce current mismatch in good times, so that when the negative shock comes in bad times, borrowers are less vulnerable.
- An especially important aspect is short-term FX borrowing by banks, as well as FX bond issuance by governments which have to do it when the global financial conditions are favorable.
- When the situation changes, and financial conditions become tight, policymakers may want to relax regulation on FX borrowing to alleviate the pressure on banks and other institutions.

Original Sin Redux:

This is about local currency, and again it's important because this also works on currency mismatch on the balance sheet of lenders/investors.

- To stabilize the FX exchange rate, you really need to accumulate FX reserves in good times.
- Intervene in bond markets facing severe capital outflows. Some EMEs did that a few years ago.
- Monitor FX mismatch. The difficult part here is we are talking about non-bank foreign investment vehicles coming in, and there is actually not that much regulation on this to start from.
- The obvious starting point, therefore, is liquidity risk management practice of those non-bank investment vehicles. How can you improve that?
- Another aspect which is also important for EMEs is the stock market. Some EMEs, the stock market and equity flows are actually more important than bond flows. Of course, central banks are not necessarily acting in the stock market, but equity flows can have a huge influence on the exchange rate. There is also

some recent evidence that equity flows are also very sensitive - equity returns are very sensitive to exchange rate movements. Thus, in a sense, equity flows and bond flows are quite similar.

Q&A SESSION 2

1. Question from Imam Mukhlis, Malang State University:

I would like to ask questions to Pak Yoga and Mr. Shim. Firstly, is the Indonesian economy in stagflation today with further potential increases in inflation. Secondly, in this era of recovery, we need not only stability and growth, but also equity for people. Could you elaborate on that in terms of central bank policy.

Answer from Mr. Yoga Affandi:

Thank you very much for the question. As to the risk of stagflation, let me use my presentation. If we look at the development of prices, we can see that inflation is not coming from the demand side. Instead, you will see that demand inflation, as reflected in core inflation, is still relatively stable – but, of course, we need to be vigilant with the inflation expectations coming from this. Looking at the bottom left chart, you see the development of prices in terms of administered prices, and then volatile food, as well as core inflation. Looking at this inflation component, you can see that core inflation is still managed well. In fact, if you look at the inflation expectation, it is still close to three plus minus 1%. This is why I don’t think we will have this threat of inflation in the future, but of course we need to be more vigilant. Looking at the other component, which is growth, it’s still very high. If you look at the component of growth as well as the headline of growth, which is 5.01% in the first quarter of 2022, this shows that economic growth is still healthy. This means that we need to be vigilant about the risk of stagflation, as of course there is a risk, and we need to respond to it. That’s why I think the policy mix framework is very important here. Pak Juda, the Deputy Governor, already mentioned that we have five components of policy mix. One - monetary policy - is aimed at stability, but the other four are actually for addressing growth concerns.

As to the concerns about equity. At this time, Bank Indonesia is mandated to manage Rupiah stability in terms of price developments, or inflation, as well as the Rupiah exchange rate. That is our mandate, but we also consider growth, including the aspect of inclusive growth. This is something that has been discussed at the central bank. However, at the moment, our mandate is Rupiah stability, which is reflected in internal stability of inflation as well as in exchange rate stability. Inclusivity is something that we need to be aware of, but it is not currently part of our mandate.

Answer from Mr. Ilhyock Shim:

As to the first question about the risk of stagflation, as already mentioned by Mr. Affandi, the nature of the shock involves two things. One is what you can call traditional global financial conditions tightening, mainly from the US and other advanced economies' central banks tightening. That has always been a challenge. Now we have these, what you can call, supply shocks, such as the energy price going up, food prices going up. Depending on whether you are exporting those things or importing those things, there is going to be a huge difference. Some countries may have to import both, so you can imagine how difficult the situation would be for them. Other countries, meanwhile, may not have to import both, maybe even export one of the two. This thus depends on the country context and results in very different sorts of situations in terms of stagflation risk. Nevertheless, most Asian EMEs have been maintaining their fundamentals well, such that they are very good, and they have a relatively large amount of FX reserves to intervene as necessary. While there have been some capital outflows, but actually not a lot compared to historical numbers. Overall, Asia is definitely holding up quite well, and even though on the price side there will be a lot of challenges - as prices are going up everywhere - growth-wise, the concern is much smaller.

2. Question from Doni Satria, Padang State University:

I would like to ask Mr. Shim about policy options. One policy option in terms of capital flow management for emerging countries is to accumulate foreign reserves. Is there any rule of thumb when it comes to foreign reserve accumulation, as there is some opportunity cost and a monetary cost in accumulating foreign reserves?

And for Pak Yoga, I would like to ask about the current trend for policymaking which, as we know, is about managing capital flows. However, Indonesia still has a law, known as Undang-Undang Lalu-Lintas Devisa, which is highly liberal. How can BI address this issue because we have not changed that law yet?

Answer from Mr. Ilhyock Shim:

I'll tackle the first question. The short answer is no, there's no rule of thumb. The flip side of your question is basically what's the adequate or appropriate amount of reserves, considering all the benefits and costs, That's a very difficult one. Even at the IMF, when they talk about it, there many different metrics they use. As such, I'm not going to comment on that. However, what I wanted to emphasize in my presentation in regards to FX reserves is that if you have a chance to accumulate reserves during good times, but you don't do it, then when the situation turns around, with capitals outflows and currency depreciation, it becomes very difficult. Suppose you cannot use FX intervention because the FX reserves are insufficient, or government fiscal policy room is very small, rendering the government unable to do it, then what should happen is that all the other policies have to do an extra amount of changes to bear the burden. One important, ideal policy mix is to have many tools and you cannot adjust these tools so that you don't create a lot of distortions - a lot of big changes are always very difficult, politically as well as economically - but you use different tools, different ways. Thus, as a whole, as a mix, you want to achieve your objectives, right? However, basically, if you have a very insufficient amount of FX reserves, you have to turn off or give up one or two tools, and then you have to use the other tools more strongly to achieve the same goal, which makes it more challenging. This is the way we are thinking about policy in the macro-financial stability framework. When you have a chance, you keep your space, either FX reserves or fiscal space, large enough, so when the shock comes, you can deploy your different tools more efficiently or optimally.

Answer from Mr. Yoga Affandi:

Thank you for your question. It is a tough question about how we implement capital flow management. This is actually something where we have the advantage of using central bank policy mix. As you know, there is a monetary policy trilemma. The one corner is about fixed exchange rate, the other one is about independent monetary policy, which involves setting the interest rate, and the other one is free capital flows. We know that we cannot achieve all three of them - we can only choose two out of three simultaneously. As to managing capital flows, this is something coming forward in the central bank policy. That's why the book authored by Pak Perry Warjiyo and Pak Solikin explores how we manage the monetary policy trilemma. In terms of capital flow management, we can use many other approaches, as mentioned earlier by

Dr. Shim. Previously we had only one target and one instrument, but now we have multiple targets and multiple instruments, so we have to have this policy mix approach in order to address free capital flows. We know that we cannot live with very free capital flows, but at the same time we also need capital flows to fund development. That's why there are some options here. For example, utilizing macroprudential instruments for capital flow management and also preventing external risk, as well as promoting foreign currency market depending, which is something that I outlined before. The other one is using foreign reserve management to act as a form of self-insurance. This is something that we do to make capital flow management work. in order to have an influence on our policy such that we have foreign capital flows into Indonesia. This is something that we need to do - we keep thinking about this and we have to do some policy innovations to incorporate this approach into a reality.

3. Question from Taufiq Dawood, Syiah Kuala University:

For Pak Yoga – you focus on one of the policies, you focus on foreign exchange intervention. How do you accommodate the issues of digital financing, digital currency, and geopolitical tensions that affect the foreign exchange market. Given this, how would you do foreign exchange intervention, on one hand, to overcome these issues, and also, on the other hand, to deepen the financial markets? As you said, in order for policy mix to have a strong impact, you need to have deep financial markets.

For Dr. Shim, I'd like to know about capital flow management in the real estate market. How is capital flow management in the real estate market different to that in the usual financial markets, particularly in relation to emerging markets where we have the issue of currency mismatch?

Answer from Mr. Yoga Affandi:

We need to analyze this systematically, which is what we do at the central bank. We have so many external shocks - I think we are living in a time of very high uncertainty. It is thus important for us to disentangle the shocks, to identify which are temporary shocks and which are permanent shocks. This is something that we have to understand - whether it's come from digital finance or geopolitical issues, this is something that we need to identify. After that, we need to assess the impact of those shocks on the economy. That's why at the Central Bank, in the Department of Economic and Monetary policy, especially for the macroeconomic sector, which is headed by Pak Solikin at this time, they have to carry out simulated shocks and then assess the impact of these shocks on the economy. There are many shocks that can happen. The assessments will tell us how these translate into the economy. Afterwards, we have to see whether we have the policy space to do this. In order to answer your question, whether we want to do some FX intervention, we have two concerns: first, the impact the exchange rate has on inflation, the so-called pass-through effect; and the other one is we also have to look at the misalignment between the actual exchange rate and the fundamental exchange rate. We calculate this fundamental exchange rate every quarter, and if there is a large misalignment, then, of course, we have to return it to the fundamental trend. This is what we do. The tools used can be very tactical. We can use FX intervention, we have the triple intervention strategy - the spot market, DNDF market, and also purchasing bonds (SBN) in the secondary market.

This is something that we use, as long as we already know the policy space, the target, and the trajectory path of the macro economy that we consider we want to have in the next two years, for example. This answers the question about how we do these things in reality. However, we definitely need a lot of data, we need a model, we need to update the model, and then we need to use it as a simulated case. After that, we can bring it to the policy space and implement it by recommendation.

Answer from Mr. Ilhyock Shim:

As to the difference between real estate versus usual financial markets – this is a very good question. I did some research two years ago on the commercial real estate market in Asia. There was a request from a central bank governor asking, "what's really going on?" The two markets are very different. You can even think about the real estate market almost as physical goods, while the financial market is very different. My answer is yes, they used to be (very different), but there is a lot of evidence that the real estate market has become more like a financial market. Some investment companies have even been trying to make an argument that they can turn the real estate market into something like bonds – a stable cash flow product. You would have, however, a lot of products coming out under that kind of proposition.

The real estate market, as we all know, is very delicate, whether commercial or residential, compared to any financial market. Thus, from a foreign investor point of view, they are taking more liquidity risk. That's number one. Furthermore, global investors are getting more and more active in the commercial real estate market, investing not only in one country, one city, but in many different cities. That's one reason that we have seen this common movement of commercial real estate prices in different markets - moving up and down at the same time.

In terms of the investment style, I briefly mentioned that the real estate market is very complex in data because there's a luxury segment as well as other segments. As such, foreigners tend to hold on the high-end market and high-end market prices tend to lead other market prices - meaning when high-end market prices go up, it catches the headlines of newspapers and then the market sentiment suddenly becomes "oh, maybe something's going on", and so on.

They do play certain roles in those markets and there's evidence – even in one of my papers - showing that even commercial real estate investors seem to be very sensitive to the exchange rate. They think about the timing of getting into a country's real estate market. Of course, real estate is by definition local currency, so you are taking a currency risk as an investor. As such, these investors tend to time the investment to when they think that the local currency of a certain market country is undervalued. There is thus definitely merit, not only from the real estate project return itself but also from the currency return at the same time. My short summary is that in many ways, the real estate market is changing into more of a financialized market, and a lot of evidence exists pointing to this. We have to keep an eye on this aspect.

4. Question from Dony Ardiansyah, Bank Indonesia:

This is for both speakers. All kinds of government intervention, including FX intervention, disrupts market mechanism, so how far can a central bank go with FX intervention?

Answer from Mr. Yoga Affandi:

Thank you for the question. This is a tough question. When we look at the exchange rate, it is very special because the exchange rate can serve as an instrument but also as a target itself. It can serve as a shock absorber, but there's also a phenomenon called 'fear of floating', by which it can become a shock amplifier. We thus need to be careful with that. How far can we go? First, of course, we need to identify the nature of the shock itself. That's why DNDF was introduced in the market – as a means of addressing demand temporarily.

However, if the shocks return for a long time, and become permanent, then the approach could probably be different. So, we need to identify the shock itself, and then we have to identify the path of the macroeconomic variables using many simulated case studies. So how far does it go? The flexibility of the Rupiah exchange rate is very important. Macroeconomic adjustments need to be conducted if necessary. Nonetheless, as long as the shock is calculable, and we find that it is temporary, FX intervention would probably be more effective, as shown earlier in the many recent studies by BIS and the IMF, for example. So, how far (can a central bank go with FX intervention) depends on the situation – it is very data dependent.

Answer from Mr. Ilhyock Shim:

Very similar to what Mr. Affandi just said. In my presentation, I mentioned that all central banks use FX intervention, at least occasionally - occasionally meaning when there is a very strong capital inflow, which tends to generate its own positive spiral. In this way, the currency becomes stronger, capital inflow increases, the currency becomes even more stronger. As a policy maker, you feel that this is not a sustainable development and there is a chance that this overheating may actually suddenly change to a collapse in sentiment, such that you want to intervene, under certain very strong inflows and strong appreciations. Conversely, with strong outflow and strong depreciation – again, this is driven by more or less risk on/risk off type external shocks – then, as a central bank, you want to break the vicious circle by intervening. That's how central banks normally see it. In that sense, there is an argument that any government intervention has distortion – yes. However, we are talking about a very specific situation where if any kind of stability is threatened, then something has to be done.

5. Question from Prayudhi Azwar, Bank Indonesia:

This question is for Mr. Shim. How do you see the triple intervention policy mentioned by Bapak Yoga? How is the Korean central bank dealing with exchange rate volatility through the CFM policy innovation?

Answer from Mr. Ilhyock Shim:

In line with BIS' internal rules, I'm not going to comment on a specific country's policy. More generally, however, I already mentioned that a central bank has an external stability mandate. As seen in the table earlier, the emerging countries are all in a very similar situation - they want to use FX intervention, CFM also depending on the situation, sometimes policy rate too, and sometimes macroprudential. This is a very difficult objective, and if the financial market is not developed enough, then you really have to use different tools. That's probably the most realistic and efficient way to deal with the very difficult task of maintaining external stability. In that sense, intervening in different markets, if the situation requires multiple interventions at the same time, is definitely the right way to go.

As to the second question about Korea, it is not using CFMs in a cyclical sense nowadays. The Korean financial market is relatively deeply developed among the EMEs. What Korea did about 10 years ago was to introduce a package of macroprudential measures targeting FX vulnerabilities. This includes a tax, or levy, on short-term FX borrowing from the wholesale market by banks, as well as other restrictions here and there. However, these kinds of rules are not cyclical, meaning they're not supposed to change in principal, go up and down like capital flow and exchange rates. They are basically there so that the banks have a pre-emptive or precautionary way to maintain some buffers, and they think about that as a permanent installation of some regulations. As such, banks try to reduce their reliance on that kind of short-term funding. In that sense, given that the question was asking more about the short-term reaction, Korea is not a good example as of now, although in the past it has used more structural FX-related prudential measures and these are still in place.

6. Question from Fachrudin:

The Fed has responded to inflation in the US by raising interest rates aggressively and causing capital flight. What then is the right policy mix to maintain exchange rate stability?

Answer from Mr. Yoga Affandi:

Again, if we look at our policy mix, the interest rate policy is actually directed towards the inflation target itself. We use the interest rate to control inflation. At this time, we are looking at the component of the inflation, where core inflation is still manageable. Of course, there is a pressure of expectation on inflation, but looking at the component, it is mainly because of the volatile food as well as the administered prices. So, it is a supply shock issue. While we need, of course, to consider the expectation of inflation, at this moment, to maintain the exchange rate stability, we need to focus on how to mitigate the excessive volatility. As such, Bank Indonesia never targets the level, but we need to focus on the volatility itself. If it is excessive, then you need to perform intervention to get that property back into our fundamental trend. I think this is the right policy at this time to maintain exchange rate stability.

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Key Points Session 2

From Mr. Yoga, there were certain points about exchange rate stability which is a key policy in central bank policy mix to navigate the monetary policy trilemma, and also policy innovation, including maintaining exchange rate stability, which needs to be done through all necessary ground of policies. The third one is policy synergy, by which a well-planned, well-calibrated, and well-communicated policy needs to be designed in a highly uncertain world. In this regard, strong coordination and communication is a must in guiding market expectation.

From Mr. Shim, fluctuations in global financial conditions are often a key risk factor for macro-financial stability, in particular for emerging market economies, but also for some advanced economies. Reflecting these challenges, both advanced and emerging market economies commonly complement monetary and fiscal policies with macroprudential policies. Mr. Shim also mentioned about potential policy options for emerging market economies facing capital inflows, including Original Sin and Original Sin Redux.

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CHAPTER 5
BI MACROPRUDENTIAL POLICIES AND CHALLENGES ON THE RECOVERY PATH OF INDONESIAN ECONOMY

Yati Kurniati

Head of Macroprudential Policy Department, Bank Indonesia

I will discuss two parts in this session. The first part is on the role of macroprudential policy mix in Bank Indonesia and how it responded to the pandemic. The second part is on how to move forward to sustain the recovery process.

No authority can work alone to sustain the recovery. In Indonesia, there are four institutions included in the Financial System Stability Committee, namely Bank Indonesia, Ministry of Finance, OJK, and also LPS. We have worked together in a concerted effort to create an integrated policy package for boosting the recovery process during the pandemic. This is the policy matrix list that we have worked on together. We formulated this according to our mandate, ensuring that the policies reinforce each other to boost the economic recovery. I will explain some more about macroprudential policy. Macroprudential policy in Indonesia has three targets:

- To foster balance and sustain financial intermediation;
- To strengthen financial system resilience;
- To promote economic and financial inclusion.

The policy focus during the pandemic aimed at boosting financial intermediation involved the following:

- Relaxing the loan-to-value ratio to a maximum of 100% and relaxing down payments on housing loans to a minimum of 0%.
- Requested that banks be transparent on prime lending rates to increase market competition among the banks.

- Provided incentives for banks who extended credit to priority sectors.

The beauty of macroprudential policy is that we can introduce targeted policy to a certain target.

To strengthen financial system resilience, with the purpose during the pandemic of safeguarding banking liquidity, we raised the Macroprudential Liquidity Buffer - this was actually during the early days of the pandemic when it was quite severe in Indonesia - by 200 basis points to 6% for conventional banks, and for Islamic banks by 50 bps to 4.5%.

As for promoting economic and financial inclusion, we issued the Macroprudential Inclusive Financing Ratio, in line with the government target of having 30% of loans extended to MSMEs (by 2024).

In implementing all these policies, we worked together with OJK as well as the Ministry of finance, to support each other and facilitate the process of recovery.

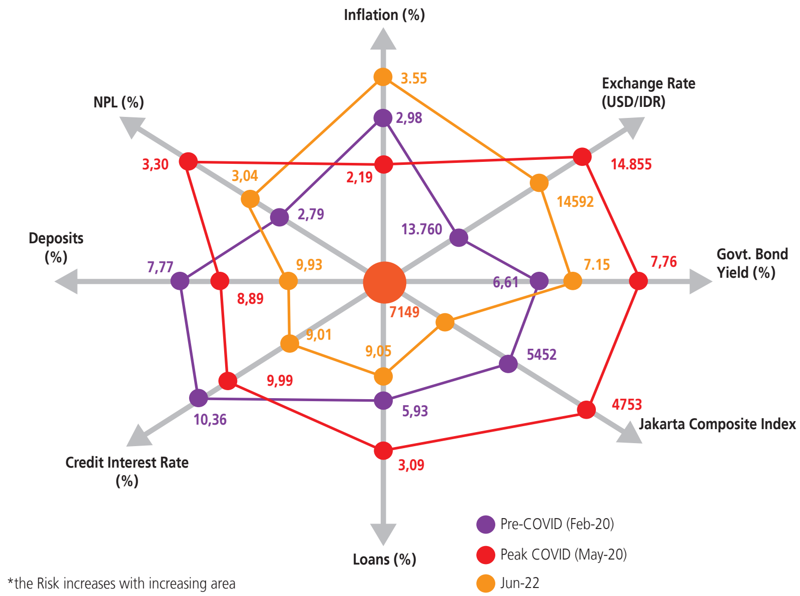

Figure 5.1. Indonesia Economic Condition

As for the results of our coordination and the policies that we undertook during the pandemic, the red line in the spider web indicates the position during the peak of Covid-19, while the light brown line is the current period. It is apparent that the Indonesian economy has been gradually recovering. Numerous indicators indicate that we are now doing better than we were doing during the peak of Covid-19. Credit risk has improved, market volatility is also getting lower, and loan and deposit growth has increased gradually and is now getting better and better, with banks already extending more credit to the real sector.

We see here an example of the coordination between the four of us in the Financial System Stability Committee (Figure 5.1), such that when we loosened the LTV ratio, this was supported by OJK which lowered risk-weighted assets, and also by the Ministry of Finance which provided various tax incentives and guarantees. This resulted in a recovery process for the property market, with mortgage credit loans increasing. Housing and property sales also improved accordingly. In line with this, automotive sales also gradually improved.

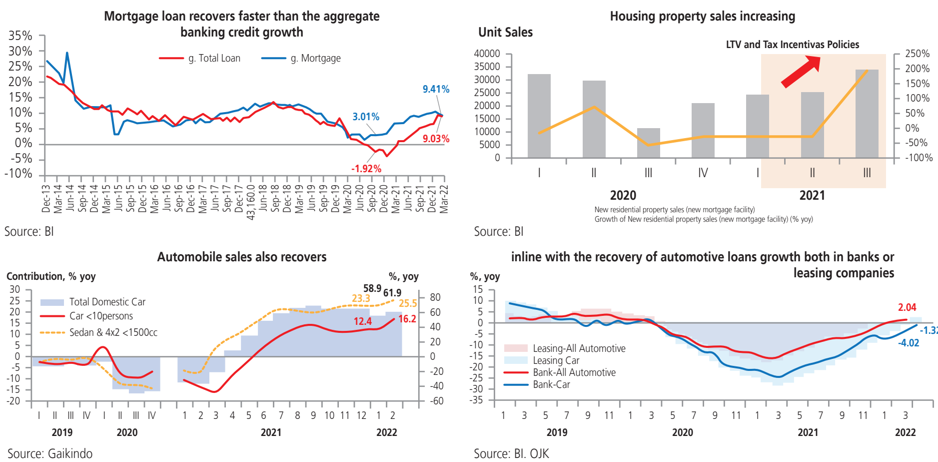

Figure 5.2. Impact from the Implemented Policies

As for one of the other policies, transparency (on the part of banks) in the prime lending rate, we see that such transparency encouraged bank competition, with rates gradually decreasing and rates for new credit likewise gradually decreasing, thus boosting lending activities to the real sector.

As to the Macroprudential Inclusive Financing Ratio, known as RPIM, this also boosted loans to MSMEs. With the recovery that gradually occurred in the real sector, bank appetite to increase loans also improved. We can see this in the lending standard which moved from the tighter zone into the relaxed zone, thus providing banks with more convenient conditions to lend to the real sector.

In order to safeguard banking resilience and liquidity, during the worst time of the pandemic, we lowered the Macroprudential Intermediation Ratio to 70%, but when the situation improved, we gradually returned it to the level prior to the pandemic of 84%. When we change the macroprudential policy, we look at the financial cycle. At this time, we noticed that we were still below the long-term cycle, so we still needed the accommodative policy. The unwinding of macroprudential policy was carried out as Bank Indonesia moved from safeguard resilience into boosting recovery and intermediation.

The extension of loan restructuring undertaken by OJK also resulted in better conditions in the real sector, providing it with time to adjust and tidy up so as to improve response time as conditions got better.

Moving forward, as we work now to foster the economic recovery after the subsiding of the pandemic, we face other challenges, especially as conditions are clouded by global geopolitical tension, exacerbated by supply chain disruptions as well as food protectionism among other things. This may create additional vulnerabilities in the financial system. As such, we should remain ready to continue maintaining the stability of the financial system, so we are working harder to alleviate the scarring effect on the real sector.

We understand that the scarring effect in the real sector may hamper the recovery amid the current increasing inflation and the expectation of policy normalization. Actually, we see that sales and equity, as well as some other indicators in the real sector, have improved consistently. However, some other sectors remain scarred, especially the hotel & accommodation services, construction, and transportation sectors. These are the three sectors where the NPL and LaR ratios remain high. Meanwhile, the scarring effect in households of people with lower education and aged older than 40 means that it is difficult for these people to re-enter the formal workforce.

As a policy direction, in order to boost bank lending and promote the national economic recovery, we use the early framework first as we seek to boost the intermediation function. As I mentioned, we have a targeted policy of increasing incentives to banks to extend more credit to the priority sectors. We have 46 priority sub-sectors agreed to by the Financial System Stability Committee and we are working together to boost these sectors so that they can recover stronger. To maintain their resilience, we are still using 0% for the countercyclical capital buffer, and also still maintain the PLM and others. As for inclusion, we support the banking sector in reaching its inclusive financing target in line with its credit plan stipulated by OJK.

In the short-term, when we set the stance for macroprudential policy, we will look at the state of the financial cycle. We anticipate that the financial cycle in 2022 until the end of 2024 will remain below long-term growth. This means that we will continue using accommodative policy to support the growth of intermediation. In the medium-term, we are enhancing the long-term trend of the credit to GDP ratio and national lending capacity through:

- Financial market deepening – non-bank financing
- Financial inclusion that encourages saving and lending; and
- Increasing productive lending to further boost the economic recovery.

In doing this, we cannot work alone - instead, we need to work together, as the financial system stability is the mandate of four financial authorities. As such, synergy and coordination, as well as innovation, are needed for a stronger economic recovery.

Synergy and coordination in order to achieve herd immunity from Covid-19, and to duly reopen priority sectors, are a pre-requisite to maintain the momentum of economic recovery.

To further accelerate the economic recovery, the following five policy responses form a sufficient condition for such economic recovery acceleration:

1. Real sector transformation acceleration
2. Fiscal and monetary stimuli synergy
3. Financial sector transformation acceleration
4. Digitalization of the economy and finance
5. Promotion of green economy and finance to ensure a smoother transition to a lower carbon economy.

Through synergy and innovation, Indonesia has been able to survive the latter years of Covid-19, and this should give us optimism for further national economic recovery.

In closing, to tackle all these challenges, despite the fact that there can be no silver bullet, we must work collectively, we need to do things better so that we can recover together and recover stronger.

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CHAPTER 6
MACRO-FINANCIAL LINKAGES AND COORDINATION IN CENTRAL BANK POLICY MIX

James P. Walsh

Senior Resident Representative, IMF Resident Representative Office for Indonesia

Thank you very much, and thank you very much to Pak Yoga and the Bank Indonesia Institute for organizing this event today and yesterday. I've found it very informative so far, and it's really great to see that as part of the G20, we get to discuss these issues globally and see the experiences of different places. I really appreciate the effort that's gone into all of this and thank you very much for inviting me.

I'll be talking about macro-financial linkages and how central banks that are engaged in the kind of policies that Bank Indonesia is engaged in, for example where they're active across a range of targets and a range of tools, can think about those kinds of tools. This is an area that the IMF has looked into more and more recently. My colleague Chris spoke yesterday on our Integrated Policy Framework, which is a new way that the Fund is trying to think about how to bring these policies together and how central banks can act more effectively across the exchange rate and interest rate and macroprudential policy areas of work.

I'll talk quickly about where the global economy is at the moment as well as global conditions around the world, and then a little bit about how we see the situation in Indonesia and how the central bank might respond to the very difficult challenges that we're all facing right now in the global economy.

Even before the war in Ukraine broke out, there was already a lot of concern around the world about what we saw at the time as a two-speed recovery, whereby the advanced economies and China had been able to power through the pandemic a little more effectively than some of the emerging markets had been able to do, especially in low-income economies. What we saw was a very rapid recovery in the advanced economies as they had very large stimulus packages and a very rapid pace of vaccinations, and that pushed them closer to full employment faster than many emerging markets and developed economies were able to do. Then the war in Ukraine appears to have further aggravated that trend by pushing global growth down quite a bit and really increasing global uncertainty around the world. The main revisions to global growth that the IMF did as a result of the war in Ukraine were to Russia and Ukraine themselves – obviously the parties to the war - but also to the European Union, which is highly dependent on energy imports from Russia. Then, we also saw an effect on the rest of the world. However, what this means overall is that we were already in a difficult economic position before the war started, and this has now been a little more aggravated. We're particularly concerned about the fact that the scarring, which Ibu Yati was noting in her presentation, is particularly notable in some of the low-income economies. I'll come back to that in a little while.

The scarring that we were talking about is a particular concern everywhere. The way we see it is that there was a trend for economic growth before the pandemic. Many countries were able to support growth throughout the pandemic, and we don't see as much evidence of scarring in these countries as we do in countries that were not able to support growth as much during the pandemic - either through large fiscal packages or through unusually large monetary stimulus.

These medium-term losses to GDP tend to be very high in, for example, tourism dependent economies, while they are slightly less in countries like the United States or China, which in the case of the US had very large stimulus packages, or in China's case got the pandemic under control very quickly, at least in the early stages. A second factor that aggravates this scarring is that we see that indebtedness among companies has really risen over the last few years. Part of this is because central banks and banks in general around the world tried to help their corporate sectors through the pandemic by supporting them with additional loans. However, what that means is that coming out of the pandemic, we have a large number of companies with unusually high levels of debt. Our concern about that, in turn, is that the more of these highly indebted firms you have, the longer it can take to have a very strong investment response. This is a concern that we see around the world - that if countries already are below where they were before the trend, that's one concern about growth. On top of that, we have higher levels of debt. And again, on top of that, this means that the investment response we need will be slowed down. Again, we are in a difficult growth position at the moment in the global economy.

The war in Ukraine, unfortunately, has also pushed off global inflation by leading to much higher commodity prices than what we saw last year. Some of that has come down recently - oil prices are off of their highs of a few months ago, but still, commodity prices are quite high around the world. This has particularly pushed up inflation in a lot of countries that are either large commodity importers or that are large importers of the kind of foods that were previously exported by Russia and Ukraine.

Indonesia has so far been a little more insulated from that than some other countries have. I'll come back to some of the reasons for that later. Part of that is because of the composition of food here, and part of it is because of fuel pricing issues. Nonetheless, around the world, we do see that inflation has been rising in Asia.

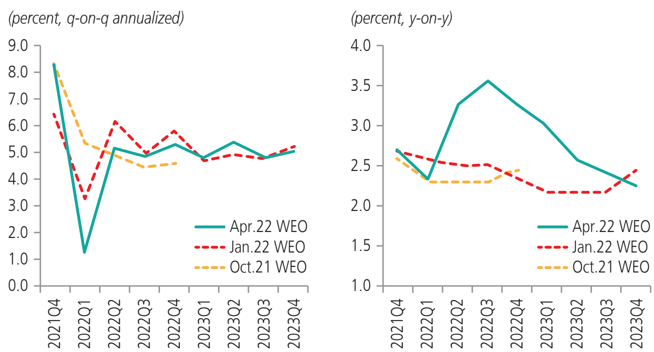


Figure 6.1. GDP Growth in Asia (Left-hand Side); Inflation in Asia (Right-hand Side)

In addition to these concerns about inflation, we are also concerned about GDP growth in Asia. While Asia does not have so many strong direct trade linkages to Ukraine and Russia, there are other factors going on in the economy that I'll talk about shortly which have led us to revise down growth - namely concerns about the Chinese and US economies. What this means is that in the last six months or so, we've taken a position that was already not great. Coming out of the pandemic, we've revised down global growth because of a number of concerns, and we've now begun to revise up inflation quite substantially as well. With the new inflation data this week in the US, it looks like this this hasn't yet turned a corner.

The high inflation that has really taken root in the United States, but also in Europe, has led to higher interest rates in those countries to try to bring inflation down. This tightening that's underway has led to a tightening of global financial conditions in the US and Europe, which is important to begin to bring down loan growth, bring down demand, and try to bring inflation back to central bank targets. As we all know, however, none of those developments stay in one country – there are always spillovers to other places. A such, these higher interest rates have begun to have the effect of pulling funding out of emerging markets and back into some of the advanced economies – which has led to a stronger US exchange rate. We've really seen a recent depreciation of the Rupiah here, for example, and that's happening in quite a few emerging markets around the world, with the US dollar in an unusually strong position against almost any currency you can name – parity against the Euro, very low positions for the Yen and the Indian Rupee as well.

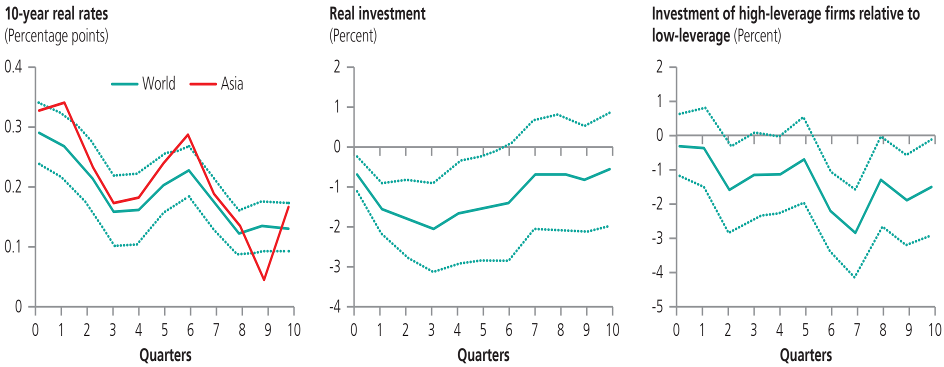


Figure 6.2. Impact of US Monetary Policy Shock

As I said, we tend to see that these higher interest rates, particularly in the US, spill over into Asia - and we can already see a little bit of that in Indonesia. The way that we would think about this is that a higher long-term rate in the US - and it is important to think of long-term rates rather than just the Fed's policy rate - will tend to lead to higher rates in Asia over time, just to try to preserve the balance of global capital flows and to maintain the fair allocation of capital around the world. Therefore, these higher rates in the US will begin to spill over into Asia. That, in turn, will weigh down on investment - and remember from before that investment is already a little bit depressed by the scarring we've seen in the economy. Third, as I said before, many of the companies that we would be relying on to support a recovery in the global economy have higher levels of debt than we would've thought before, thus further weighing on investment. Once again, this high level of inflation and the higher US policy rates which that seems to require, to the extent that those spill over into longer-term rates, will begin to weigh on an investment environment around the world that is already not so great.

Now we'll talk a little bit about those financial conditions in particular and some of the risks we see in the global financial system. One thing that's been quite noticeable about Indonesia throughout the last year and a half or so during the acute phase of the pandemic has been that Indonesia's position in global financial markets has been quite stable, certainly compared to a lot of other emerging markets. Every emerging market, basically every central bank around the world, lowered their policy rates over the course of the pandemic. Indonesia's policy rate fell to 3.5 percent and has stayed there for a long time. Most other central banks have done the same. At the same time, now that the US has begun to raise policy rates, this means that spreads have risen across many countries. Since Indonesia's policy rate has been relatively stable and other countries have had to raise their policy rates as inflation has taken off, these spreads in Indonesia have shrunk a little bit while spreads in many other countries have not because their rates have risen more in tandem. This is partly because, as I said before, Indonesia is a little more insulated from some of these food effects than other countries are, and it's partly because of the fuel pricing policies here. This does thus mean that Indonesia has not yet had the experience of rates really having to rise very dramatically to control inflation or to keep the Rupiah competitive with other investments.

The third thing I would point out is that the Rupiah itself has been very stable over the last two years. We've seen a great deal of currency volatility, certainly in the initial phase of the pandemic back in March, April, 2020, when the global economy was really experiencing a lot of financial uncertainty. However, even since then, since that has calmed down a little bit throughout all of the ups and downs of the pandemic and the global economy, while many emerging market currencies have been quite volatile, the Rupiah has been relatively stable. To some extent that shows that there's quite a bit of confidence in economic policy making here. It also shows that there's a really consistent message about how the recovery will emerge here and what policies we will see in Indonesia as the pandemic begins to lift.

So, that's the environment that we had before the war in Ukraine started. Since the war began, markets have had to deal with what has really been a striking historical shock. There are three main things that I would talk about with this, at least in terms of their effect on Indonesia.

- the first one is how commodity prices, which have really changed quite substantially since the war began, will affect Indonesia. Indonesia is a commodity exporter, particularly of palm oil and coal, but also a commodity importer of oil. For the moment, the higher export revenues that Indonesia is earning from higher global prices for coal and palm oil are less than what has to be paid for imports of fuels. As such, we are seeing an improvement in the current account which is likely to continue as long as we have somewhat higher prices than we would've expected a few months ago. This also supports revenue growth and has provided the government some fiscal space.
- Commodity prices also have an impact on inflation. Around the world, this has become a real policy problem for most central banks, and Indonesia is not totally immune from that, but because of the government's decision to keep gasoline prices at their current levels, we haven't seen the same kind of fuel price pass-through in Indonesia that we've seen in some other countries. While core inflation is rising in Indonesia and headline inflation is outside of the central bank's band, we haven't yet seen very high inflation. For the moment, certainly, it's in a better position than we see in a lot of other countries.
- The third effect is the one that's most difficult to measure, and that has been the effect of the war on global risk appetite and global conditions. While Russian and Ukrainian GDP are relatively small relative to world GDP - Russia's a large economy, but not a major trading partner for most Asian countries - the geopolitical tension associated with the war has affected investor confidence and, again, further weighed down on a recovery that we were already a bit concerned about for the reasons I mentioned before - higher debt among companies, scarring, and tightening US monetary policy.

Just to talk about two of the other big risks for the global economy. The slowdown in China is a serious concern. The Chinese economy did very well in the first two years of the pandemic, but the dynamics of its zero Covid policy have now made it a little more challenging to try to keep the economy humming as the virus has become more contagious. As such, retail sales in China, in contrast with some other countries over the last year or so, have really been slowing as the country has responded to outbreaks of Covid by having to lock down different parts of the country. Again, the pandemic doesn't happen in a vacuum, and even before the pandemic, the Chinese authorities were concerned about rapid credit growth and, in particular, risks related to the housing sector. So, while growth was held up quite well during the pandemic by Chinese economic support policies, we do see that credit growth has slowed over the last year. Part of this is an intentional effort by the government to try to reduce risks in the financial sector – and since these risks are particularly concentrated in the housing sector, the housing starts have fallen quite substantially in China. Housing is a big chunk of the Chinese economy, so a slowing housing sector will have quite a drag on the economy. There is thus concern about how China will be able to continue to implement this dynamic zero Covid strategy as the rest of the world is dealing with high inflation – this will be quite a challenge over the next year or so.

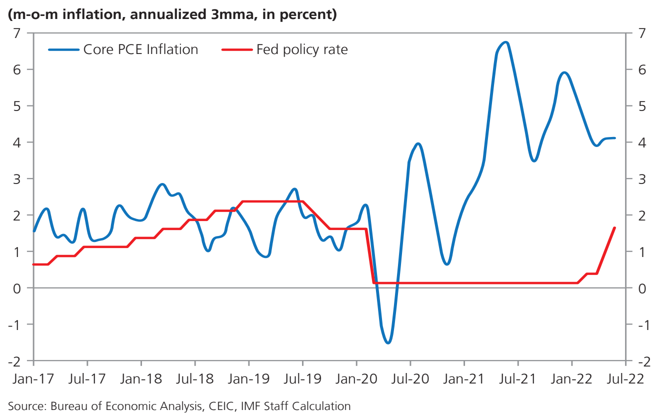


Figure 6.3. US Core PCE Inflation and Fed Policy Rate

The other large global challenge - in the other of the world's two largest economies - is the United States where inflation is quite high and very entrenched now, it seems. US core inflation continues to rise, it's quite high already, and the Fed policy rate has risen substantially over the last year. I think that's not news to anyone. What I would say about this is that while the US has raised policy rates, if we're thinking about spillover effects on the rest of the economy, it's important to think about these short-term rates, but also to think about US treasury yields and longer-term interest rates. For example, the US 10-year yield has also risen quite substantially over the last few months, and the yield curve - the difference between long and short-term yields - has fallen as the economy has come closer to a real slowdown. However, these higher US rates are what is really beginning to pull capital out of high-risk investments and out of emerging markets, and more into safer havens, such as US treasuries.

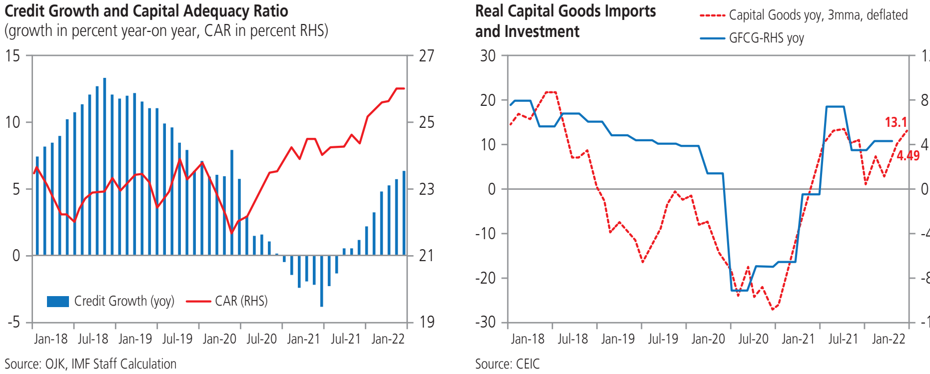
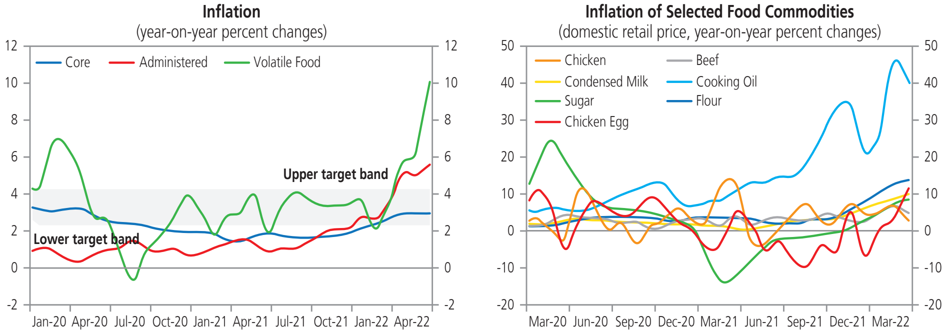


Figure 6.4. Indonesia Growth Post-Pandemic

I'll talk next a little bit about how we see the effects of these risks on Indonesia. Indonesia has done quite a good job of getting through the pandemic, at least from an economic point of view. We can see that banks have begun to lend again, credit growth has really returned, and it looks like there's a recovery underway. We can see this both with investment and consumption. Ibu Yati's presentation noted the growth in loans to small and medium size enterprises. That's particularly helpful because those are the kind of loans that will help generate employment and really make growth more inclusive and stronger over the long run. It's therefore very good that we do see growth returning in Indonesia.

Consumption has also recovered along with investment. You could see in the previous presentation, again, that consumption loans are also rising quite quickly in Indonesia, and we also see vehicle sales and retail sales doing quite well in Indonesia. That's also good. We do not yet see these investment and consumption levels as reaching the capacity of the Indonesian economy, so we still see a GDP gap and not a lot of evidence that spare capacity is beginning to run out, as appears to have happened in many of the advanced economies.



Source CEIC, Statistics Indonesia (BPS), IMF Staff Calculation

Source CEIC, IMF Staff Calculation

Figure 6.5. Indonesia Inflation Condition

It is true that commodities are beginning to push inflation up, even in Indonesia. As I said before, core inflation remains in the middle of the band, but the headline level of inflation has risen a bit above the band, largely due to food prices and administered prices. In general, central banks pay attention to core inflation because that presents the best signal as to where long-term inflation trends are going, and in Indonesia core inflation does remain in the middle of the band – but there is reason to be concerned about where things will go in the future. Even though most of this has been driven by food, it still could lead to higher wage demands and perhaps higher inflation later. The important thing here is to be vigilant, which I'll come back to.

As I said before, the commodities position in Indonesia has really led to a stronger external position. As such, it's important to emphasize that while the global economy is highly uncertain, Indonesia is relatively well insulated against a lot of the global shocks that we might be concerned about. The reserve position has fallen off in the last few months, largely due to the recovery in Indonesian imports, but the trade balance has been good throughout the pandemic, and the reserves position remains very strong by global standards. There is thus plenty of space for Indonesia to insulate against global shocks.

Higher global rates around the world, in particular in the US, are beginning to affect portfolio flows into Indonesia as (they are) into other emerging markets. As such, particularly in the last few months, few quarters, we have seen further outflows from Indonesia, especially on the debt side. It's therefore also important to recognize that many of those debt flows are reducing the share of foreign ownership of Indonesian debt, which is now down to 15/16%. It used to be quite high, and that was always cited as a potential vulnerability of the Indonesian economy to global shock. However, the fact that the foreign ownership share of Indonesian government debt has fallen so much as a result of these portfolio outflows - while it's something we need to pay attention to, because we need to make sure that there's financing for new investments in Indonesia - is to some extent also reducing a vulnerability that we were concerned about before. In terms of paying attention to where this is going, though, it is worth noting that the spread of Indonesian debt relative to US debt has remained relatively stable, but it has fallen from previous higher levels. While it is okay from a vulnerability point of view that this foreign ownership share has fallen, it is important to be aware that these spreads are keeping capital in the country right now - but depending on where US interest rates go, it's important to pay attention to where these spreads go in the future.

Second, the foreign exchange market is now responding. As I said before, the Rupiah had been quite stable for a very long time, but it's inevitable that as US inflation remains high and the dollar has strengthened - at least a nominal terms - against other currencies around the world, this will also be the case in Indonesia. This has begun to happen recently, where the Rupiah has depreciated a little bit against the US dollar, as almost all other currencies have. We have also seen more activity and hedging markets in the last few months than we had seen before. What this would imply is that while the Rupiah has been stable for a while, there is more concern now about potential shifts in the currency. However, if you compare this to back in March, 2020 when the pandemic was starting and there was a great deal of uncertainty, it's nothing at those levels. What I think we're returning to here is a more normal level of hedging and a more prudent level of concern about where the exchange rate might evolve over the next few months. It shows that things are returning to normal in foreign exchange markets as they are in the real economy.

I'll end up by talking a little bit about how the Fund would advise the central bank, or what kind of discussions we've had with the central bank, on how to respond to these challenges. BI has been raising reserve requirements and has begun to normalize its monetary policy stance. That's important because, like every central bank around the world, BI went to extraordinary lengths to support the financial system during the crisis and make sure there was sufficient liquidity. Now that the economy is recovering, or at least we're in a different phase, we need to think about how monetary policy can be most effective. It's helpful to that extent to reduce reserve requirements, which I would hesitate to call a tightening, as we've seen in many other economies - because as I said before, core inflation remains at the centre of the band. It's worth being vigilant about that. However, Indonesia's output gap remains relatively large compared to some other countries, and we haven't seen the same kinds of high levels of core inflation that we've seen in other places. This is therefore more of a normalization than a tightening, although maybe that's semantic.

In terms of macroprudential policy here, Indonesia's macroprudential policy framework has to balance this normalization of liquidity that was mentioned before with the continued need to support growth. What I would say about this is that while the increase in reserve requirements is intended to withdraw liquidity from the economy, macroprudential policies are also designed to encourage lending to sectors such as small and medium size enterprises through the liquidity ratios – and, to that extent, they can work in different directions. So overall, the stance is tightening. At the same time, the central bank is trying to encourage lending in these priority sectors. The important thing is to make sure that while that lending is ongoing, we're still having an overall improvement of liquidity conditions here. We would appear to have space for that because credit growth has recovered, as I said before, and the capital adequacy position of the banks remains quite strong. There is thus certainly plenty of room for banks to lend as long as we're able to keep this liquidity position in a stable trend.

Third, and this is perhaps the biggest challenge that central banks are facing in many countries right now, is how to think about the exchange rate. As we see exchange rates weakening against the US dollar, again in nominal terms, since inflation is so high in the US, it's important to think about how central banks should respond to that. In general, we tend to think that the important thing to do is to focus on maintaining the exchange rate as a shock absorber, and allowing that shift in the exchange rate to encourage demand to shift from foreign imported goods towards domestically produced goods. It's a little bit of a challenge when the kind of inflation that we're seeing is largely coming from imported commodities. In this case, it's a little more difficult because those imported commodities may still be imported after the depreciation of the exchange rate - they'll just be more expensive. But the real concern there, in our view, is that there's a need to focus on making sure that those higher prices, caused by higher global commodity prices and potentially by the depreciation, do not disproportionately affect low-income households. Indonesia has done a great job over the last few years of supporting low-income households through the pandemic, and they can continue to use cash transfers to do that.

It's important to have policy coordination among agencies, and part of that in Indonesia was primary market bond purchases by the Central bank. Those really helped stabilize the financial system during the crisis and helped keep banks going through stable interest rates. However, at this point, as part of normalizing policies, we should phase those out, which is part of the agreement.

Just to reiterate, I liked Ibu Yati's slide about the ship with BI, LPS, the Finance Ministry, and the OJK on it. We need agencies across countries to coordinate policies when we're in difficult situations, as we are right now in Indonesia. The pandemic showed that there's an effective set of tools for doing that, and we need to continue to do that here and everywhere around the world.

Q&A Session 3

1. Question from Ana Noveria, Bandung Institute of Technology:

My question is for Ibu Yati. Thank you for your very fruitful presentation. My question is regarding communication with the market as well as the public. Amid soaring food prizes, even though according to Mr. Walsh's presentation they are not that high in Indonesia, I think we've already seen that food prices have increased by about 30%. Also, regarding fuel prices, it's already been announced that vehicles above 1500 cc won't be able to consume subsidized fuel anymore. I think thus that fuel prices will also impact the inflation. My question is how does Bank Indonesia communicate this with the public and how does it manage market expectations so that the BI macroprudential policy mix is still able to achieve its targets?

Answer from Mrs. Yati Kurniati:

There is a policy mix here whereby the monetary policy is aimed at stabilizing the Rupiah. The current increase in prices is related to the supply side of the economy. As James mentioned, the monetary policy instruments have been effective in terms of core inflation. Now, we are working hand-in-hand with the ministry and the local provincial authorities to handle the supply side. We are tackling the supply side together with the local, authorities. We are also trying to find out what the obstacles in the market are. So, together with the local provincial authorities, the regional offices of Bank Indonesia, we are striving hand-in-hand to handle the volatile food price increases.

As for the macroprudential policy, we are more attached to the financial sector, particularly the banking sector. So, we try to boost credit to the priority sectors, including the agriculture sector and others related to the production of food, in order to ensure that the production sector can continue providing enough supply to the market.

2. Question from Aswin, UPN Veteran Jakarta:

I have a quick question for Mr. Walsh. The Fed has already started increasing interest rates, and this may go on until 2024. There have also been some comments from analysts that the US is not going to have a recession, that instead it's going to have a soft landing. What do you think the impact on Indonesia would be in the scenario that the US does not have a recession?

Answer from Mr. James P. Walsh:

There are two things to think about, I would say, in terms of how the US economy affects Indonesia. The first thing is that, after China, the United States is Indonesia's second largest trading partner. So higher growth in the US means more demand for Indonesian exports, which is good. Thus, if the US manages to engineer a soft landing rather than a recession, that higher growth would be good for Indonesian exports and help strengthen the economy here. The other side is more complicated and probably more of a worry. That's the financial sector side. The linkages between the US and Indonesia are quite strong through the financial sector, both because of capital flows that go back and forth and also because of how investors price assets around the world. Here, it's a little more difficult to think of what the different scenarios would be, but the concern would be that if there's a high level of risk associated with the US economy, then people will look for safe haven investments, which would push them away from higher-yield assets, such as Indonesia's.

So, to the extent that investors become less concerned about a recession and more confident that a soft landing will emerge in the US, then that would probably mean lower risk premia around the world - and that would also be good for capital flows into Indonesia and global interest rates. On the other hand, if there's more of a concern that the US will go into a recession, then the concern about US growth and concern about US investment throughout that recession would lead to higher levels of risk aversion, and thus more of an adjustment in global financial markets around the world.

3. Question from Guna, Universitas Islam Negeri Mataram:

This question is for Ibu Yati and also maybe Mr. James. It's about restructuring policy. The data I quote is from online and pertains to the increases of net profit in the banking industry in Indonesia – Bank DKI, a 40.5% year-on-year increase, BRI, a 75.5% year-on-year increase, Bank Mandiri, a 300% year-on-year increase or Rp 10.8 trillion. What I want to point out is, during the pandemic, the business experience of customers and debtors drastically declined and even led to bankruptcies. However, on the other side, the banking industry experienced a significant increase in net profits. How could this be? For me, this is an old condition because it's never been done before. Is this the success of the restructuring policy or is it the conditions of the pandemic which forced the banks to be more efficient?

Answer from Mrs. Yati Kurniati:

During the pandemic, banks themselves as corporations also had to maintain the profit motive in order to sustain the corporation itself. Banks themselves, during the pandemic, faced increased risks. NPL, credit risk, rose so high, and loan risk also sky rocketed. They thus became more prudent in extending credit. On the other hand, demand for credit during the pandemic was also very low, since there was a scaring effect from the real sector. When there is less demand for credit, they have to adjust their portfolio. That's why during that period, the demand for government bonds held in banks increased. This is not because the banks themselves did not want to lend to the real sector, but there was no demand, especially in the severe stages of the pandemic. As such, the increases in their net margin during the pandemic were because they managed their own portfolio, as well as due to their yields from bonds and other financial assets. Now, as conditions are getting better and the real sector is improving, there is an increase in demand for credit. And, since liquidity in the banks themselves is quite high, the banks are able to extend credit on the back of the increased demand.

For your information, in July the growth of credit reached a high of 10.6%. Meanwhile, the restructuring of credit in the banks has given the real sector and corporations the opportunity to manage their credit profile. For instance, with an agreement, they can extend the length of the credit and get a lower interest rate. This is good for corporations, and now the volume of credit restructuring is already going down and NPL is also improving. This has created the conditions to support the provision of more credit and more financing to fuel the economy.

4. Question from Tora, Bank Indonesia:

My question is about geopolitical tension, and I would like to ask Mr. Walsh to answer these questions. Geopolitical tension, according to the explanation given earlier, will also influence growth by creating uncertainty that pushes risk perception. However, the trade linkages between Indonesia and Russia and Ukraine are not that big, thankfully. With the application of broad-based sanctions, the energy sector, and our commodity prices, will be impacted, causing energy disruptions in the long term. As part of the emerging market, Indonesia – despite its consistent robustness in the fundamentals as well as its financial stability – suffers from the risk perception of the emerging market as a whole, which is usually very vulnerable. The question therefore is - How big will the impact of this geopolitical conflict be on Indonesia in terms of the risk perception of emerging markets, especially if the conflict itself is longer than expected? Thank you.

Answer from Mr. James P. Walsh:

I can't forecast where the conflict will go and how long it will last. For the moment, it does seem that news from China and its issues, and from the United States and its issues with inflation, have more of an impact on commodity prices and on the markets, or at least on day-to-day changes, than the situation in Ukraine does. Although, obviously, the high level of commodity prices that we see around the world is partly pushed by what's going on in Ukraine.

It's not clear how long the war will last, or what kind of long-term effects we might see on commodity prices from the war. I'm not sure I have a great answer to this other than to say that there really is a lot of uncertainty in the global economy right now. If the war continues for longer, maybe that would have upward pressure on commodity prices, and we would see $150 per barrel oil, for example. But at the same time, if the US goes into a recession, as is a possibility, or if the Chinese economy slows, then we would see less demand around the world. None of these things happen in a vacuum, and there just happen to be a lot of very large and uncertain situations right now in the global economy. I think the best thing that countries can do is prepare their policy frameworks for dealing with continued volatility in commodity prices and perhaps high levels for a long time. It's worth emphasizing that shifting toward renewable energy, especially geothermal in Indonesia, would insulate the country even more from these higher energy prices. So, while that's a long-term and not an easy transition to make, it's good for the environment, and it would be good for Indonesia in the long run.

5. Question from Advis Budman:

Is the inflationary pressure expected to be short term or long term? Do you see the current inflation rise as being more due to supply side causes?

Answer from Mr. James P. Walsh:

I think it's pretty clear from the points that we've all been talking about with food, that a lot of the pressures in Indonesia right now are these global commodity price pressures that are spilling through into Indonesian inflation. To that point, these are supply shocks that are resulting in higher inflation that have to be accommodated in some way. Higher Indonesian interest rates aren't going to make much of a difference when global wheat harvests are weak and where it's difficult to get wheat around the world because of the situation in the Black Sea. So, yes, to some extent, these are supply shocks that will have to be accommodated. I don't know whether that's short term or long term - prices are high and they could stay high for a long time or they could continue to rise. That's the first thing. Yes, a lot of this is supply driven. In terms of how long it will last, there what matters is to what extent these inflation trends become entrenched in Indonesia. At the moment, there's an output gap - we don't yet see that Indonesia is running up against the capacity limits of the economy. We do see that core inflation has risen, it's now in the middle of the band and it could continue to rise. That's something we need to pay attention to. However, so far, there isn't much evidence here, at least, of the kind of wage spiral that you might see, and that we saw in the seventies. It doesn't seem like there are entrenched high expectations of inflation in Indonesia yet. So, that should give us some hope that this will not be a long-term phenomenon.

6. Question from Loureine, Universitas Katolik De La Salle Manado:

Will having a digital currency help to maintain the exchange rate in relation to the macroeconomics conditions in Indonesia? Furthermore, what are the prerequisites or conditions for a country to launch a digital currency?

Answer from Mr. James P. Walsh:

A lot of countries around the world are contemplating issuing digital currencies, and some have already gone far enough to actually doing it. I don't think we know enough yet about how it would affect something like foreign exchange markets, to make a blanket prediction about how it would really change things. There are certainly advantages to central bank digital currencies, if Bank Indonesia were to issue one. And there are disadvantages. One of those disadvantages is just that we don't have a lot of experience yet with knowing how this affects the banking system, or how it affects the foreign exchange market. It's important that we are aware of those risks and that we're thinking about how these currencies could affect financial stability before we make the leap into having a large central bank digital currency. This is something that is very interesting. A lot of places are looking into it, but I just don't think we know enough yet to make a great prediction on how it would affect something like the foreign exchange market.

7. Question from Prajna, Gadjah Mada University:

Regarding the future challenges for Indonesian financial stability, has Bank Indonesia noticed any challenges coming from developments in DeFi (Decentralized Finance)?

Answer from Mrs. Yati Kurniati:

Currently, the exposure to DeFI recorded in Bappebti, the authority that records all commodity transactions, remains limited. However, we do closely monitor developments, including internationally the rapid progress in these transactions, together with the Financial Stability Board. Internationally, we are also preparing ourselves to be able to monitor closely, because the data itself on this kind of instrument are limited. Thus, we work closely with Bappebti to be able to monitor the progress and to prepare for how to respond to these developments.

8. Question from Prajna, Gadjah Mada University:

This time for James, with regard to Indonesia, you said that you support further monetary policy normalization balanced with growth supported by macroprudential policy amidst rising inflation - how to mitigate potential conflicts between those policies?

Answer from Mr. James P. Walsh:

This is a challenge in a lot of countries because sometimes we're trying to support growth in a context where inflation might be at trend or above trend. It can be hard to think about how these policies might conflict with each other. What I would say is that Pak Solikin's presentation yesterday actually addressed this issue. One response to high inflation - if we're concerned about high inflation because it's coming from a lack of capacity in the economy and entrenched inflation expectations - is to raise the policy rate which would begin to bring down demand and begin to bring inflation under control. Macroprudential policy can be used to try to encourage lending, but because it's more directly focused on the quantities of lending, we can think about it from a financial stability and credit growth point of view. I think what Pak Solikin's chart yesterday suggested, in a schematic kind of way, was that if we see that inflation is below trend and credit growth is below trend, then both policies can be stimulative. However, if we see that credit growth is high and inflation is relatively low, then we might be more concerned about macroprudential policy. At that point, we might want to use macroprudential policy to bring down credit growth a little bit and reduce the risks to the banks from that credit growth, while at the same time allowing monetary policy to be a little looser. These are exactly the kind of conflicts that come up everywhere now that we're trying to think in a more coherent way about how to combine macroprudential, foreign exchange and monetary policy, and interest rate policy areas into one set of policy recommendations. It's a challenging thing to do and we're all learning from each other around the world right now.

9. Question from participant:

The next question is still of for you, James. In the midst of the recovery of the Indonesian economy, do you think greening the financial system should be included as one of the policies? What do you think about that and how's the progress so far?

Answer from Mr. James P. Walsh:

One thing that the Fund has been very concerned about over the course of the pandemic, and this has become more of a concern as commodity prices have risen this year, is that these higher fuel prices around the world aren't seen as a reason to postpone the green transition that we need to try to bring climate change under control. The greening of the financial system does have to be an important part of the shift toward a low-emissions economy, and part of the gradual attempts to try to contain climate change. So, that's a good question to ask.

What we would hope would happen over the course of the pandemic is that we continue to implement measures that will make it easier to invest in green technology and green investments. Indonesia, like every country, is trying to move in that direction. There are a few things that I would point out here. There's been an increased effort to try to issue green bonds. The OJK now has a taxonomy of green lending, Indonesia being one of the few countries that has implemented this taxonomy so far. The taxonomy tries to make it clearer for investors about what kinds of products they can buy that are going to be supportive of the green economy in the future. So, yes, this is an important part of the recovery in Indonesia and everywhere around the world, and it's something that we all have a long way to go on, but Indonesia has made some important steps and it's good to continue those.

Answer from Mrs. Yati Kurniati:

At Bank Indonesia, we are now preparing the framework for green policy - not only green banking, but also for greening instruments that we can use for monetary operations. We have already managing reserves in green bonds. Green finance in the banking sector remains at a low level, but we are moving to start to increase it, especially big banks, despite it still being not so simple to identify green projects. Now, Bank Indonesia, together with the Coordinating Ministry for Maritime Affairs and Investment (Kemenko Marves) and also the Ministry for the Environment (KLH), is preparing tools and applications whereby corporations can measure their carbon emissions. This is important because there will be green disclosures, sustainable reporting disclosures, by which every corporation has to include the number of emissions generated by their activities. When bank debtors have the means for such measurements in place, it will be easier for the banks to identify whether the sector concerned has a plan to work as a green corporation, making it easier for the banks to identify sectors eligible for green financing. Preparing a smooth transition towards this is not easy, but we have started a collective national effort by involving all relevant authorities in support of Indonesia's move towards a green economy.

Key Points Session 3

Global growth recovery has been slowing down due to several challenges, such as an escalation of the war in Russia and Ukraine, recent social restrictions in China because of their zero-Covid policy, as well as tighter global financial conditions. Therefore, to mitigate the impact and other future challenges, Bank Indonesia has been implementing various moves. One of them is continuing accommodative macroprudential policy. So far, Indonesia has been less affected than some other countries due to the Indonesian economy's fundamental credibility, which is well maintained by the fiscal and monetary policy mix. There are some potential responses that the central bank of Indonesia could take, such as continuing its normalizing policy while maintaining its accommodative macroprudential policy. We hope that all these efforts in the policy mix will help Indonesia through its recovery phase – Recover Together, Recover Stronger.

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CHAPTER 7
POLICY MIX IN TIMES OF COVID-19: RESERVE BANK OF INDIA'S EXPERIENCE

Anand Prakash
Reserve Bank of India

This event is very thought-provoking. Today, I will be dealing with RBI's experiences in managing the pandemic, the outcome of the measures that RBI took, the current liquidity rebalancing that RBI is presently doing, and some of the issues that the Reserve Bank of India, and the country at large, are facing, including some of the issues and resulting policy measures that have been taken in the recent period. That is basically the brief outline of my presentation.

When the pandemic struck in 2020, the economy was already in the midst of a tepid growth outlook with contracting production and imports of capital goods. The inflation pressures had risen to something like 7.4% in December 2019, and core inflation was also rising. This was the backdrop against which the pandemic happened. In March 2020, the country went for a complete lockdown, on 23rd of March 2020 to be precise. The lockdown that India imposed was one of the harshest - it was very strict, especially during the first three months, with absolutely no movement. As such, there was complete supply chain disruption, and nobody was allowed to move except for very essential things. At that point of time, the first thing the RBI did was to have a business continuity bio-bubble, whereby 150 dedicated staff were kept in a separate facility in some kind of hotel, so that the basic operations - like payment and settlement, foreign exchange management, and these kind of things - were not disturbed. They were completely isolated, and none of the essential functions of the Reserve Bank of India was interrupted. At that point of time, because of the pandemic, there was turmoil in the global financial markets, and there was also a large spillover into the domestic markets. The Rupee was also experiencing tremendous depreciating pressure, and there was a market seizure. There was illiquidity in the market, and the yields were rising in the domestic financial market. In this kind of situation, there was a lot of turmoil in the financial market, so it was very essential at that point of time to take appropriate measures to control the situation.

In line with this, RBI took both conventional and unconventional measures to address the situation. The conventional measures included:

- Two reductions in the repo rate, large reductions, both of which were done out of the policy cycle. We have a bimonthly policy cycle, for example February, April, June, that kind of a thing. However, in March, because of the pandemic, extraordinary policy measures were taken and the repo rate was cumulatively reduced by 115 basis points. Of course, most of the central banks reduced their repo rate, but this was quite a significant reduction at that point of time.
- As to the reverse repo rate, we have a corridor system whereby the repo rate is in the middle of the corridor. There is an upper band called the marginal standing facility (MSF), which is 25 basis points and also the fixed-rate reverse repo, which was also 25 basis points.
- However, at that point of time, the corridor was made asymmetric, so the reverse repo was not 25, it was actually 65 basis points. The reverse report rate effectively became the floor of the corridor. The repo rate was something like 4%. The reverse repo rate was 3.35%, and the MSF rate was 4.25%. The Reserve Bank thus made the floor asymmetric, and in fact all the money market rates were hugging the bottom of the corridor. As such, the effective reduction in the policy rate was actually quite significant, more than 115 basis points because the *de facto* effective policy rate was the reverse repo rate.
- Liquidity was injected through various open market operations, longer-term repo operations and a cash reserve ratio (CRR) reduction of 1%, from 4% to 3%.
- RBI, at that point of time, entered into some swaps. There was a total quantum of swap injection. Because there was a lot of turmoil in the foreign exchange market, the RBI entered into sell-buy swaps. So, something like 2.7 billion US dollars was injected into sell-buy swaps.
- Liquidity access to commercial banks was improved. The MSF is a penal rate - if the banks have no choice, then they can go to the marginal standing facility, which is 25 basis points above. So, access to the MSF facility was increased by allowing 1% more. You became able to borrow 1% of your NDTL (net demand and time liabilities) more through the MSF.

- Banks were incentivized to provide loans to productive sectors, such as automobiles, residential housing, and medium and small enterprises. These are productive sectors with larger linkages. The banks were incentivized to lend to these sectors, and the amount of lending would count for CRR exemptions.
- The RBI also entered into a number of unconventional measures, such as:
- Targeted long-term repo operations (LTROs), including liquidity support for AIFIs (All India Finance Institutions) which lend to the MSME sector and housing sector among others.
- Asset Purchase Programmes, like government securities and state development loans through what we call the G-SAP acquisition programme (Government Securities Acquisition Programme).
- Special OMOs, which entailed the simultaneous purchase and sale of securities to compress the term premia, to flatten the slope of the yield curve.
- Forward guidance - explicit and implicit. The forward guidance was both time-contingent – it will continue to X period, or state-contingent - until the recovery took hold or inflation reached a particular level.

Further to the unconventional measures, a number of long-term repo operations (LTROs) had already been introduced in February 2020, but after the onset of the pandemic, more was done in the form of five long-term repo operations, with the equivalent of 1.25 trillion Rupee injected. Then in March and April, another five targeted long-term repo operations (TLTROs) were conducted to provide liquidity to specific sectors and segments of the financial market, like mutual funds and mid-sized corporates, such as NBFCs/Non-Banking Financial Companies and others, who were facing a liquidity crunch. There were studies done within the Reserve Bank which showed that this actually improved monetary transmission, and also had a significant impact on bond yields.

Furthermore, on-tap targeted long-term repo operations (TLTROs) were introduced in October 2020 for five specific sectors, with the ambit being brought into 26 sectors, with non-banking financial companies also later included in that. On-tap TLTROs was basically for specific sectors. There were also other special long-term repo operations for small finance banks for small amounts of lending. They were given incentives, they were refinanced by the Reserve Bank at favorable terms so that they could lend to small entities. The key difference between LTRO and TLTRO was that the former augmented overall liquidity, while the latter was targeted, so it basically ensured an even distribution of liquidity among the stressed sectors.

- As I mentioned, refinance was provided to All India Financial Institutions like NABARD, National Bank for Agriculture and Rural Development, Small Industries Development Bank, National Housing Bank, among others, as well as Export Import Bank of India. This refinance was so that they could provide credit to the rural sector and small industries, because they were the most impacted by the pandemic. India, being a very large country with a very large population, experienced a tremendous amount of dislocation because of the lockdown. To address that, this liquidity support was provided to these All India Financial Institutions.
- There was also a special liquidity facility for mutual funds, because mutual funds often face redemption pressures when there's a lot of stress in the financial market. As such, special liquidity facilities were provided to mutual funds also.
- Subsequently, in 2021, when the second wave of the pandemic struck, there was complete mayhem. At that point of time, the term liquidity facility was introduced for Covid-related healthcare infrastructure and services, so that hospitals and other such things could get easy liquidity.
- Furthermore, an on-tap liquidity window was provided for contact-intensive sectors like hotels, tourism and others, which were very badly affected. Banks were incentivized to lend and they could get concessional facilities from the Reserve Bank of India.

There was also an asset purchase program, the difference being that in our asset purchase program, unlike in advanced economies, we did not lower the standard of our collateral. The only introduction - apart from the government securities - was state development loans. OMOs were conducted and more than 3 trillion Rupee was injected through open market operations.

We also introduced G-SAP (Government Securities Acquisition Programmes), which were much larger than OMOs. These following were the numbers: in Q1 of 2021-22, 1 trillion was injected, in Q2 of 2021-22, 1.2 trillion was injected. This had a positive impact on yields - they brought the yield down.

The difference between the OMOs and G-SAP was that in the case of G-SAP an upfront commitment was given that the RBI would conduct this, whereas OMOs are discretionary and are announced according to their need.

Apart from that, there were also operation twists, as was similarly used in the United States, but in India they were a special OMO which introduced simultaneous purchase of long-term and sale of short-term securities. In that way, the long-term premia, the long-term yields, got compressed which, of course, had a positive impact on borrowing cost for the corporates. The steepness of the yield curve flattened – it increased the short-term rates and depressed the long-term rates, hence the flattening of the yield curve.

Furthermore, the RBI provided forward guidance for the essential components. As such, the MPC (Monetary Policy Committee) decided to continue with the accommodative stance as long as necessary, at least during the current financial year into the next financial year.

For the year 2021-22, we decided to put in place what is termed G-SAP 1.0 under the program. The RBI will commit upfront to a specific amount of open market purchases of government securities. It was this kind of upfront commitment, forward guidance provided to the market, which gave assurance to the market.

How has the RBIs policy response (to the pandemic been different)?

- Unconventional measures were undertaken even before exhausting the conventional policy space. It's not that we went into a negative interest rate territory or anything like what was experienced by the advanced economies. We had conventional policy space available, but we went for unconventional measures.
- The counterparties included only banks and All India Financial Institutions. They did not include corporates, so we did not lower the quality of the collateral.
- The RBI asset purchase program was confined to central and state government securities, not corporate bonds or anything like that.
- These measures were announced with pre-set terminal dates, which means they were not open ended, which instilled confidence. There was a clarity in knowing that by a specific date, the program will be over.
- It was solely operated in the secondary market. There was no primary support for the government, so it was not deficit financing.

- The RBI operated in the secondary market and implemented monetary policy without compromising on the primary mandate of price stability. The price stability mandate was never given up. That's why the RBI was quite circumspect in introducing and carrying out these measures – so that price stability was never compromised. There were demands that the government and the RBI should do more, but these things were balanced.

Moreover, there were some other important regulatory measures undertaken by the RBI just to prevent stress among the financial entities:

- Loan moratorium, because India is a large country and people were facing problems because everything had come to a standstill suddenly.
- Asset classification standstill, because if you are unable to pay your loan there was a standstill - this dispensation was provided.
- Easing of working capital financing and deferment of interest - working capital financing terms were eased and there was a deferment of interest payments.
- Increasing of group exposure norms, by which banks were allowed to increase limits on exposure in a group of related entities.
- Restructuring of advances to micro, small and medium enterprises (MSMEs), to help this sector which was very badly affected.
- Reduction of Liquidity Coverage Ratio (LCR) requirements. For example, if 100 was initially required, this was lowered to 80. You were allowed to maintain 80, then after some time it would go up to 90, and finally would come to 100.

These were the dispensations given to banks to manage the situation well and to prevent any liquidity distress. Inflation outcome - for two months after the onset of the pandemic, in April and May 2020, because everything had come to a standstill, there was no data collection, including no inflation data collection - there was nothing. As such, it was all imputation for that period. Because of the supply and work disruptions, inflation inched up at that point of time - but by September 2021, inflation had eased from the high levels previously witnessed. However, the crisis in Ukraine has once again brought inflation to the fore, and right now the RBI is grappling with the problem of rising inflation.

Growth outcome - growth was very severely impacted. In fact, GDP in the first quarter of 2020-21, which was April to June 2020-21, contracted by something like

23.8%, which was one of the sharpest declines, or maybe even the sharpest decline, ever. Exports declined by 61% in April 2020. The economy remained in contraction during the first half of 2020-21, but in the second half of 2020-21, that is say October to March 2020-21, some amount of recovery was witnessed. The second wave, which came sometime around March/April 2021, dented the recovery, but the impact was less severe. Subsequently, in the second half, there was sufficient recovery, with real GDP actually expanding by 8.7% during 2021-22, which was one of the highest rates of growth among the major economies. This year, again, there has been some moderation, but it's still expected to be something like 7.2%. Exports have also recovered. In fact, in April, during 2021-22, exports grew by 44.7% despite a tremendous amount of supply disruptions due to Ukraine and geopolitical uncertainties. Employment, however, is still a major cause of concern – it has yet to fully pick up. Meanwhile, bank credit, which had decelerated significantly, has started picking up in the second half of 2021-22 and now stands in double digits at something like 12% plus.

Financial market outcome - because of these measures, the Reserve Bank was able to create a congenial atmosphere for financing and the spreads have declined on corporate bonds, commercial papers and debentures. This has helped in raising more resources through corporate bonds and others so that the corporate sector could deleverage. Furthermore, abundant liquidity was provided, meaning that there was no liquidity stress. Something like 8.7% of GDP was provided as liquidity support by the RBI at that point of time.

Transmission to Banks' Deposit and Lending Rates: Current Easing Cycle

Period	Repo Rate	Term Deposit Rates		Lending Rates		
		Median TDR (Fresh Deposits)	WADTDR (Outstanding Deposits)	1 - Year Median MCLR	WALR (Outstanding Rupee Loans)	WALR (Fresh Rupe Loans)
February 2019 - September 2019 (Pre-External Benchmark)	-110	-110	-8	-30	0	-43
October 2019 - March 2022 (External Benchmark Period)	-140	-140	-180	-128	-150	-189
March 2020 - March 2022 (COVID period)	-115	-115	-142	-95	-131	-159
February 2019 - March 2022 (Easing Cycle)	**-250**	**-250**	**-188**	**-155**	**-150**	**-232**

WALR: Weighted Average Lending Rate. WADTDR: Weighted Average Domestic Term Deposit Rate:
MCLR: Marginal Cost of Funds-based Lending Rate, TDR: Term Deposit Rate.

Figure 7.1. Significant Improvement in Monetary Transmission

Monetary transmission also increased. Looking at the yellow row from March 2020 to March 2022, as against a 115-basis point reduction in the policy rate, the repo rate, the median term deposit rate (TDR) decreased by 150 basis points and the weighted average domestic term deposit rate (WADTDR) decreased by 142 basis points. These were all the lending rates against a 115-basis points reduction in the repo rate. The weighted average lending rate on outstanding deposits decreased by 131 basis points and on fresh deposits it decreased by 159 basis points. This shows that the monetary transmission was very significant. That was also because in October 2019, we had introduced some something called the External Benchmark System, whereby the lending rates were linked to the policy repo rate with some mark-up.

CHAPTER 8
THE THAI PAYMENT LANDSCAPE AND DIRECTION AHEAD

Budsakorn Teerapunyachai

Senior Director, Payment Systems Policy Department Bank of Thailand

First of all, I would like to thank Bank Indonesia for organizing this very nice international seminar on the policy mix. I know that you have been holding this event for many years, but I think this year has some especially interesting topics because we have experienced these things together. Thank you also for inviting the Bank of Thailand to share our experiences on these issues. Actually, this is my first trip to Indonesia, and I'm very impressed with the nice beaches and nice weather, and also the greenery of Bali.

In the wake of Covid-19, many countries are enduring an economic slowdown and are having to recover their economies. In this regard, I think the payment system is an important mechanism that will help to drive the post-pandemic economic recovery.

During the Covid-19 pandemic, digital payments accelerated as people's behaviour changed from using traditional payments to digital payments. We are focusing on how to keep up this momentum in order to further drive digital payments to become the main choice of the public – given that digital payments are quite efficient and also help to increase inclusion.

However, there are still many challenges that we have to overcome in order to do this. Thailand has to think about this and try to reposition its financial sector landscape, as well as the direction of the payment system, in the next three years.

Today, I will share with you where we are in terms of payment, what we have done, what we are going to change in the next three years, and what we think about the future landscape. Before going further on what we are going to do next, in line with factors related to Covid-19, I would like to share with you Thailand's current payment landscape.

Our current payment landscape involves two dimensions:

- The first dimension is the channels of payment. You can see that we have a wide range of channels, including traditional ones such as branch payment, ATMs, EDC machine payment, internet banking via computer, and the currently popular mobile banking.
- The other dimension is the payment services. In Thailand, there are a wide range of payment services, encompassing wholesale payment to retail payment, such as cash, cheque, card and non-card payment services. The currently popular one is retail payment using PromptPay money transfer or QR payment. We also have bulk payment for business and high-value payments using the central bank system called BAHTNET. We also still have debit card and credit card services, as well as e-Money and Prepaid card as part of the Thai payment system.

However, even though we have an existing payment landscape with a variety of channels or services, we still face many challenges in developing this in the long run. These include:

- Disruption created by new technologies.
- New service providers coming into the market - we find that the business models of these service providers change all the time.
- New demands from consumers and businesses.
- New forms of money - we are starting to see that people want to use digital assets or digital currency as a means of payment.
- Fraud and cybercrime are increasing in line with the growth of digital payments.

If we look at digital payments in relation to the Covid-19 pandemic situation, what have we done during the past three years?

- At the beginning, when our country was locked down because of the Covid-19 pandemic, we tried to encourage our people to use digital payments in order to decrease the risk of infection from Covid.
- We learned at the time that people were increasingly using digital payments. We thus tried to prepare and ensure that there was enough payment system and banking system infrastructure availability.
- We also tried to encourage an improvement in cybersecurity because of the

potential for cybercrime and fraud to arise due to people's fears about the Covid-19 pandemic.

- However, some people still wanted to use cash, so we had to perform cash management as well. One of the difficulties here was how to fill ATM machines with cash, as this was not easy during lockdown. We thus brought about a collaboration between banks whereby they helped each other to fill the ATM machines with cash – to ensure that when people needed to use cash, they could find it available in the ATM machines.
- As the regulator, we also relaxed some of our regulations because we wanted banks to have time to manage the crisis. Most notably, these included reporting regulations on report submissions to the Bank of Thailand. We relaxed and extended the periods for the banks to submit their reports.

After two years of Covid, we experienced an economic slowdown and our government started to promote a stimulator aimed at economy recovery. What the government did was to create a Government e-wallet called *Pao Tang.* In Thai this means money pocket or money bag. The government created this e-wallet in order to provide campaigns to support people during the economic slowdown.

The government launched two campaigns in this regard.

- The first one launched for the *Pao Tang* wallet was called 50:50, whereby when people who had joined the campaign bought food or services from shops, they only paid half and the government would pay the other half.
- The second campaign was Travel Together, whereby when people wanted to travel and reserve a hotel or a ticket, the government would pay 40% of this, and they only paid the remaining 60% of the price.

These two campaigns were quite popular and widely used by people. 40 million people had the e-wallet, more than 60% of our citizens, and millions of shops also joined these campaigns, making them quite successful.

This was a very important moment, as many people – including street food shops and even small merchants in the fresh markets – saw that they could use QR payment or have the e-wallet. This marked a big change for people in moving from traditional payments to digital payments. The question for us was how to maintain this momentum to promote digital payments?

Digital payments during the Covid-19 pandemic period increased sharply, and it was very important to keep up this momentum which had come about not only during the lockdown period when people's behavior changed to using digital payments, but also due to the government's campaigns to support this.

What are we doing? Bank of Thailand has actually had a digital payment strategy for 20 years. We started on our roadmap in 2002, and for the first 15 years we concentrated on the foundations of the payment system, such as building a domestic payment infrastructure, including the ATM network, the central settlement system, as well as the cheque clearing system. We also set up laws, regulations, and supervision pertaining to the payment system. However, for the last five years of the payment strategy, we have focused more on digital payments, such as building faster systems like PromptPay and QR standard payment. We are also trying to promote inclusion and the use of payment data to promote innovation.

During these past five years, digital payments in Thailand have been quite successful. We have been able to build up the use of digital payments, as demonstrated by the number of transactions conducted per person per year which has increased from 63 times per year to 312 - a five-fold increase. Thailand is number one in the world in terms of mobile banking payment, accounting for 80% of the channels that people use for digital payments. Our PromptPay system is also successful in that we have had 70 million people, *or at least 70 million IDs*, register for it. On the peak day, we had 47 million transactions, with 30 million transactions on an average day involving about 11 billion Thai Baht per day. As for our Thai standard QR, we have merchants at more than 7 million points accepting this. At the same time, cash usage, or cash activities like cash withdrawals from branches or ATMs, is declining.

We have also been quite successful and active in cross-border payment connectivity. We have created connectivity with many countries in the region like Japan, Vietnam Cambodia, Malaysia, Indonesia and Singapore. This is mainly for QR payment but, spectacularly, last year we set up the world's first linkage for real time remittance between the fast payment systems of Thailand and Singapore – the PromptPay/PAYNOW remittance linkage. This has really been quite successful, with transactions over the past year increasing sharply. It provides for a fast transfer of money. In fact, it is real time, seamless - you can use it like you use local mobile banking. It is also safe and cost-effective because the transfer fees are cheaper than those of the existing service providers. Both Singapore and Thailand received central banking awards for this initiative.

Focusing on Indonesia, last year on Indonesian Independence Day, the 17th of August, we launched the Indonesia - Thailand QR Payment. This linked the Thai QR payment based on the PromptPay system to QRIS, the standard QR payment of Indonesia. This was a project under the Asean Payment Connectivity initiative. We are aiming to serve tourists between the two countries, both online and offline. We now have three banking service providers from Thailand, and about 14 service providers in Indonesia, and the coverage is quite high. We are planning on adding more service providers in the near future, maybe next year, as well as connecting real-time remittances between Indonesia and Thailand in the near future.

What are we going to change in the next three years? We have repositioned our financial landscape by focusing more on digital. How can we leverage technology and data to drive innovation based on the concept of 'Open Competition, Open Infrastructure, and Open Data'? We are also focusing on sustainability because this is quite an important factor for businesses nowadays. As for supervision, we are moving our thinking from stability to resiliency. We believe that in a fast-changing world, stability is not enough and we feel that resiliency is more important.

At the same time, in terms of payment direction over the next three years, in line with the new financial landscape:

- We are focusing on openness in order to have an open infrastructure, open data and open competition in the field of payment.
- We intend to build up more inclusivity to adopt more payment coverage, especially when it comes to digital payments where we'll keep up the momentum of the government wallet and we'll try to have digital payments used on public transportation. At the same time, we will also try to enhance the literacy of people, by giving them the knowledge and awareness of using secure payments.
- For resiliency, we will be more flexible in terms of regulation and supervision. In this regard, we are more focused on risk based and the properties of supervision.

I would like to highlight one of the examples of the open infrastructure we have launched - called PromptBiz. While PromptPay was a game-changer in terms of retail payment, PromptBiz is a game-changer in terms of business payment, by helping the business process to move from a traditional to a digital business process. It's an end-to-end process that helps businesses to be more cost-effective, fast and user-friendly. It can also be reconciled and extended as a financing service which enables businesses to get loans from banks more easily, given that they already have a digital footprint via PromptBiz.

As for cross-border payments, we feel that expansion is still important. This year, we will expand our QR payment to Hong Kong and India, and we will also have remittances with Malaysia.

When it comes to open data, we are now learning to use data for open banking and virtual banking, which I feel is quite important – so we will make it more accessible. I feel that an important mechanism for handling open data is the use of an API (Application Programming Interface), so we will build up an API standard. I heard that Indonesia has already implemented an API standard called Snap, and so I think Thailand will also learn from Indonesia about how we can develop our API standard.

So, what will the future landscape look like? Our digital world of payment is changing a lot. We think that in the near future the payment landscape will consist of three co-existing worlds of payment.

- Paper-based payment will still exist but I believe that its use will be increasingly smaller.
- Digital payment is the most important one, and will grow to become the biggest world of payment.
- A new form, or world, of payment that we starting to see is the use of digital assets, or cryptocurrency, or CBDC, as a means of payment, use of which will grow as well. This poses quite a challenge for regulators - how to regulate this world of payment?

The biggest challenge, in my opinion, is how can we work together to have cross-sector, cross-country and also cross-region collaborations to overcome these challenges. Most importantly, as a regulator, or central bank, but also businesses and banks, we have to work together to overcome to these challenges.

CHAPTER 9
GREEN CENTRAL BANKING

Professor Sayuri Shirai
Kejo University

Thank you very much. I would like to express my gratitude to Bank Indonesia Institute for kindly inviting me to this great event. I wish I could attend in person, but instead I'll speak online.

Today I'd like to talk about Green Central Banking. As mentioned by another speaker in session three, we should not forget about decarbonization and carbon neutrality - and actually multiple discussions are ongoing globally with actions also taking place. I will talk about Green Central Banking from a general perspective, not only that of Japan.

Let me give an overview about central bank challenges. In the 1990s, we adopted conventional monetary policy - meaning flexible inflation targeting, so central banks set price stability targets and the main instrument was the short-term policy rate.

Subsequently, central banks in developed countries started to use unconventional monetary easing, especially after the Lehman shock, the Global Financial Crisis, because central banks reached effective lower bounds, so they adopted quantitative easing, forward guidance, and in the case of Bank of Japan yield curve control and negative interest rates - while the US Fed adopted average-inflation targeting. The problem for us was we had a low inflation target, below two percent, so how to raise inflation was a major issue.

Now, since last year, since the onset of the recovery process from Covid-19, we have globally started to face high inflation. I think we have a separate issue now – the issue now is high inflation and the risk of dis-anchoring medium-term inflation expectation. We are thus now in the middle of normalizing monetary easing.

When we look at the central bank mandate, I think many central banks share the following two mandates:

- Conduct monetary policy, so all central banks have committed to price stability. In the case of advanced economies, it's a 2% inflation target.
- On the other hand, central banks are looking at a macroprudential perspective, by which they try to stabilize the financial system and look at the total banking system.
- Now central banks are facing the new challenge of climate change. Climate change influences central banking practices through two channels:
  - ➢ Financial stability risk.
  - ➢ Impacting on macro-performance such as GDP and natural disaster physical risk related to climate change, which could lead to food shortages, thus leading to higher inflation. Green inflation means when we carry out the transition process towards the net-zero target, many governments need to adopt carbon pricing, such as a carbon tax and an emissions trading system. This too leads to high inflation for a period until the government achieves higher carbon prices. As such, central banks now have new challenges.

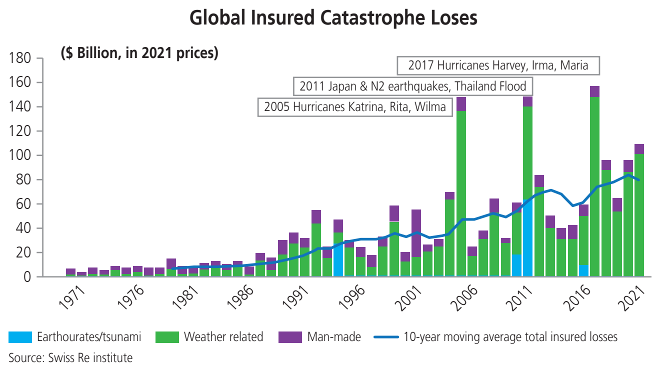

Figure 9.1. Global Insured Catastrophe Losses

This is just one example of how serious the climate issue is becoming to our economies (Figure 9.1). This is the data about the amount of Global Insured Catastrophe Losses. Most of these insured losses are made in advanced economies like the United States, Europe, and Japan, whereas many emerging economies don't have sufficient insurance. These losses are just for the insured, so mostly in advanced economies, but once we include uninsured losses the figures will be much bigger. Anyway, this practice of catastrophe losses started to take place from around the year 2000, and the magnitude of these losses has grown.

I'd like to show you what's happening now in the global finance architecture. ESG investors – E stands for Environmental, S stands for Social, G stands for (corporate) Governance - are long-term investors, mainly from United States and European insurance companies and pension funds, who are trying to change corporate behaviors, as well as the banking and financial system, to make their lending and investment portfolios greener. So ESG investors, according to this data, have a lot of influence globally, on Japanese, Chinese, and even Indonesian listed banks, financial institutions and companies. This represents a very important global trend. As we start to see the impact of these ESG investors globally, we cannot forget that the most important element in decarbonizing our economy is government climate policy. Most countries are committed to carbon neutrality, but at this moment they haven't come up with a credible climate policy yet. Nonetheless, government policy and related environmental regulations are most important. They are the ones influencing ESG investor behavior, as well as banks and companies.

CBs refers to Central Banks, while the NGFS (Network for Greening the Financial System) is the central banks and financial regulators' network, located in Paris. The current chairman is the Central Bank of Singapore Governor. More than 100 central banks and financial regulators are participating in this program. They prepare a lot of guidelines for central banks on how to supervise commercial banks so as to make them greener. As such, central banks form a part of government climate policy. While government policy is most important, central banks can also support the decarbonization process by influencing banks and financial institutions, through changing their supervisory process and making them greener. In this way, central banks play a very important role in the climate issue.

I got this information from the NGFS. Central bank climate action can be divided into five issues.

- Macroprudential – from the previous speakers, we learned a lot about macroprudential policies which exist mainly to stabilize the financial system. As a global standard, we have now adopted the TCFD guidelines, based on which we ask companies and financial institutions to make disclosures about the impact of climate change on their profitability. Commercial banks, in particular, are asked to do climate scenario exercises. One difference between regular macroprudential, as discussed by today's previous speakers, and what we are talking about here is this - generally speaking, when we talk about financial stability and macroprudential, we look at two or three years, usually related to crises, whereas when we talk about the climate and how it relates to macroprudential, the time span is 30 years. As such, we have to have some scenarios until 2050 looking at what may happen to the financial system and macro-performance. So, the approach is very different. As BIS has admitted, climate change is a very important financial risk - therefore central banks have to look at it.

- Also, what many central banks are now doing is looking at how to incorporate this climate change into their macroeconomic modelling. There are thus currently a lot of challenges, but I think many central banks have started to work on this.
- Many central banks hold assets, non-monetary policy related assets - for example, a central bank may manage a pension fund for their employees, or manage assets on behalf of a local government. They have various assets. Now, increasingly, many central banks across the world are starting to introduce environment criteria to the management of these assets.
- In relation to monetary policy, it can be divided into two:
    - ➢ Asset purchase, which is related to quantitative easing and, also many central banks try to intervene in the foreign exchange market to strengthen their exchange rate, so many central banks have a lot of foreign reserves. Central banks are starting to include environmental criteria for those assets
    - ➢ Credit policy – as mentioned by the Central Bank of India representative, they have the LTROs and TLTROs. Environmental criteria can be applicable to this kind of lending.

That is the broad picture about what central banks can do. What can central banks do to cope with climate risks? This can be divided into two things:

- Price stability - the primary mandate of central banks with regard to monetary policy is price stability. Price stability is most important, and within this mandate central banks have started to apply environmental issues to the monetary policy. This means that central banks still use short-term policy rates that are applicable to the whole economy, in a general way. However, at the same time, with regard to credit policy or corporate bond purchases, some central banks have started to introduce environmental criteria.

- Financial stability - this forms part of financial risk. As such, central banks have started to perform monitoring and ask the financial/banking sector to disclose more information. This is ongoing.

With regard to the mandates of central banks, there's no question that the primary mandate of all central banks with regard to monetary policy is price stability. A study by Dikau and Volz, which looked at 135 central banks, focused on the rationale for central banks to look into climate change. Given that all central banks have a price stability mandate, the question is - can we incorporate climate change into price stability? As I said, it could lead to green inflation, it could lead to food inflation, high inflation. So, can we include this climate change as a part of price stability? The difficulty, for example, is if an advanced economy has a, say, 2% inflation target. Sometimes, we are not really sure how this climate change relates to inflation, how its impact will be reflected in the price stability target. Given all of this, maybe it is legitimate for central banks to work on climate change because it is related price stability. While there is no consensus on this yet, there is a growing consensus that we can deal with climate change under the current price stability mandate.

Several central banks have secondary objectives. For example, in the case of the UK, price stability is their primary mandate, but their secondary objective is to support government policy. If the government is adopting carbon neutrality, the central bank should support this government climate change policy accordingly. As such, it (central banks dealing with climate change) can be justified by using this secondary objective.

Furthermore, some central banks have sustainability as a secondary objective. These include Malaysia, Fiji, the Philippines, and Nepal. Their central banks can use this secondary objective to justify their involvement in sustainability.

Returning to the monetary policy of central banks as it relates to asset holdings, many central banks manage foreign reserves. Traditionally, when a central bank manages foreign reserves, because it's related to intervention in a foreign exchange market, the most important priority regarding the composition of assets is liquidity - this is very important. Central banks try to look at risk & returns and manage their foreign reserves. Central banks need to discuss how to include environmental criteria and environmental issues under the management of foreign reserves. The most likely trend is for central banks to be able to purchase green bonds from foreign countries. Some central banks, including China and Japan's, have started to do this as it is an easier way of doing it.

With regard to this quantitative easing, basically here we are talking about corporate bonds. In the past, central banks like the Bank of England and ECB focused on market neutrality. When they purchased corporate bonds from the market, they tried to maintain neutrality. However, the ECB and Bank of England realized that what they are doing - just focusing on market neutrality when they buy corporate bonds - may not be right, given that most corporate bonds are issued by large carbon-intensive companies. This means that as long as they stick to neutrality, they're actually supporting those emission-intensive companies. This constitutes a market failure. Carbon prices are too low, so it's very lucrative for carbon-intensive companies to do these emissions – they are dirty businesses. Sticking to market neutrality cannot solve this program. As such, the Bank of England and ECB have started to pay attention to correcting this market failure by considering that, maybe, market neutrality should be abandoned.

The issue, then, is when central banks purchase corporate bonds should they abandon market neutrality? Some central banks say no - they should maintain market neutrality because they say central banks should not intervene in these kinds of businesses – it's a government job, it's micro-management. There is thus some opposition. Someone at Bank of Japan mentioned that they don't want to do micromanagement. On the other hand, there's a growing view among many central banks, especially led by the European Central Bank, that we cannot leave this market failure - maybe we have to start to cope with this using the central bank mandate to help the smooth transition to carbon neutrality. Also, central banks need to develop sustainable financial markets which they can then come in to promote.

In the case of the Bank of England, its primary mandate in monetary policy is price stability, but its secondary objective is to support the government's economic policy. What they did in May 2021 was to change how they define this second objective - by explicitly introducing that they support government policy to the extent that it is "environmentally sustainable and consistent with the transition to a net zero economy". By changing the definition of this secondary objective, they decided to introduce an environmental standard to their corporate bond reinvestment strategy in November last year. In the ECB's case, they didn't need to change anything with regard to the mandate because the EU treaty already has a statement to the effect that the ESCB (ECB & EU Central Banks) has to deal with "an open market economy with free competition, favouring an efficient allocation of resources". Here it's related to market failure, so the ECB can start to do green monetary policy under its existing mandate.

Looking at green credit policy, such as these long-term lending programs by central banks, central banks can introduce an environment policy. However, there are some questions here – given that central banks, the monetary policy makers, are not elected through elections, should they be allowed to influence the allocation of credit in line with their greening policy? Can this be justified? Whether central banks should be able to come in and influence credit allocation depends, I think, on credible government policy. If the government has a very credible climate change policy, like the EU is doing, I think the ECB can do it in line with government policy. It's all up to government - if the government has a very clear timebound strategy, like the EU, then I think the ECB can do it. In the case of the People's Bank of China, it belongs to the central government framework, and the Chinese government is aggressively working on issues aimed at reducing carbon emissions – accordingly the Central Bank of China is also actively working on green monetary policy.

In the case of China, the central bank is not doing quantitative easing. Instead, their policies are focusing on credit policy which they are actively carrying out. For example, they are giving better interest rates on reserves for those banks that are doing more greening policy. They have also already adopted a collateral framework by introducing an environment system, and the central bank provides loans to banks at low interest rates, if the banks are providing a lot of financing to green projects.

In the case of the United States, it looks like it will be very difficult for them to do it. There's a lot of opposition, especially from opposing parties which emphasize that it's not a central bank job to come in and influence credit allocation. This is thus a very challenging issue, and there is no global consensus yet.

The ECB is a leading central bank in this area. They have already contacted bottom-up stress-tests this year on major banks, and the results have already come out. Eventually they're going to introduce an environmental requirement to their capital adequacy requirement in the future. They also just announced recently that they're going to introduce an environmental standard when they do corporate bond reinvestment. They have in fact already stopped purchasing new bonds, so they're just doing reinvestment - so they're going to introduce an environment tilting approach. If a company is doing more greening activity, they increase weight on those corporate bonds. The ECB is also using a comprehensive approach. They're now examining how to introduce environmental criteria to the collateral system, and how to introduce a haircut system these corporate bonds. The PBoC is very active in doing a green taxonomy. In fact, ECB and the Chinese Central Bank are the two most active central banks in this area.

One issue is that central banks have started to introduce environment issues, but they still maintain short-term interest rates as a major central bank policy - and this applies to the whole economy. There are some issues here – why have central banks introduced green monetary policy with regard to credit policy or corporate bonds, but maintained short-term interest rates which are conventional? This issue needs further discussion in the future but I believe it's all up to having a credible government policy.

To summarize, many central banks, like India's and others, have introduced green credit policy and green QE, but all those are temporary. Bank of Japan is still doing green monetary policy, and ECB is doing green investment, so they can introduce environmental policy - but at this stage, many are now trying to unwind long-term credit policy or quantitative easing. So, I guess it's not the time for central banks to discuss about how to introduce green policy to monetary policy. Instead, currently, the most important focus is on how to introduce green issues to promote the greening of the financial system. In this respect, disclosure and promoting climate stress-tests in the banking system are the most important. With regard to central bank non-monetary policy assets, over 20 central banks have already started to introduce environment criteria to those assets, and any central bank can do this. That concludes my presentation.

Q&A Session 4

1. Question from Taufiq Dawood, Syiah Kuala University:

I'd like to direct my question to Professor Shirai. I'm very interested in the impact of green financing, green sustainable development, on monetary policy. You mentioned, with regard to open market operations, the idea of purchasing green bonds. Considering that this concept is still new, and thus the market for green bonds should be relatively shallow relative to other bond markets. how would this affect the effectiveness of monetary policy, particularly in developing countries, emerging countries, where the conventional bond market is still shallow relative to that in developed countries?

Answer from Prof. Sayuri Shirai:

At this moment, these discussions are being led by the European Central Bank. As you said, many emerging economies need to deepen and develop their sovereign bond market. While many governments have started to issue green bonds, the market is very shallow and very small. This is also the same for European countries, but there is a high demand from ESG investors with regards to green bonds. This is what we call a 'greening' which refers to a higher demand than that for conventional bonds. For corporate bonds, at this moment this is an issue for Europe or advanced economies, but I think in the future this liquidity issue will be very important. In the case of Germany, they issue ordinary government bonds and green sovereign bonds together, with the same conditions – the same maturity and same coupon. The government tries to intervene by ensuring compatibility, given that green bonds are very shallow and small. One way of doing it is to look at Germany's case. This however has just started, so at the moment the central bank is doing it only on corporate bonds. This is not a negative screening, rather it's a tilting policy, and gradually they're going to tighten this requirement. This takes place over time, it cannot happen in one day say - because still many corporate sectors have to introduce a net zero policy and have that run - so it takes time, it's a long process.

2. Question from Akhmad Syakir Kurnia, Diponegoro University:

My question goes to the speaker from the Bank of Thailand. In 2018, if I'm not mistaken, Bank Indonesia and the Bank of Thailand set up a local currency settlement agreement. This aims to reduce the dependency on using US dollars for international payments between Indonesia and Thailand. I'm wondering, how do you evaluate this local currency settlement so far? Is it effective in reducing the dependency on using the US dollar for international payments? Is it effective in helping to stabilize the Baht and Rupiah exchange rates? Because if we take a look at the data, the volume of the transactions in the international trade between Indonesia and Thailand is relatively small. So, does this agreement have a prospect in the future as it is aimed to reduce the dollar dependency and stabilize the Baht and Rupiah exchange rates.

Answer from Mrs. Budsakorn Teerapunyachai:

The agreement was in 2018. Countries in the region are trying to promote their local currencies, and Bank of Thailand entered into some agreements with several countries to allow for settlements between two countries using the local currencies without using the US dollar, including with Hong Kong and, like you said, with the Rupiah. My department is actually not directly involved with these settlement agreements, but I think that these payments are aimed at promoting the currencies of the two countries concerned using settlements with a better FX rate. As for the Rupiah and Thai Baht, I think that in the future, if we have more trade, having these payments as an important mechanism between the two countries would help to support the trade between them, with settlements between the Rupiah and Thai Baht gaining more importance in the near future.

3. Question from participant:

In the midst of the economic recovery from the pandemic, do you think that interest rate hikes are the best instrument to dampen inflation, or what other instruments could be used to dampen inflation while still maintaining public purchasing power?

Answer from Mr. Anand Prakash:

From India's perspective, the Reserve Bank of India has taken a number of steps, as inflation is a major concern. In fact, we have a target band of plus minus 2 with 4% as the intermediate range. So, you can go up to 6% and come down to 2%. However, right now, we have inflation at over 7%. If inflation remains above the target band for more than three quarters, then the Reserve Bank has to give an explanation for the deviation in its policy actions. The Reserve Bank has already increased rates twice - one by 50 basis points and the other by 40 basis points, a total of 90 basis points. Apart from that, we have introduced a standing deposit facility. As I mentioned in my presentation, we had an asymmetric corridor, which was 65 basis points below the repo rate, but now that asymmetry has gone and we have introduced a standing deposit facility wherein banks, instead of using reverse repo, can simply park in. There is thus no need for the Reserve Bank to give collateral - so that has also gone up. In total, therefore, we have increased the effective rate by 90 plus 40, in other words by 130 basis points.

Apart from that, the Reserve Bank has also increased the cash reserve ratio by 50 basis points. All these things are essentially due to the fact that there is a lot of liquidity overhang, while inflation, of course, is because of high food prices and, most importantly, because of high commodity prices and crude oil prices, India being a major importer of crude oil. In fact, 80% of our requirement is being met through imports. This also adds pressure. The pass-through of high crude oil prices to inflation is quite strong. In view of that, these steps are being taken. Consumer price inflation for June was something like 7.1%, which is above the target - but this is expected. Although things have started improving - the growth scenario has started improving - crude oil prices are very high and difficult to predict. They may come down in the second half, in which case inflation is likely to improve going forward in the second half of the year.

4. Question from participant:

Mrs. Budsakorn, you mentioned previously that cybersecurity is among the challenges in the future. In your view, what should the central bank strategy be for addressing the threat of cybersecurity? And, how do you see this threat in developing countries?

Answer from Mrs. Budsakorn Teerapunyachai:

Actually, cybersecurity is an important activity that the Bank of Thailand includes as part of our main strategy. In Thailand, we have been taking cybersecurity measures for the past 3 to 4 years. Firstly, we have tried to strengthen our banks so that they have good cybersecurity by using the NIST framework of the US. We have also done a gap analysis on whether our banks were ready to have this system implemented, including the protection, detection and response to cybersecurity. After evaluating the gaps, the system, process and people were developed to be ready to respond to cybersecurity threats. We have also set up a cybersecurity-based collaboration, because just one bank or institution by itself cannot respond well to cybersecurity issues – thus necessitating the setting-up of a collaboration, which we call TB-Cert, in order to monitor cyber threats. In this way, if something were to happen to a bank, they would help each other in responding to such cybercrimes. We are also trying to build up the knowledge and expertise of the cybersecurity taskforce in order to have experts in this area ready to respond to cyber threats as well.

5. Question from participant:

Each country has its own approach towards green central banking. The People's Bank of China (PBoC) ranked first among G20 central banks as the greenest central bank. On the other hand, China is still dependent on coal. As such, in your view, how can other countries that are also still dependent on coal learn from this issue?

Answer from Prof. Sayuri Shirai:

It is true that China is the largest emitter of carbon, but the Chinese government is committed to achieving carbon neutrality by 2060. Last September, China had an unprecedented electricity shortage, after which – in order to cope with the economic recession – they started to increase coal production again. This is true. However, at the same time, in terms of carbon neutrality, China is doing a lot of policy. For example, China is currently the largest producer of renewable energy in the world, as well as the largest producer of electric vehicles. Furthermore, looking at green investment, encompassing government and the private sector, China is the biggest investor. So, while it is true that China has a lot of challenges - they have to do a lot - the Chinese government is trying to shift from coal to natural gas. This is the first step. In the meantime, they are trying to increase their renewable energy production.

So, in terms of policy, I think they are doing a lot. China is currently trying to do a lot of solar and wind power regeneration in rural areas, and they have a very long transmission network linking rural areas in the west to Shanghai and Beijing. This is a very big investment. In looking at what they're doing, of course there are a lot of challenges, but they are one of the governments – besides the EU and UK - which is doing a lot of policy.

As has been introduced in Indonesia, China also has its own taxonomy – they call it a Green Catalogue – which started in the EU, in which they try to classify environmentally sustainable activities. The government is doing a lot of environmental regulation, and they have a clear target about how much each local government can emit - they also have restrictions there. As such, the central bank can come in and conduct very active green monetary policy. This includes conditional lending, whereby if a commercial bank provides financing to a green project, the central bank (PBoC) will provide cheap loans based on performance. Something similar was adopted by Bank of Japan from last December, but the Chinese central bank was the first central bank to adopt these green criteria to a collateral framework.

All in all, there have been many proactive measures taken by PBoC. However, the PBoC approach is very different to that of the Bank of England and ECB, as the ECB currently wants to focus on corporate bonds while the Bank of England was the first central bank to show how much emissions were coming from their holding of assets as a result of QE. No other central bank has done that besides the Bank of England. It is also publishing, for the second year, temperature ratings – so, for example, their corporate bond holding at this moment is equivalent to a three-degree global temperature scenario. This is very forward looking.

Also, the central bank of Brazil is doing a lot of nature protection measures, so when commercial banks provide loans, the central bank places some environmental criteria on that, especially for the financing of (projects related to) the Amazon forest. Looking at central banks, many are already doing a lot. I feel that the Bank of Japan should do much more, as too should many other central banks. Singapore, however, is taking the lead - that's why the Governor of the Singapore central bank, the monetary authority of Singapore, became Chairman of NGFS.

6. Question from participant:

Mr. Anand, in the emerging market, what in your view are the best instruments for facing the tightened liquidity of the Fed? As we know, high inflation is continuing in the US, recently reaching 9%, which has led to a tightening policy. So, what are the best instruments or strategies in this regard as an emerging market?

Answer from Mr. Anand Prakash:

The impact is common across most of the emerging market economies. We are facing outflows and the Indian Rupee is currently under significant pressure. As such, the Reserve Bank has intervened through sell-buy swaps among other ways. There is an issue here, and if the Fed keeps on increasing (interest rates), we will also be forced to increase rates. There will be pressure on the domestic currency and on the financial markets - the bond market rates and others will also increase. So, it's a problem and coupled with geopolitical uncertainty, emerging market economies like India or even Indonesia are very vulnerable to the vagaries of international capital flows. Just to give you a perspective, the Rupee, which was trading a few months back in the range of 73 per dollar, 73 point something, is now nearing 80. This is a depreciation of somewhere in the region of 8, 9, 10%. This is certainly a major problem, and a major problem for monetary management also. Whether it is the Reserve Bank of India, Bank Indonesia, Bank of Thailand or any other central bank, it's an issue that's affecting all of us.

7. Question from participant:

Mrs. Budsakorn, as we know during the pandemic, the use of crypto assets was quite high across many countries. In your view, or the Bank of Thailand's view, would crypto assets be considered as a future form of digital payment?

Answer from Mrs. Budsakorn Teerapunyachai:

This is a very difficult question because as the regulator, we are still working on these types of assets. We feel that when people use cryptocurrency or digital assets as a means of payment, we have to make sure that there is enough stability for these to be used as a means of payment. At present, cryptocurrency or digital assets still carry risk, about which we are not yet certain, and the value of these assets is still volatile. As such, we are still considering what types of digital assets can be used as a means of payment. We are also thinking about a stablecoin, but a stablecoin that has a fiat as a backup. We are working on this to learn a lot about it. In the near future, if we are certain about what kinds of digital assets are stable enough to become a means of payment, we will regulate those digital assets. However, we are still working on that.

8. Question from participant:

From a participant who is joining us virtually, from Bank Indonesia, for Mrs. Budsakorn. At Bank Indonesia, we also have a program for the electronification of government transactions. Could you share more about the Thailand government's electronification program? And, is it considered effective in increasing financial inclusion?

Answer from Mrs. Budsakorn Teerapunyachai:

As I said during my presentation, electronic or digital payments can help to support inclusion because people who live far away can use the electronic technology to help them reach payment services. As such, the Thai government and the Bank of Thailand are trying to promote the electronic payment system, and we think that this will help build up inclusion. What we have also done in accordance with this is to build up public knowledge and awareness as to how to use electronic payments in a secure way.

9. Question from Ella, Bank Indonesia:

Professor Shirai, could you kindly give your insight on the risks in transitioning to a green economy for small open economies like Indonesia, which has just started to recover from the pandemic?

Answer from Prof. Sayuri Shirai:

There's a trade-off between physical risk and transition risk. If we maintain the current policy, adopted by every country, it would definitely not be enough – so we would face physical risks such as unusual temperatures, impact on agriculture, high commodity prices, and so on. As such, we have to do this transition approach. However, there is a risk - especially for emerging economies, including Indonesia but even more especially for low-income countries. Because, as we have discussed today, in facing the Covid-19 pandemic, all countries increased their fiscal deficit and public debt to cope with the severe recession caused by lockdown. So, now debt is higher and it's time to normalize monetary policy. As another speaker mentioned, there are capital outflows from emerging economies, heading to the advanced economies like the United States. Given this, it's very difficult for a low-income country to cope with decarbonization. Therefore, as laid out at COP26 last November, the advanced economies committed to providing finance to the value of U$100 billion to developing countries. They haven't met this commitment yet, but they have to meet it soon - probably by 2023. I think advanced economies have to support low-income countries. Right now, I am working at the Asian Development Bank Institute, and I'm looking at the financing side. For example, there's actually a lot of money in the world. If we look at the size of assets owned by insurance companies and public & corporate pension funds, there is a huge amount of money. So, when we look at it globally, money is abundant. The problem with this money is it is not allocated to the right places, and to the people and projects that need it. So, what I'm looking at right now is blended finance. Blended finance is, for example, if an advanced country supports a carbon emission project in, say, Indonesia, where there is lots of forest - the advanced country can provide financing and skill to the project to maintain the forest, or to recover the forest, so as to increase its carbon absorption power. I think it's better to have this kind of project in conjunction with community development – to provide all-round benefit. At the same time, we need to increase and mobilize money from the ESG investors. Traditionally, some commercial banks are involved in this kind of project, but ESG investors are never interested in it - because it's too risky, especially after the Global Financial Crisis, as tighter financial regulations were imposed on the insurance sector and pension funds. So, the ESG investors are reluctant to invest in a developing country and in this kind of project.

Right now, I think we are discussing about blended finance, including public funds coming from other countries, ODA funds or grants also provided by the World Bank, IFC, or the Asian Development Bank, whereby public money is combined and some risk mitigation measures are provided so that these ESG investors can come in. Some action is already happening under an EU initiative, and the US government has also made some arrangements, such as nature conservation debt swaps with Belize, two years ago. The IMF wrote a very nice report on that. Belize was asked to commit to nature conservation, as they have forests and mangroves, which are very important in terms of carbon neutrality. In exchange for this commitment, the US government helped Belize to reduce their external debt. This is one approach about how to mobilize ESG investors. This is a new trend which I'm working on, and it would be good to hear more from the Indonesian view and emerging economies' view on how to mobilize this.

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Key Points Session 4

From Mr. Anand, RBI's measures along with the stimulus package from the Government of India have contributed significantly to the revival of the economy, supported by rising financial inclusion and digitalization. RBI's stance during the pandemic was to remain committed to mitigating the impact of Covid-19 on the economy, while ensuring that inflation remains within the target band.

The highlights from Mrs. Budsakorn included that there has been a significant increase in digital payment usage, and in response, the Bank of Thailand is focusing on developing financial infrastructures and digital payment services. On the other hand, issues such as cybersecurity, data risk, and insufficient cultural literacy should be taken into account.

As to the remarks from Professor Shirai, she mentioned that there are some actions that central banks can carry out, such as improving the TCFD, or the Task Force on Climate-Related Financial Disclosures, climate scenario analyses on the financial system, as well as adopting environmental criteria for quantitative easing or foreign reserves, cutting emissions related to printing money, and other operations with emission targets. To end this first session, I would like to thank all of the panellists for sharing their valuable insights with us today, and thank you participants for joining us here in the auditorium as well as virtually. Hopefully, you got some key takeaways. Once again, please give them a big round of applause.

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CLOSING REMARKS
CENTRAL BANK POLICY MIX FOR STABILITY AND ECONOMIC RECOVERY

Yoga Affandi

Executive Director and The Head of Bank Indonesia Institute

With participants from multiple organizations within Indonesia and its neighboring countries, both in person and by online platform, this conference has symbolized the indication of growing economic activities and is shaping future ways of learning and conducting international events. From my point of view, this event has lived up to its title of Central Bank Policy Mix for Stability and Economic Recovery by providing essential knowledge regarding conceptual frameworks of thinking, as well as the empirical and practical aspects of central bank policy mix. Equally important, the discussions have been very fruitful in giving us an understanding of the implementation of central bank policy mix in response to the current challenging economic recovery as well as future challenges.

We are now confronting serious challenges after the Covid-19 pandemic. The global economic recovery is being halted by escalating geopolitical tensions, devastating climate change impacts, and ongoing global supply chain disruptions. The challenges are more complex as global inflation rises, while several advanced and developing economies have accelerated monetary policy normalizations. Stagflation is imminent. These challenges unmistakably demand a more holistic way of thinking about the formulation of policies. The changing strategic environment and unprecedented global economic dynamics require optimal exit policy. In that regard, the central bank policy mix is not only conceptually coherent and operationally implementable, but also quite flexible for navigating the central bank in the face of future challenges.

From yesterday's sessions, Bapak Solikin stated that to support the optimal exit strategy for stronger economic recovery, the demand side management strategy - the short-term one -should be integrated with supply side management to address cyclical and structural problems. This means that the central bank policy mix framework remains valid and needs to be expanded with other related policies with regard to maintaining macroeconomic stability. Strengthening policy synergy between the central bank and government is a sufficient condition in maintaining the momentum of economic recovery.

Mr. Erceg from the IMF also underlined the need for an integrated policy framework, or IPF. The framework's need for a sweeping, well-measured approach on related issues in an integrated timely manner is important. Policy rate and exchange rate flexibility may not always be satisfactory, especially in the case of frictions and vulnerabilities that many emerging markets and lower-income countries (LICs) have.

In my presentation, I suggested that to maintain external stability, we need to enhance not only the policy mix framework itself, but also policy innovation and policy synergy. In the case of Indonesia, we have developed instruments, such as triple intervention, DNDF and LCS, to maintain exchange rate stability.

Ilhyock's presentation conveyed the need to use foreign exchange-related macroprudential instruments to maintain external stability. CFMs can also form part of the macro-financial stability framework. or MFSF, to complement macroprudential policies and FX intervention in addressing the challenges posed by the global financial condition. He also mentioned that some tools require coordination with other regulators.

Today we have learned about financial system stability and future challenges that need to be considered by central banks. Ibu Yati's presentation today highlighted that Bank Indonesia has used all the force of macroprudential policies to tackle the pandemic. The aim of macroprudential policy, in particular, is to support growth and maintain the momentum of further economic recovery. It is very challenging as the macroprudential policy during the pandemic had three main focuses.

- Foster and sustain financial intermediation;
- Strengthen financial system resilience through safeguarding banking liquidity; and
- Promote economic and financial inclusion.

James' presentation pointed out the need for a more complete and effective policy mix. The central bank should stay ahead of the curve to maintain expectations. He also suggested that central banks should communicate clearly to ensure orderly market reaction.

The session four participants generously shared with us the practice of central bank policy mix in other countries. Mr. Prakash shared that RBI undertook unconventional measures even before exhausting the conventional policy space during the pandemic. This policy mix was able to manage the economy during the pandemic.

Meanwhile, Mrs. Budsakorn shared with us a new and challenging area in central bank policy mix exploration - the payment system. In this regard, Bank of Thailand has been developing financial infrastructures and digital payment services to ensure openness, inclusivity, and resiliency under the new financial landscape. She emphasized the need for balancing innovation strategies and risks to win a changing environment.

Last but absolutely not least, the seminar was beautifully ended by an enlightening presentation from Professor Shirai. Green central banking is a certainty. Professor Shirai's presentation elaborated on the consistency between the price stability mandate and environmental stability, although this depends on the government's credible climate policy. On that note, I think Professor Shirai was pointing out that central banks should have a strong policy synergy with the government and other related parties.

To conclude, from my point of view, all the presentations and discussions accentuated that the enhancement of the policy mix framework requires collaboration, in terms of research as well as in practice. Equally important is synergy and collaboration, along with policy communication to support the implementation of the policy mix. Our Governor, Bapak Perry Warjiyo, always emphasizes the need to have well-planned, well-calibrated and well- communicated policy.

I hope that what has been discussed in the seminar will be useful for all participants in understanding how central bank policy mix is implemented, theoretically and practically, in order to overcome strategic challenges and ensure sustainable economic growth. We still have homework as some technical refinements are required after the use of various policy tools. Nevertheless, we hope this will serve as a milestone for the future of central bank policy mix. The concept, formulation and implementation of policy is still a challenging journey. It's still a long and winding road. A wise man said that our lessons come from the journey, not the destination. So once again, on behalf of Bank Indonesia, I would like to thank all the speakers who have made presentations, both in-person and virtually, my colleagues who have contributed to holding the seminar and to all participants. Your presence has been invaluable and, without any doubt, helped me make this seminar a great success. I sincerely wish that this seminar will ignite further exploration of new paradigms and greater practice of central bank policy mix. I would like to close my remarks and officially announce the end of this International Seminar on Central Bank Policy Mix 2022. For the speakers and participants who will be going back home, have a safe trip. See you at the next Bank Indonesia Institute Central Bank Policy Mix Flagship Program.

End Summary

At the end of 2021, we paved the road to 2022's G20 Presidency, promoting Recover Together, Recover Stronger as its main theme. The first Finance and Central Bank Deputies Meeting in the Indonesian Presidency established six priority agendas in the finance track that will be discussed throughout 2022. Now it's time to get the wheels turning. One of the most crucial agendas in the Indonesian Presidency is Exit Strategy to Support Recovery. Covid-19 has led to a severe global recession. In response, countries have taken unprecedented fiscal and monetary policies to protect the economy. These policies, along with the distribution of Covid-19 vaccines, have brought positive outcomes. Economic activities have begun to resume. Nevertheless, recovery doesn't come as a one-size-fits-all item. Advanced economies are recovering much faster than their emerging market counterparts, while low income countries are lagging. The different timings of exit policies can potentially bring negative spillover effects for countries. To mitigate these risks, a well-planned, well-calibrated and well-communicated exit strategy is needed. Under Indonesia's Presidency, the G20 countries and invitees will work together to create policy settings for a smooth exit strategy. Discussions will be held at the working group level, as well as in high-level meetings. For is our duty to ensure that emerging from this pandemic, no one gets left behind – Recover Together, Recover Stronger.

Against the backdrop of the Covid-19 crisis, tackling the economic and financial impact of the pandemic is a matter of utmost concern, particularly for the most vulnerable countries. As the world continues to navigate the exit from the pandemic, the resilience of international financial architecture has been tested. Financial stability risks have been contained so far, reflecting the ongoing monetary and fiscal policy supports that have fuelled the global rebound. However, the uneven global recovery and the uncertainties surrounding the path of the pandemic could pose risks and exacerbate vulnerabilities to financial stability. Such circumstances could impede economic recovery towards strong, sustainable, balanced, and inclusive growth. The G20 plays an essential role in maintaining recovery momentum by ensuring global financial stability and safeguarding it against negative spillovers. Throughout the Indonesian Presidency, the G20 will advance concerted efforts to counter risks and support vulnerable countries, including through maintaining a strong and effective Global Financial Safety Net (GFSN, continuing the work on debt issues, building a better understanding of the analytical framework for a policy mix that can provide guidance in pursuing growth and stability objectives, and exploring more diversified currency in trade and finance to support stability. As the global financial system becomes more interconnected, while the trend of digitalization is accelerating, the Indonesian G20 Presidency also needs to progress discussions on Central Bank Digital Currency (CBDC). Indonesia invites members, international organizations and experts to work hand-in-hand in achieving a stable and resilient international financial architecture - Recover Together, Recover Stronger.

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BI INSTITUTE
Kampus Utama, Gedung D
Jl. M.H. Thamrin No.2, Jakarta 10350. Indonesia
http://www.bi.go.id/id/institute

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