

Impact of External Shocks on Capital Flows and Effectiveness of Economic Stabilization Policies

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This report examines the impact of external shocks on cross-border capital flows and major macroeconomic variables, and analyzed the effects of economic stabilization policies on economic conditions. An open economy with free cross-border capital flows has achieved faster economic growth than a closed economy with similar resource endowments, thanks to a more sophisticated financial system and robust macroeconomic institutions and policies. However, it is well known that building a sophisticated financial system by opening capital markets has the advantage of promoting economic growth, but it also increases the risk of economic crises. Kaminsky and Reinhart(1999) confirmed that in 18 out of 26 banking crisis episodes that occurred from 1970 to 2000, the financial markets of the respective countries had been opened within five years prior to the onset of the crisis. As the freedom of cross-border capital movement increases, large-scale capital flows into fast -growing countries in pursuit of higher investment returns, leading to an increase in asset prices and triggering credit expansion.

Ultimately, large capital inflows can lead to the overvaluation of a country's currency, increase the current account deficit, and increase the likelihood of a “sudden stop” economic crisis. Reinhart (2012) reports that the precursors of financial crises are large capital inflows accompanied by rapid increases in stock prices, surges in real estate prices, *A*-shaped economic growth rates, and a sharp increases in debt levels. In other words, excessive capital inflows stimulate lending, boost asset prices, and increase debt in both the private and public sectors. Therefore, cross-border capital flows play a positive role in activating investment for economic growth but, at the same time, can transmit shocks in the external economy, causing spillovers and increasing macroeconomic volatility.

This report aims to reassess the issue of cross-border capital flows in the era of uncertainty, as the global economy faces the aftermath of the COVID-19 pandemic. Since the onset of the COVID-19 crisis in March 2020, the global economy has entered an era of uncertainty. With the pandemic declared and the infectious disease crisis reaching its peak, countries around the world implemented economic lockdowns to curb the spread of the coronavirus, which lacked treatment and vaccines. As a result, the infectious disease crisis translated into an economic crisis, leading to a rapid contraction in economic activity. In response, governments worldwide implemented unprecedented fiscal stimulus measures, and central banks eased financial conditions through interest rate cuts and quantitative easing, providing substantial liquidity to the markets. In April 2020, the United States implemented a \$3 trillion stimulus package, and the Federal Reserve cut the benchmark interest rate to 0% in March 2020. The Federal Reserve

embarked on an unprecedented asset purchase program (quantitative easing), purchasing not only Treasury bonds but also municipal bonds, corporate bonds, junk bonds, and exchange-traded funds (ETFs). Even Japan, which has the highest government debt-to-GDP ratio, announced a stimulus package of 108 trillion yen, equivalent to 20% of the GDP, in April 2020. Similarly, the European Union has prepared stimulus packages of between 10% and 20% of GDP for its member countries. As a result of these fiscal spending and quantitative easing, massive liquidity flowed into the asset markets of each country. This created an imbalance where asset prices rose, while the real economy stagnated. Moreover, a much larger amount of funds flowed into the asset markets of emerging economies compared to the global financial crisis in 2008 and the taper tantrum in 2013. These financial imbalances deepened the concerns of policymakers regarding global inflation and rising interest rates in 2022, complicating efforts to maintain financial market stability.

Cross-border capital flows are an important channel for the cross-border transmission of international risks. Sudden capital movements under external shocks, trigger systemic risks domestically, increasing the likelihood of a financial crisis. In the current context, trends such as the U.S.-China strategic competition, the Russia-Ukraine situation, the Israel-Hamas conflict, and the strengthening of protectionism and nationalistic tendencies are causing the international regime of trade norms and financial infrastructure to be weaponized as sanction tools. This trend towards deglobalization adds greater uncertainty to the ripple effects of cross-border capital movements between nations. Accordingly, this paper aims to assess the

major external shocks and policy responses, as well as the status of cross-border capital flows, in the aftermath of the pandemic crisis. It also seeks to re-examine the impact of uncertainty on cross-border capital movements. Additionally, it aims to derive policy implications using key models from the Integrated Policy Framework currently being implemented by the International Monetary Fund.

This report consists of five chapters, including an introduction in Chapter 1 and a conclusion in Chapter 5. Chapter 2 discusses the major external shocks that occurred after the 2020 pandemic crisis, outlining patterns of capital inflows and outflows and policy issues arising from them. Initially, during the 2020 pandemic crisis, the global economy contracted by -2.8%, indicating a more severe economic downturn than the -0.1% contraction during the global financial crisis in 2009. In 2009, China initiated large-scale infrastructure investment, driving global economic activity and propelling the economic recovery in commodity-exporting countries. India also recorded a strong growth rate of 8.5% in 2009, contributing to the rapid recovery of emerging economies with high trade dependence on China and India.

However, in the 2020 pandemic crisis, not only advanced economies but also emerging economies experienced severe economic downturns. During the peak of the COVID-19 crisis in March and April 2020, significant capital outflows occurred in emerging economies, recording a scale more than three times larger than the capital outflows during the tightening period in 2013.

As volatility in cross-border capital flows increased to unprecedented levels, the stability in exchange rates and financial markets in emerging economies became a crucial issue. Emerging economies that adopted

a floating exchange rate regimes showed more flexible current account adjustments and a faster economic recovery than those that adopted fixed exchange rates pegged to the U.S. dollar. Despite foreign capital outflows during the pandemic crisis, the U.S. Treasury market maintained its safe haven status, benefiting from the Federal Reserve's extensive quantitative easing measures.

In contrast, emerging economies faced challenges as their currency values depreciated, and bond yields rose, making it difficult for them to implement quantitative easing measures similar to the United States. In these countries, the issuance of bonds for fiscal spending led to high bond yields due to concerns about sovereign default risks. To lower bond yields, central banks would have to issue new currency to buy bonds, but this process could further depreciate the value of the currency in emerging economies, increasing the potential for inflation and foreign exchange crises.

Therefore, there is a significant difference in policy space between advanced and emerging economies in terms of quantitative easing. Moreover, the large amount of liquidity injected into the market through extensive fiscal spending and quantitative easing, and the resumption of economic activity from the second half of 2020, translated into delayed supply due to disruptions in value chains. This, in turn, resulted in supply delays, increased production costs, and price hikes for production factors and goods, as demand quickly recovered but supply struggled to catch up.

This indicated the deepening global inflation in 2022, eventually serving as the tipping point for a rapid shift in monetary policy toward interest rate hikes. Concerns about the fiscal room for maneuver of

countries worldwide increased as public debt sharply rose in the aftermath of the COVID-19 crisis.

Since 2014, there has been a steady decline in government bond yields among major economies, leading to the belief that economic stabilization through government debt would be possible. However, the key question was, to what extent private demand absorbed the government bonds supplied to the market.

In the year 2020, the United States and Canada, where government debt relative to GDP increased the most, saw more than 40% of the government bonds were absorbed by private demand. However, in European countries such as Italy, Spain, Greece, and others, the majority of government debt has been absorbed by central bank quantitative easing. This indicates that the fiscal space for these European countries should be considered limited.

Chapter 3 empirically analyzes the effects of uncertainty shocks on capital flows and macroeconomic variables. Panel regression analysis results show that an increase in the Global Economic Policy Uncertainty Index (GEPU) decreases total capital inflows relative to GDP, but the Country-specific Economic Policy Uncertainty Index (CEPU) did not yield a statistically significant relationship with capital flows. This suggests that fluctuations in capital inflows are more closely related to external factors rather than domestic uncertainty factors.

Subsequently, a panel VAR analysis was conducted on three external shocks: global uncertainty, US policy interest rates, and international oil prices. The results showed that a one-unit increase in economic policy uncertainty led to a 0.1 percentage point rise in short-term interest rates, a 0.08 percentage point decrease in stock market indices

lasting over 7 months, and a 0.1 percentage point decrease in fund inflows relative to quarterly GDP, recovering after 3 months.

When US interest rates increased by one unit, individual countries' short-term interest rates rose by 0.1 percentage points, with a lasting effect. Stock market indices fell by 0.013 percentage points in the short term, and capital inflows decreased by 0.03 percentage points relative to quarterly GDP. Oil price shocks had a very limited impact on capital flows compared to other external shocks.

Analyzing the effects of global economic policy uncertainty (GEPU) shocks separately for developed and emerging countries revealed that interest rates slightly decreased in developed countries in response to uncertainty shocks, while no statistically significant results were found for emerging countries. In the short term, developed countries' stock market indices fell by 0.1 percentage points, and fund inflows decreased by 0.3 percentage points relative to quarterly GDP.

High-debt countries showed a statistically significant decline in industrial production in response to global economic policy uncertainty shocks, and relatively larger decreases in stock market indices and nominal currency values. Lastly, countries with higher degrees of financial openness experienced greater capital outflows following global uncertainty shocks.

In Chapter 4, we investigated the economic fluctuations resulting from the overseas interest rate hike shock through the integrated policy framework of the IMF and compared the effects of economic stabilization policies. The impact of the overseas interest rate hike on economic fluctuations differed significantly between emerging small open economies and advanced small open economies, especially in

terms of inflation volatility. While in advanced countries inflation remained stable even in the presence of external shocks, significant inflation occurred in emerging economies. Thus, in advanced countries, the decline in overseas export demand led to a reduction in output, prompting a policy rate cut for economic stimulus. In contrast, in emerging economies, it was observed that, to achieve price stability rather than counteracting output decline, interest rates were increased. Furthermore, when foreign exchange market interventions and capital flow management policies were combined with monetary policy, the stabilizing effects on the economy were more pronounced in emerging countries. Particularly, it was found that foreign exchange market intervention policies, when limiting the rise of the real exchange rate to the same extent as capital flow management policies, enhanced macroeconomic stability more than capital flow management policies alone.

Countries with positive net external assets experienced a relatively limited appreciation of the exchange rate in response to the interest rate hike abroad. Consequently, the cost of imported intermediate goods did not increase significantly, resulting in a smaller output contraction than in countries with a balanced external asset position. The results of the policy experiment indicate that in the case of countries with positive net external assets, when foreign exchange market interventions and capital flow management policies were combined with monetary policy, the volatility of output stabilized. However, there was an observed increase in the volatility of consumption and trade balances. It was noted that, with exchange rate stability, the price fluctuations of imported intermediate goods were

reduced, which consequently reduced the amplitude of output fluctuations. Nevertheless, the increased volatility of consumption and trade balances is attributed to the direct impact of financial transactions in the international financial markets. This impact is influenced by foreign exchange market interventions and capital flow management, ultimately leading to a higher amplitude of economic fluctuations.