Lessons From Unconventional Monetary Policy for Small Open Economies and Emerging Markets

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by

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Section 1. Introduction

We feel very honored to be invited to prepare a paper for this year's Jackson Hole Economic Policy Symposium, especially during this time of heightened uncertainty. After two decades of low inflation and anemic growth, as well as a long struggle to recover from the global financial crisis (GFC), policymakers were confronted with an unprecedented health crisis. In response, not only have central banks (CBs) in major advanced economies (MAEs) reemployed unconventional monetary policies (UCMPs) that were used extensively since the GFC, but these policies can now be found in emerging market economies (EMEs) and small open economies (SOEs). The strong rebound in global aggregate demand combined with a more sluggish rebound in aggregate supply, as well as the Russian invasion of Ukraine and the subsequent rise in energy, food, and shipping costs, have all resulted in high inflation at levels not seen in recent decades.

In the midst of these abrupt changes, we were asked to discuss new constraints on the economy and monetary policy making from the perspectives of EMEs and SOEs. In order to narrow down our discussion, we would like to address the following two concrete questions:

1. What lessons should EMEs and SOEs learn from the experiences of deploying UCMPs in MAEs? What implications do they have on current and sudden high inflation challenges?
2. Should EMEs and SOEs use similar UCMPs if they face strong deflationary pressure caused by aging and economic stagnation in the future?

By UCMPs, we mean large scale asset purchase programs (LSAPs), otherwise known as Quantitative Easing (QE) and Unconventional Forward Guidance (UCFG), which were used by the Bank of Japan (BOJ) since the early 2000s, the Federal Reserve (Fed) since the GFC, and the European Central Bank (ECB) since the mid-2010s. UCFG, in particular, refers to qualitative, date-based or threshold-based forward guidance (FG) on the future paths of policy as defined in Adrian, Laxton and Obstfeld (ALO 2018). The Fed's "lower-for-longer" guidance expressing its intention to keep the Fed funds rate near zero, "at least through mid-2015," or, "at least as long as the unemployment rate was above 6.5%," is a prime example. This contrasts with "conventional forward guidance (CFG)," which refers to a quantitative, macroeconomic-consistent projection with an endogenous interest rate policy path.

The paper is organized as follows. Section 2 summarizes the background and scales of UCMPs in MAEs and discusses how successful they have been and what some of the key risks are moving forward. The UCMPs, especially QE, have been quite effective in lowering long-term interest rates and supporting output (Ihrig et al. 2018; Fabo et al. 2021). However, UCMPs with UCFG have shown several weaknesses. We discuss some of these drawbacks and contrast them with a CFG analytical framework as practiced by seasoned Flexible-Inflation-Targeting countries. The "oversimplification" of UCFG makes it difficult to communicate how the policy is likely to change in the future based on different risks materializing. Furthermore, the reliance on language and an overarching narrative can lend itself to inflexibility in a rapidly changing macroeconomic environment and may

have contributed to the current difficulties of shifting the monetary policy stance from a low inflation to a high inflation environment. We end Section 2 by proposing a scenarios-based CFG framework that builds upon previous experiences and is more robust to higher uncertainty in the economy.

In Section 3, given the pros and cons of UCMPs as discussed in Section 2, we discuss whether EMEs or SOEs should use UCMPs when they face a similar situation of low growth and low inflation. In fact, after COVID several EMEs and SOEs have used unconventional policies, such as asset purchases programs (APPs), relatively successfully without experiencing exchange rate depreciation or capital outflow pressures (IMF 2020; Sever et al. 2020; Fratto et al. 2021; World Bank 2021). The effective use, however, does not guarantee that APPs will remain in the EME/SOE toolkit for future downturns, absent global crisis conditions. This is because EMEs'/SOEs' APPs after COVID were limited in size compared to advanced economies (AEs), and they were aimed at managing the crisis rather than intended as a principal policy tool to support the economy. Indeed, the fact that MAEs themselves were breaking taboos on a much larger scale might have helped EMEs avoid being penalized by international capital markets.

A more difficult question is whether EMEs/SOEs will be able to use UCMPs when facing the risk of falling into secular stagnation due to aging or other reasons. Given MAEs' experience with FG, the question can be reformulated in two ways. First, should EMEs/SOEs use qualitative, date- or threshold-dependent UCFG? We think using UCFG in EMEs/SOEs may be imprudent considering issues related to fiscal dominance, CB independence, and imperfect credibility, all of which would have important implications for the country risk premium, currency depreciation pressures, and managing capital outflows. Then the second question is whether it is desirable to use CFG. We believe the jury is still out about this question. While CFG may contribute to enhancing policy transparency by providing a quantitative, macroeconomic-consistent policy path, its feasibility is questioned given the complexity and many external factors associated with EMEs/SOEs, which may make it difficult for CBs to develop an adequate framework to implement CFG. As an example of the controversies in the transition to CFG, we mention the recent effort by the Bank of Korea (BOK) and its communication strategy to enhance its FG in a more structured manner.

Lastly, Section 4 concludes with challenges for EMEs/SOEs in moving toward an alternative scenarios-based CFG analytical framework, such as building institutional capacity, developing a strong track record for managing the economy, and conducting extensive research to customize the framework to fit the specific needs and issues of the country.

Section 2. Lessons from UCMPs in MAEs

Section 2.1: How successful have UCMPs been?

Since the early 1990s, interest rates were steadily falling[1] and in the aftermath of the GFC, policy rates reached their effective lower bound (ELB) after several big cuts by CBs in MAEs. Furthermore, the severe recession dragged down expected inflation and accordingly raised real interest rates. In such an environment, MAE CBs sought alternative policy tools, such as QE and UCFG, to nudge downward long-term real interest rates.

The UCMPs deployed as emergency tools during the GFC were extended until the mid-2010s, as the recovery of the economy was more sluggish than had been expected. An exit from UCMPs was expected since about 2017, but MAE CBs rolled back the normalization and deployed even stronger UCMP tools together with much greater fiscal expansion to sustain the economy during the COVID pandemic. As a result of QE since the GFC, the BOJ, the Fed, and the ECB have all expanded their balance sheets to anywhere between 25% and 100% of their GDPs before the COVID pandemic. These CBs' balance sheets have risen by another 20% to 30% of their GDPs since 2020 (Chart 1).

[Chart 1]

Together with QE, FG has been an important tool for MAE CBs to ease monetary and financial conditions through lower real interest rates by nudging the expected paths of interest rates lower and inflation higher. The early FG statements by the Fed tended to be qualitative, and then evolved to be calendar-based or threshold-based (Kuttner 2018). UCFG statements reappeared after the outbreak of COVID-19. The Fed's statement committing to, "maintain this (0.0%-0.25%) target range until it is confident that the economy has weathered recent events and is on track to achieve its maximum employment and price stability goals," and the ECB's statement that, "the Governing Council expects the key ECB interest rates to remain at their present or lower levels until it has seen the inflation outlook robustly converge to a level sufficiently close to…," were both imposed immediately after the COVID pandemic began. These UCFG statements were mostly unchanged until late 2021.[2]

The literature has shown that UCMPs, especially QE, were highly effective in lowering real interest rates and boosting the real economy. For instance, Ihrig et al. (2018) estimated

[1] Much of the interest rate decline before 2010 can be explained by the "Global Savings Glut" hypothesis, which attributes it to excessive savings in East Asian countries (Bernanke 2015). However, the hypothesis cannot explain the further decline in 10-year bond rates afterward, as the global savings rate has been stable since the early 2010s (Barsky and Easton 2021). On the other hand, extensive use of UCMPs is obviously a candidate to explain the downward trend in interest rates during and since the GFC (Hillenbrand 2021).

[2] The key to understanding UCFG is that the guidance intends to keep the expected policy rate path and term premiums (if QE is included in the guidance) lower than conditions would otherwise warrant. To be more specific, the CB commits to keeping low policy rates, even if economic conditions improve enough in the future to warrant monetary policy normalization.

that the 10-year term premium was cumulatively lowered by about 100 bps from 2008 to 2015 in the U.S., while the median from other studies was about 40 bps (Fabo et al. 2021). QE by the ECB and the BOJ were also estimated to have lowered their long-term interest rates by approximately 50 bps and 10 bps, respectively. Moreover, output and inflation were also boosted by QE in these MAEs. In addition, quantitative analysis in Campbell et al. (2017) showed that the Fed's calendar-based FG starting toward the end of 2011 boosted real activity and moved inflation closer to target.

Section 2.2: What are the drawbacks of UCFG?

Although UCFG can generate a strong stimulus in an economy stuck in a liquidity trap, the experiences of using UCFG, especially the experience of the recent inflation pressures, implies that UCFG can also encounter several risks related to the guidance.

To discuss the drawbacks of UCFG, we first need to distinguish UCFG from CFG.[3] For example, seasoned Flexible-Inflation-Targeting CBs, such as in the Czech Republic, New Zealand, and Chile, have announced future monetary policy rate paths with macroeconomic forecasts.[4] According to ALO (2018), we define these CB practices as CFG that provides a complete macroeconomic forecast and alternative scenarios with relevant variables and an endogenous interest rate path. In this framework, the interest rate forecast is not a promise and represents a policy path that is conditional on several factors that the policymakers use to form their decisions. Hence, the guidance can evolve over time, but still gives market participants transparent insight into how the path might change in response to new information.

This type of guidance contrasts materially with UCFG, which has encountered many difficulties in communicating policy effectively and suffers from a few drawbacks that are not associated with CFG. First, UCFG suffers from communicating the conditionality of the guidance and the time horizon over which it will apply. As a result, an oversimplified communication strategy is typically adopted where policymakers rely on qualitative, date-based or threshold-based assessments for communicating policy. However, this type of communication doesn't properly account for the different factors that helped inform the policymakers, that is, key insights into how the policy is likely to change in the future based on different risks materializing.

Second, and relatedly, the "oversimplification" could lead markets to underestimate the degree of uncertainty in the policymakers' outlook and make financial markets vulnerable to changes in unexpected news, thus making it difficult for CBs to exit from UCFG. This problem was evident than in 2013 when a change in perceptions about policy triggered the taper tantrum. Bond yields and term premiums rose sharply, out of line with

[3] FG is classified in several ways. Campbell et al. (2012) suggest Delphic vs. Odyssean FG, Blinder et al. (2008) use qualitative vs. quantitative FG, and the Bank of England classifies FG into open-ended, data-based, and calendar-based FG, and so forth.

[4] See Laxton and Rhee (2022) for a description of how forecasts and scenarios are used at the Czech National Bank. It is critical to understand that these baseline forecasts and scenarios are used as a frame of reference for policymakers to express their views relative to the baseline and alternative scenarios.

the modest eventual tightening envisaged in the cautious public statements by the Fed. These communication difficulties with UCFG around the time of regime changes were illustrated by the clarification from then Fed Chair Janet Yellen in 2015: "Just because we removed the word 'patient'… doesn't mean we are going to be impatient."

Third, UCFG can further distort markets in a way where a prolonged period where "r-g" is less than zero can lead to fiscal irresponsibility, and the potential reversion of "r-g" could call into question debt sustainability in the new interest rate environment. For instance, term premiums and long-term interest rates can rise sharply, thus reversing "r-g" positive, when the markets, in response to an unexpected exit from UCFG, abruptly recognize the chance of ending "the era of easy money" and ask for more inflation risk premiums (Reis 2022).

Lastly, another risk is the perception that the CB is inclined to remain committed to FG or else it risks its credibility. Some critics say that the responses of MAE CBs to the rising inflation pressures were not timely enough in the wake of the COVID pandemic. The prior commitment to overshooting inflation in the context of a low inflation trap could have led policymakers to accept higher levels of inflation despite the underlying macroeconomic situation being materially different. Similarly, the inflexibility of UCFG in adapting to sudden changes in the macroeconomic environment could be a factor that contributes to the difficulties that major CBs are facing in handling current inflation surges.

Section 2.3: Is scenarios-based CFG a better alternative?

Some CBs have officially stopped giving UCFG recently, which is in part probably due to the considerations of some of the drawbacks discussed above.[5] Scenarios-based CFG overcomes many of these drawbacks, as it is intended to better communicate the systematic component of monetary policy and allow financial market participants to better anticipate how the CB is likely to respond to data in the future. However, it does require developing a framework, which obviously can take years for CBs to develop.

Under a scenarios-based CFG framework, we envisage that the CB would provide two "reference" scenarios that are meant to capture important directions that the policy rate path could take under different economic conditions, called Case A and Case B scenarios. Case A scenarios would incorporate an economic outlook where the policy path would need to be higher than what the market expects to achieve the objectives of the CB. Case B type scenarios would encapsulate an economic outlook where the policy path is lower than what the market expects. These two directions are meant to capture in the more extreme cases, how the CB intends to avoid the dark corners of monetary policy: a low inflation trap at one end and high and variable inflation at the other.

[5] For instance, when the ECB and the Fed recently indicated the switches to a "data-dependent" and "meeting-by-meeting" approach to future interest rate decisions, news media, such as Reuters and Bloomberg, called it the "death" and "the final nail in the coffin" of FG. Summers (2022) also expressed his skepticism of FG by proclaiming that it is time to put FG "in the closet."

It is important to note that the CB would not get into the business of assigning specific probabilities to the different (singular) scenarios. Theoretically, as there are an infinite number of Case A and Case B scenarios that the CB could produce, assigning a probability to any singular scenario would be folly. The two scenarios are meant to capture a class of scenarios where the policy path is either above or below the market expectations of the current policy stance.

The point of the two-scenario framework is (1) to prepare markets for how policy could change in an important way, and (2) that it can be used as a tool for policymakers to communicate their disagreements in a systematic way that improves both the internal and external policy debate. The first point is meant to help markets more appropriately price uncertainty around the economic outlook and policy, and to avoid any rapid adjustments in risk perception, such as taper tantrum-like events, or the recent sharp term premium corrections that have precipitated a wave of depreciation in other countries' currencies while they were wrangling with high inflation themselves. The second key reason for the different scenarios is that it should help frame the policy discussion in a more constructive manner that naturally allows for alternative arguments to be presented on a regular basis so that policymakers do not get complacent and are always challenging their prior narratives.

A critique of scenarios-based CFG is the difficulty of communication. It should be harder for CBs to deliver the desired message with a long explanation of different scenarios. Communication with financial market participants and professionals under FG with different scenarios can be a tough task, but communication with the general public—households and firms—just may be "mission impossible." Coibion et al. (2022) provided convincing evidence that households have limited capacity to process information from CBs, implying the CB announcements have much less power to readjust household expectations than typically assumed.

The summer of 2021 is a good example of how this framework could work when there were two clear alternative narratives regarding inflation: transitory vs. persistent. The Case A scenarios would have incorporated an economic outlook where inflation is more persistent and thus requires a faster lift-off of policy normalization and more rapid quantitative tightening to stave off inflation from becoming entrenched. Case B scenarios would assume that inflation is purely supply-driven and will moderate in the coming months, and the CB is committed to supporting the economy that is still recovering from the pandemic, to achieve its dual mandate. With these two scenarios in hand, as new data came in and it looked like the Case A scenarios were materializing, markets would have had some insight into how policy would change under such conditions, and would have been able to make adjustments in real-time, reducing focus on the policy meeting itself.

Section 3. What lessons should EMEs/SOEs learn from UCMPs in MAEs?

Section 3.1: Practice of UCMPs in EMEs during the COVID pandemic

During the COVID pandemic, several EMEs introduced APPs, large fiscal stimulus, and QE-type policies, though the scale was not as large as in AEs. It is also notable that lending through credit facilities, adjustments in the reserve requirements, and foreign exchange intervention (FXI) were adopted more frequently than APPs (IMF 2020). In particular, out of 44 EMEs whose economic and financial policies have been documented by the IMF,[6] 36 countries implemented lending operations, while only 14 implemented APPs (Kirti et al. 2022). In contrast, every EME in the sample conducted expansionary fiscal policy, while the size of fiscal expansion in EMEs was not as large as in AEs as well. Table 1 shows that the median size of the broad fiscal policies is much smaller, at 4.2% of GDP in EMEs, than the 15.1% seen in AEs.

If we look at UCMPs, the gap between the policy scales of AEs and EMEs widens further. The median sizes of cumulative lending and APPs among EMEs were 2.1% and 1.5% of GDP, respectively, whereas in AEs, the median sizes of the two UCMP tools were well over 10% each. The small relative importance of APPs can be explained in that the use of UCMPs in EMEs was not necessarily aimed at boosting economic activity, but at managing financial market risk.

[Table 1]

Emerging economies in Europe, including Hungary, Poland, and Croatia, have been relatively active in APPs, purchasing local bonds equivalent to around 5% to 6% of GDP in 2020. In particular, Poland resumed APPs in early 2021 to curb long-term bond yields. Also, notably, Hungary purchased a sizable amount of private bonds, including mortgage backed securities and corporate bonds, as it has been doing since 2018. When the Magyar Nemzeti Bank (MNB) of Hungary accelerated its purchase of government bonds in August 2020, it explicitly cited "higher demand for government funding" as a motive. Among Asian EMEs, Indonesia, Thailand, and the Philippines extended their central banks' balance sheets by large margins.[7] In particular, the CBs of Indonesia and the Philippines differed from their peer CBs in that they purchased government bonds in the primary markets, though the magnitude was minimal. The Bank of Thailand (BOT), whose balance sheet has widened by the largest degree among Asian EMEs, mainly conducted lending operations through several credit facilities, such as the Corporate Bond Stabilization Fund (BSF) that targets corporate bonds and the Mutual Fund Liquidity Facility (MFLF), in addition to purchasing government bonds, although the BSF has not been used since its establishment (EMEAP 2022).

[6] Kirti et al. (2022) constructed a new comprehensive announcement-level database that tracks fiscal, monetary, prudential, and other policies in response to COVID that covers about 5,500 policy measures from 74 countries during 2020. As part of this process, some policies that were previously regarded as APPs were re-classified as lending operations. As a result, in this database 14 EMEs adopted APPs, whereas that number of countries tends to be larger in other works, such as 27 in Fratto et al. (2021).

[7] The sizes of CB balance sheets in Indonesia, the Philippines, and Thailand have increased by 6%, 13%, and 15% of corresponding GDP from the end of 2019 to the end of 2021.

To roughly summarize, EMEs' UCMP tools in the wake of COVID were mainly for the purpose of supplying funds for extra fiscal expenditure and addressing financial market dysfunction, whereas in very few countries, such as Poland, APPs were mobilized to stabilize long-term interest rates.

In some SOEs, such as Korea and Sweden, a wider range of UCMP tools was adopted. While the overall size of APPs and lending was modestly about 3% of GDP in Korea, the BOK directly purchased government bonds and through a special purpose vehicle (SPV) indirectly purchased lower-rated corporate bonds and commercial paper as well, in addition to lending to the non-bank private sector. Similarly, the Riksbank purchased all types of bonds and demonstrated a strong commitment to lending by funding banks up to 10% of GDP (IMF 2021).

According to several studies, the general evaluation is that EME CBs' APPs in response to COVID have been relatively effective (Sever et al. 2020; Fratto et al. 2021; World Bank 2021). Specifically, financial markets stabilized on the announcement of lending implementation or APPs by EME CBs without significant currency depreciation or capital outflows, despite their own massive expansionary monetary and fiscal policies, in some cases defying the taboo of buying government debt in the primary market. In some studies, APPs are evaluated to have had stronger effects on bond yields than policy rate cuts and to have had economy-wide effects, with positive spillovers into equity markets (Fratto et al. 2021; Arena et al. 2021).

Such effective use, however, might only have been possible because the APPs were implemented in response to a common global shock. Abundant global liquidity and the fact that MAEs themselves were breaking taboos on a much larger scale might have helped EMEs avoid being penalized by international capital markets for their ultra-loose expansionary policies, unlike in the past. In addition, there was the Fed's extension of its dollar liquidity arrangements (swap lines) to nine more CBs, including some EMEs, such as Brazil and Mexico, as well as the ECB's euro swap arrangements with the European EM CBs. It is therefore questionable whether the same results would be obtained if on their own EMEs were to face the risk of falling into secular stagnation and if they were to implement similar expansionary fiscal and monetary policies in response.

Section 3.2: Constraints on UCMPs in EMEs

A more difficult question is whether EMEs/SOEs should use UCMPs when facing the risk of falling into secular stagnation while global liquidity is not as sufficient as it was during the COVID pandemic. The chance of returning to a very low inflation and low growth environment is significant for Korea and other Asian EMEs, such as Thailand and China, considering their rapid aging and earlier experiences of low inflation before the COVID pandemic. In fact, Asia's population is aging faster than that of any other part of the world, mainly due to the unusually rapid declines in its fertility and mortality rates. As of 2020, about 9% of Asians were aged 65 and older, and the ratio is projected to more than double

by 2060, well beyond 30% in Korea, China, and Thailand.[8] Among these Asian countries, there are concerns about the possibility of a phenomenon similar to Japan's "Lost Decades." In such a case, should EME CBs use the same UCMPs mobilized by MAEs?

The first question is whether EMEs/SOEs can use qualitative, date- or threshold-dependent UCFG. Considering the inflexibility of UCFG in adapting to sudden changes in macroeconomic environments and its exit problem, it may not be a desirable toolkit for EMEs/SOEs that are more likely to face greater uncertainties in monetary policy making. In addition, there are several structural factors that can restrict the use of UCFG by EMEs/SOEs.

The credibility of EME/SOE CBs has improved over the past decades thanks to institutional reforms, including the adoption of inflation targeting. Nevertheless, for UCFG to be successful, the CB must be able to commit to the announced strategy and make a credible case that it is consistent with achieving the objectives of the CB. Otherwise, the CB raises the risk of coming under aggressive speculative attacks that it cannot easily resist. For example, EME/SOE currencies are not key currencies and UCMPs that try to lower interest rates could lead to excessive depreciation of the local currency if the market perceives the policy as being inconsistent with the macroeconomic fundamentals of the country. This is especially concerning for EMEs/SOEs, where a large depreciation can cause contractionary balance sheet effects with net foreign currency debt positions. Even in EMEs with external debt in local currencies, thus free of traditional currency mismatches, UCMPs could result in large capital outflows.

Concerns about fiscal dominance and government debt sustainability could grow with UCMPs. The experience of Japan since the 1990s well-illustrates how an aging population can lead to increasingly large government debt, whose reversal cannot be easily committed. Chart 2 shows that the main driver of Japan's public debt explosion has been aging-related spending, rather than fiscal spending to boost the economy in severe recessions, as is commonly believed. To be specific, Japan's government debt-to-GDP ratio has risen by 191pp over the past three decades, from 63% in 1990 to 254% in 2020. Aging-related social benefits account for more than 90% of the total increase; 50% goes to pensions, and 43% goes to healthcare and long-term care expenditures. Instead, cumulatively from 1990 to 2020, especially after 2010, public investments and primary revenues lowered the government debt-to-GDP ratio by 11% and 24%, respectively (Fournier et al., forthcoming). Considering this case, it is not an easy task for EMEs that are experiencing rapid aging, to credibly convince a scenario that temporarily requires a large fiscal stimulus while promising to maintain fiscal sustainability in the long-term.

[Chart 2]

In addition to the above constraints, the bank-dominated financial system limits the available instruments. For example, if the capital markets for government bonds or corporate bonds are underdeveloped, the APP option is not feasible, and CBs are forced to rely on lending through banks and direct financing (IMF 2021). Besides, given the

[8] According to the U.S. Census Bureau's international database, the proportion of the population aged 65 and over in Korea, China, and Thailand is 16%, 12%, and 13%, respectively, as of 2020. This proportion is projected to be 40% for Korea, and 33% for both China and Thailand by 2060.

importance of the monetary policy transmission through bank lending in these EMEs, UCMPs implying very low or negative interest rates could worsen bank profitability, offsetting the policy's expansionary effect. QE can deteriorate banks' balance sheets, as banks finance through short-term deposits and make long-term loans (Borio and Gambacorta 2017). Underdevelopment of financial markets can also lead to household portfolios being tilted toward real estate assets, given a lack of diverse investment opportunities. In turn, UCMPs in EMEs tend to more frequently result in housing market asset bubbles, only incurring later the real costs associated with policy normalization.

In sum, unlike MAEs using international currencies that have greater leeway to credibly commit to date- or threshold-based FG, EME/SOE CBs face substantially greater risks of currency speculation when pursuing UCMP and UCFG. Then, can an EME/SOE CB overcome the lack of credibility by using scenarios-based CFG instead?

Section 3.3: Controversies in the transition to scenarios-based CFG

It can be seen that several EMEs/SOEs, including Korea, have been trying to adopt the main ingredients of CFG over the past decades. Many countries have shifted to inflation targeting, and some of these countries are further striving to provide FG to promote economic stability, as well as price stability, under the Flexible-Inflation-Targeting framework. The BOK adopted inflation targeting in 1998 and has exerted various efforts to make communication more transparent and efficient while enhancing the bank's analytical tools. However, the environment surrounding the bank is still not mature enough to fully implement scenarios-based CFG. Despite its attractiveness, given the complex challenges facing EMEs/SOEs, there are also considerable objections to this approach.

Monetary policies in EMEs/SOEs are heavily affected by policies in MAEs and their subsequent effects on FX/capital flow pressures. Therefore, rather than solely relying on the interest rate, alternative policy tools, such as FXI, macroprudential tools, and sometimes capital flow management measures, need to be considered. Integrated Policy Framework (IPF) by the IMF and Macro-Financial Stability Frameworks (MFSFs) by the BIS address this issue. In these circumstances, some believe that it is not only infeasible, but also undesirable to propose baseline and alternative policy paths along with scenario-associated projections of macroeconomic variables.

In particular, difficulties in communicating with the general public are noted. The information contained in CFG may be useful to market experts in that alternative scenarios can guide them when the realized state of the economy deviates from the baseline. However, the realization of an alternative scenario could be interpreted differently by the general public, as perhaps indicating CB incompetency in forecasting, thus damaging credibility. In other words, the nature of prediction errors is barely understood or accepted by the general public.

Recent BOK policy decisions and FG can be a good example showing these controversies. In July 2022, the BOK raised its policy rate by 50 bps for the first time in its history in order to prevent the acceleration of inflation, which had already reached 6.0%, a 24-year high. Given that market participants already anticipated a 50-bp rate hike, FG on the

future policy path, rather than the current interest rate hike, became even more important in terms of market focus, amid elevated external uncertainties about the Russia-Ukraine war, the U.S. monetary policy stance, and China's economic slowdown due to its zero-COVID policy. After debating different types of FG and considering the aforementioned pros and cons of CFG, a compromised approach was taken to provide qualitative remarks in its official decision statement, as well as giving further qualitative forward guidance during the chair's press conference, if asked. It was intended to have more flexibility on the future policy path, while providing the minimal FG that the market experts would like.

In particular, the decision statement included qualitative FG that, "The Board sees continued rate hikes as warranted," under our baseline scenario, in addition to its rate hike decision. Then, in the opening remarks at the press conference, the baseline policy path was elaborated as, "gradual, 25-basis-point increases will be appropriate for some time as long as inflation paths remain as currently presumed." Details of the assumptions made in the base scenario and what the alternative scenarios might be were qualitatively explained in response to questions from the press.

Section 4. Concluding Remarks

In this paper, we argued that date or threshold-dependent UCFG helped economic stability in MAEs during and since the GFC, but also had several weaknesses. In particular, its reliance on an overarching narrative and inflexibility in adapting to heightened uncertainty may have contributed to the current difficulties of shifting monetary policy stances from a low-inflation to a high-inflation environment. This soul searching naturally asks the following question: What would have happened if MAE CBs had already adopted Flexible-Inflation-Targeting, before the GFC? Furthermore, what if the MAE CBs had been engaged in scenarios-based CFG by regularly producing quantitative, macroeconomic-consistent scenarios with an endogenous interest rate policy path? That may be controversial, but that framework might have helped the MAE CBs to better manage the constraints in monetary policy when making a transition from a low- to high-inflation environment.

For EMEs and SOEs, UCFG cannot be an ideal policy tool, either. In many EMEs/SOEs, exit strategies must be sought more frequently in accordance with higher uncertainty and regime changes. Insufficient CB credibility and a potentially larger impact on fiscal dominance, debt sustainability, and currency depreciation make UCFG a far more risky option than in MAEs. As an alternative, and considering the possibility of facing secular stagnation of low growth and low inflation due to fast aging in the future, it is inevitable that some EMEs and SOEs will consider non-conventional policy options and start to build up a better policy framework, such as scenarios-based CFG. They also need to build up the analytical capacity, a strong track record of implementation, and extensive research so that the framework is robust to their specific needs and issues. Some of the EMEs/SOEs, such as the Czech Republic and New Zealand, have already embarked on this process, and the BOK is primed to join the club and contribute to its development. Surely, there are many challenging tasks, especially the difficulty of communicating during the transition period, when moving toward a more modern analytical framework.

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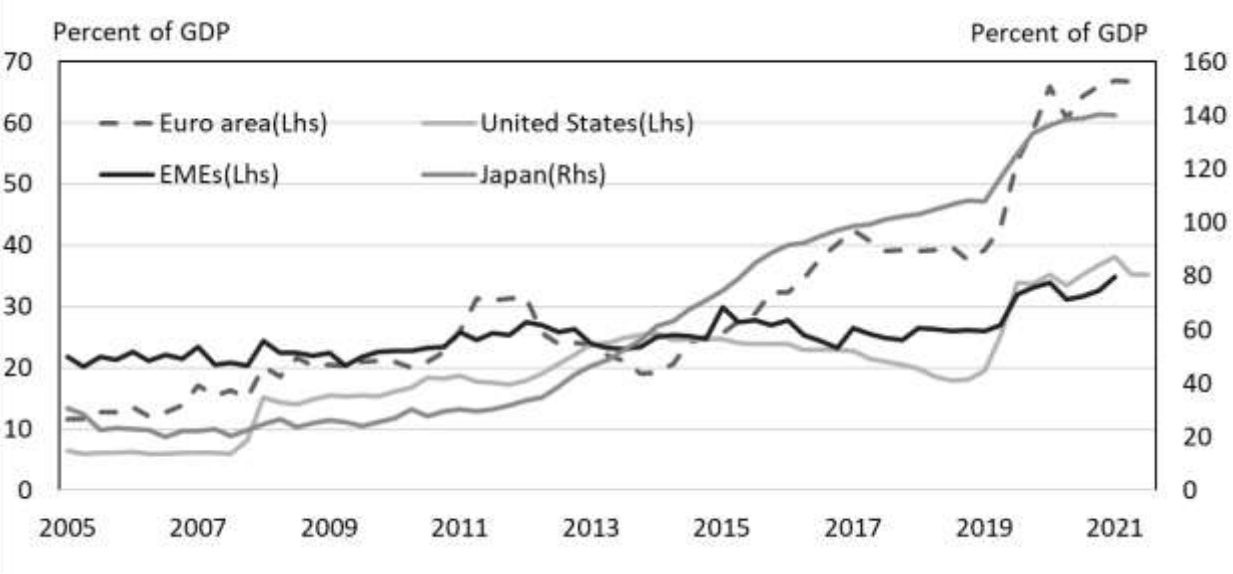
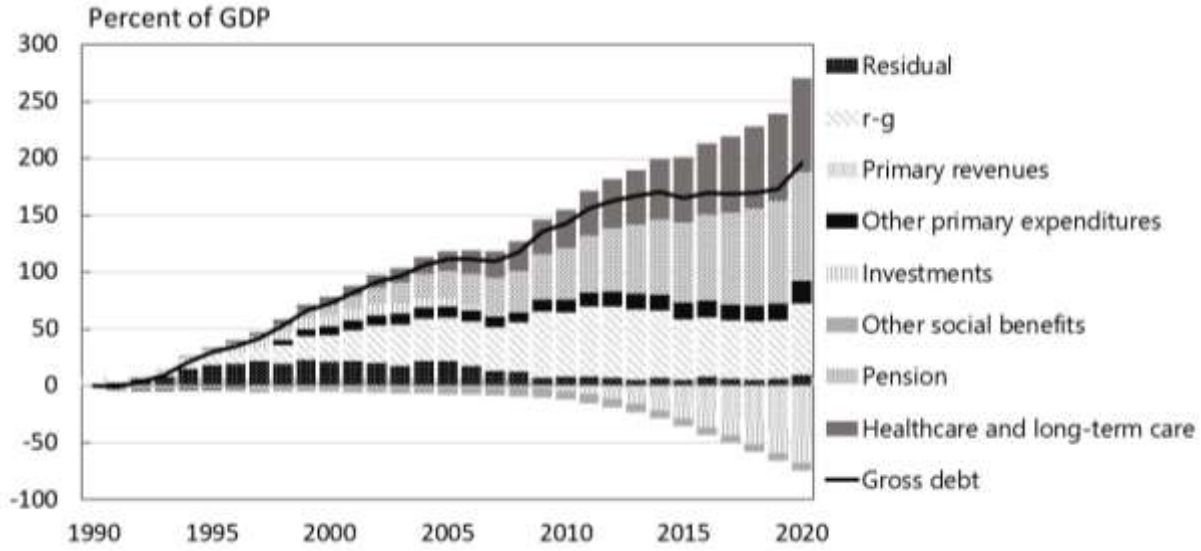
Chart 1. Central Bank Balance Sheets



Notes: The number for EMEs is the simple median of 21 EM countries: ARE, BGR, BRA, CHL, COL, EGY, HRV, HUN, IDN, KEN, MEX, MYS, NGA, PHL, POL, ROU, RUS, THA, TUR, URY and ZAF.

Source: IMF IFS, IMF WEO, FRED.

Chart 2. Contribution to Changes in Government Debt in Japan



Notes: The contribution of each expenditure/revenue item is calculated as cumulative changes from the 1990 level adjusted for the primary surplus in 1990. "Residual" includes stock-flow adjustment and interest revenues. Pension benefits are estimated from the National Account data. See Fournier et al. (forthcoming) for details.

Sources: Cabinet Office of Japan and IMF WEO Database (April 2022).

Table 1. Fiscal and Central Bank Balance Sheet Policies, 2020-2021

(% of GDP, %p)

	Fiscal[1]	APPs[1]	Lending[1]	Δ(CB Balance sheet[2])
EMEs[3] (median)	4.2	1.5	2.1	8.8
EMEs[3] (mean)	6.1	2.7	3.3	7.6
U.S.	19.7	9.2	4.0	18.6
Euro area[1]	26.2	16.8	18.2	27.6
Japan	42.1	13.5	9.6	32.1
Korea	12.0	1.0	1.6	3.4

Notes: [1] Denotes the cumulative sizes of each policy measure.
For the Euro area, the average sizes of France, Germany, and Italy are reported.
[2] Is the change in size of the CB balance sheets between end-2019 and end-2021.
[3] EMEs include ARE, BGR, BRA, CHL, COL, EGY, HRV, HUN, IDN, KEN, MEX, MYS, NGA, PHL, POL, ROU, RUS, THA, TUR, URY, and ZAF.
Sources: Kirti et al. (2022) database, IMF International Financial Statistics (IFS), CEIC.