Asia's Resilience in the Face of Reduced Capital Inflows due to the Normalization of U.S. Monetary Policy
—COVID and the Ukraine Crisis Have the Potential to Increase Vulnerability—

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Summary

1. Ever since the 2008 global financial crisis, capital inflows from advanced countries have supported economic growth in emerging nations. It is undeniable that massive monetary easing in the U.S., which provided ample liquidity to financial markets around the world, was a background factor. However, we are now seeing a reversal of that policy. Coming into 2022, the U.S. FRB began hiking interest rates and reducing the money supply, and since then has been accelerating the normalization of monetary policy. Going forward, a decline in capital inflows to emerging countries is unavoidable.

2. Estimating the impact on capital flows of major emerging countries, I found that the U.S. monetary easing in 2020-21 increased capital flows to these countries as a percentage of GDP by an annual average of 1.3 points, but that this up-push effect will dip to +0.8 points, marking a decline of 0.5 points, in 2022-23. This is equal to the down-push effect on capital flows that occurred during the five years from 2015-2019, the previous normalization phase, suggesting that heavy downward pressure will be exerted on capital flows in a short time.

3. However, resilience to capital inflow drops varies among emerging countries as a result of economic and financial structural differences, and the impact will likely differ from country to country, e.g., in the extent of currency depreciation. India, Indonesia, and the Philippines are saddled with chronic account deficits, and are therefore structurally vulnerable in that they are reliant on borrowing from abroad. That being said, their level of dependence on dollar-denominated short-term debt is low, so as things stand now, there is little likelihood of them experiencing a crisis of the like that occurred in Argentina and Turkey in 2018.

4. Attention needs to be paid to the fact that the recent COVID pandemic and Ukraine crisis have led to dramatic changes in the economic environment. Asia is especially affected, with the triple burden of current account deterioration, inflation acceleration, and government debt expansion gradually compounding to cause serious problems. If these problems get even worse, resilience to reduced capital inflows could wane, and vulnerability could increase, so there is a danger that the risk of instability in Asian financial and currency markets will increase.

Introduction

Since the global financial crisis (GFC) that was triggered by the collapse of Lehman Brothers, massive monetary easing in the U.S. has provided the background to inflows of capital from advanced countries to emerging countries, and these have accelerated economic growth in the latter. However, the large-scale U.S. monetary easing is now seeing a reversal. Since the start of 2022, the FRB has begun raising interest rates and slimming down its balance sheet, i.e., quickening the pace of monetary policy normalization. As a result, a decline in capital inflows to emerging countries can be said to be unavoidable.

2018, when rates were being hiked and the monetary supply was being reined in simultaneously, was a tumultuous period for financial markets in emerging countries, with their currencies falling, for example. Similar turmoil is expected this time, too, as concerns about emerging-country financial markets becoming unstable are increasing. However, in 2018 the adverse effects did not extend to all emerging countries. Some countries saw only slight drops in the value of their currencies, and limited damage to their economies. Among emerging countries, the degree of resilience to capital inflow declines varies per their economic and financial structures, and there will probably be differences in the impact that the upcoming phase of falling capital inflows has on them.

In this paper, I will start by analyzing the effect that the massive monetary easing in the U.S. has had on capital flows to emerging countries (1). Next, I will perform an assessment of the risk facing each country based on economic/financial structure, with a focus on the major Asian nations with which Japan has deep connections (2). Finally, I will turn to the fact that the COVID pandemic and the Ukraine crisis have raised uncertainty recently, and consider the risks that this poses (3).

1. Changes in emerging-country capital flows resulting from U.S. massive monetary easing

From the 1990s, helped by the establishment of financial and capital markets in emerging countries, entities in advanced countries stepped up their investment in emerging nations with strong growth potential. The growth rates of emerging countries increased as result, which then attracted additional investment in a virtuous cycle. With the occurrence of the GFC in 2008, the world economy suffered enormous damage, and emerging countries were no exception. As the crisis began to unfold, most viewed the chance of a swift economic rebound as slim. However, the U.S. embarked on a policy of massive monetary easing, which was regarded as unconventional, and capital inflows to emerging countries steadily recovered, and it took little time for their economies to get on the recovery track.

This huge monetary easing in the U.S. has had a big impact on emerging countries in recent years. That aside, it is clear that it will not continue indefinitely. The policy is already beginning to be reversed, and there are fears that the money flowing into emerging countries will dwindle, or that there may even be a net outflow.

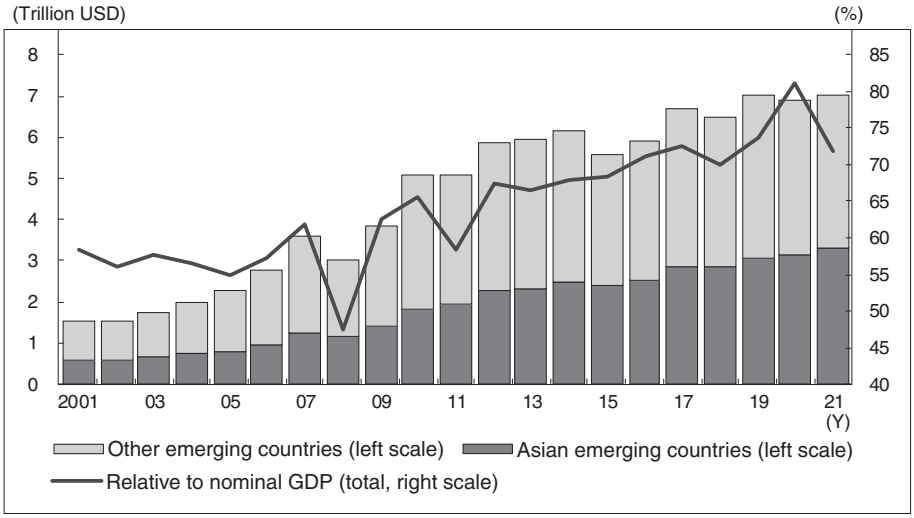
(1) Massive monetary easing in the U.S. has accelerated capital inflows

1) Impact of U.S. monetary easing on emerging countries

Looking at the external liabilities of emerging countries, we see that it has increased by 2.3 times from USD3.0 trillion in 2008 to USD7.0 in 2021 (Fig. 1). And relative to GDP, the figure has also risen rapidly, from 47.4% in 2008 to 71.9% in 2021. This means that capital flowed into emerging countries at a faster pace than economic growth.

A background factor was the U.S. adoption of a policy of massive monetary easing. Most of the

Fig. 1 Gross Inward Investment Stocks of Major Emerging Countries



Notes: Inward investment = direct investment + portfolio investment + other investment (e.g., lending). Asian emerging countries are India, Indonesia, Malaysia, the Philippines, and Thailand. Other emerging countries are Brazil, Mexico, South Africa, and Turkey. Countries for which sufficient time series data from the IMF's Coordinated Portfolio Investment Survey was available were selected.
Source: Prepared by JRI based on data from the IMF

literature analyzing the impact of the policy has shown that its effects extended beyond the U.S., with emerging-country financial markets benefitting from it (Chen et al [2014], Tran and Pham [2020]).

Massive monetary easing also took place in other advanced countries besides the U.S., but the impact from these countries on emerging nations is known to have not been particularly great (Rogers et al. [2014], Punzi and Chantapacdepong [2017]). A big reason for this is that the U.S. dollar maintains a lot of influence as the key currency internationally (Fukuda [2019]). A look at the breakdown of the currencies used for lending to emerging countries in cross-border transactions by financial institutions around the world reveals that USD-denominated loans account for 59.4% of the outstanding, far higher than the figures for the euro (14.9%), Japanese yen (1.7%), and U.K. pound (1.5%) (Fig. 2). Therefore, this paper only deals with U.S. monetary policy, the impact of which has been large.

2) Transmission channels of unconventional monetary policy

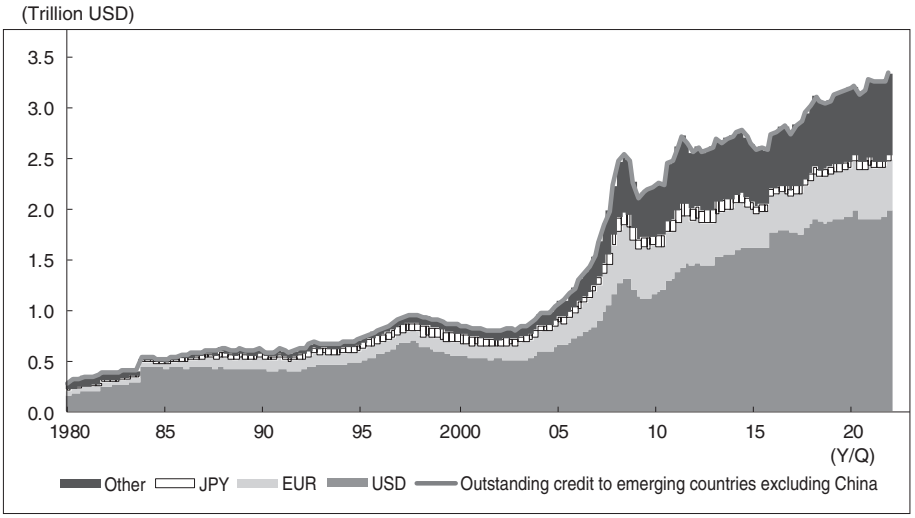
The massive monetary easing can also be described as unconventional because it employed additional policy tools besides traditional monetary policy, which is defined as "manipulation of short-term policy rates in positive territory" (Cabinet Office [2016]). In the U.S., the tools used are *quantitative easing* (QE), which involves use of the central bank's balance sheet, and *forward guidance*, which works on people's expectations. Outside the U.S., other tools have also been employed, such as *negative interest rates*, where the policy rate is reduced below zero, and *yield curve control* (YCC), which involves manipulation of short and long-term interest rates.

The massive monetary easing policy implemented in the U.S. affected capital flows to emerging countries along the following two pathways[(1)].

- Enhanced attractiveness of emerging-country assets due to lower U.S. interest rates and weaker dollar

The invocation of unconventional monetary policy caused U.S. bond yields to drop, agitating

Fig. 2 Currency Breakdown of Liabilities Emerging Countries (Ex. China) in Crossborder Transactions



Source: Prepared by JRI based on data from the BIS

investors to "search for yield." This is known as the portfolio rebalancing effect, and spurred investment in emerging-country assets (Anaya et al. [2017]). The easing also piled downward pressure on the U.S. dollar, making assets denominated in the currencies of emerging countries more appealing. On the other hand, the drop in U.S. interest rates eased the external debt burden of emerging nations, encouraging financial institutions to expand credit (Punzi and Chantapacdepong [2017]).

- Increase in investors' risk appetite due to stabilization of international financial markets

The ample liquidity provided by the unconventional monetary easing reduced liquidity risk not only in the U.S., but across the world. It also narrowed the risk premiums of various assets, and delivered a sense of security to financial markets, which pushed up the prices of risk assets.

(2) Trend with normalization of U.S. monetary policy and emerging-country capital flows

1) Trend in 2013-2019: First normalization and market turmoil that resulted

Following the 2008 GFC, the U.S. massive monetary easing policy supported capital inflows to emerging countries. However, as the world economy began to recover, discussions started on an "exit" for the massive easing.

Against that backdrop, in May 2013, market turmoil, described as a "taper tantrum," erupted in emerging-country markets. FRB Chairman (at the time) Ben Bernanke, hinted at quantitative tightening (tapering), which triggered a rapid rise in concerns that cash would flow out of emerging countries.

At that time, emerging-country currencies all dropped against the dollar, and the "fragile five" currencies[(2)] of India, Indonesia, Turkey, South Africa, and Brazil fell by 13.3%, 20.2%, 15.9%, 14.4%, and 15.3%, respectively, between the end of April and the end of December 2013, so they all experienced double-digit declines. And according to the International Monetary Fund (IMF),

portfolio investment flows to emerging countries (excluding China) reversed from USD+25.6 billion in May 2013 to USD-24.6 billion in June, clearly indicating that investors were pulling their money out of emerging countries, with stocks the main target of the sell-off (Fig. 3). Because of this, whenever the FRB debated an "exit," they always had to consider the implications for emerging countries.

However, as use of the term "tantrum" would suggest, the impact was only temporary, and by the following year no effects were being felt. In January 2014, the FRB began its tapering, and until the end of tapering in October 2014, no more turmoil occurred.

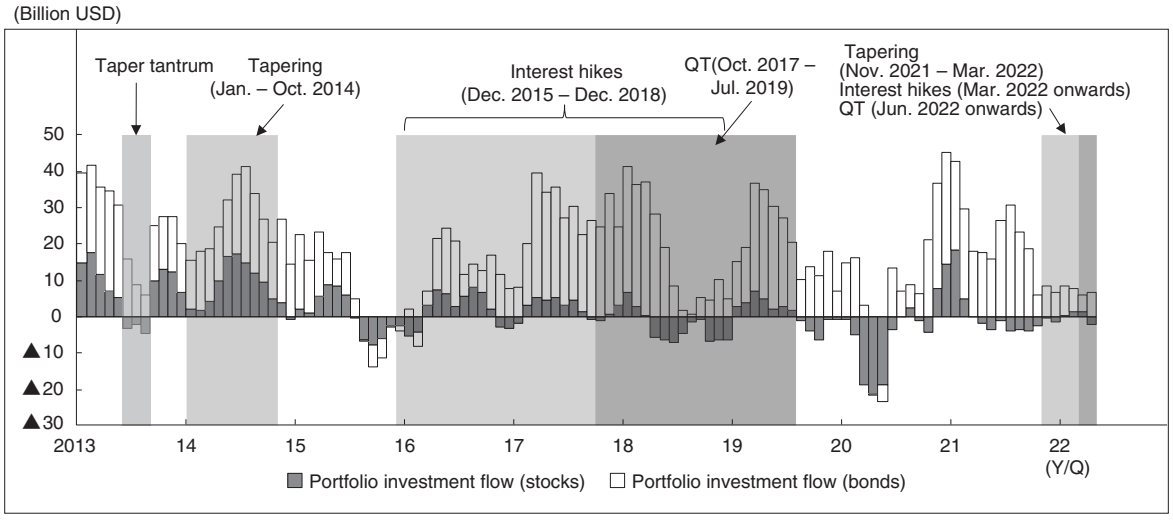
In December 2015, the FRB started to raise interest rates (Fig. 4). At this time, capital inflows to emerging countries dwindled, but this was partly due to the Chinese "yuan shock" (market turmoil triggered by a plunge in Chinese share prices in June 2015 and the devaluation of the yuan in August of the same year) that occurred just before. The pace of rate hikes was gentle, with just one increase each year until 2016, so it did not lead to market turbulence.

Going into 2017, however, the speed of rate rises quickened, and from October a policy of quantitative tightening (QT) was adopted, resulting in signs of change in emerging-country financial markets. In 2018, for example, rates were increased on four occasions, and with the tightening trend becoming stronger, many emerging-country currencies lost value against the dollar. The drops were particularly marked for the currencies of Argentina and Turkey (Shimizu [2019]). Unlike in 2013, emerging countries in 2018 were faced with rising U.S. interest rates and declining U.S. dollar liquidity as policy rate hikes and the slimming down of the balance sheet were implemented simultaneously. The FRB moved the discussion about an "exit" forward with caution, but as the pace of normalization increased, a considerable impact emerged.

2) Trend in 2020-2022 and future outlook: Increased easing due to COVID and start of second normalization

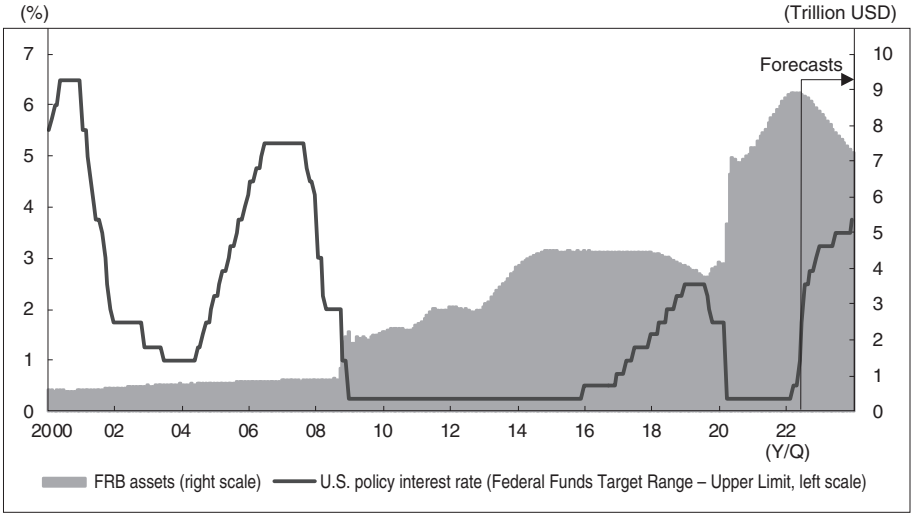
In 2019, the U.S. economy began to deteriorate, and there was a pause in the shift to normalization. Although the economy did not fall into recession, concerns about the economic outlook mounted, with then-President Trump issuing daily

Fig. 3 Portfolio Investment Flows to Emerging Countries (Ex. China) and Changes in U.S. Monetary Policy



Notes: Three-month trailing moving average.
Source: Prepared by JRI based on data from the IIF (Institute of International Finance)

Fig. 4 Trend and Outlook for U.S. FRB Balance Sheet and Policy Interest Rate



Notes: The forecast figures for June 2022 onwards are based on statements from the FOMC. Asset figures are based on the assumption of contractions of USD47.5 billion per month from June and USD95.0 billion per month from September. Figures for the policy interest rate (Federal Funds Target Range – Upper Limit) are based on the median forecasts of FOMC members (3.75% at the end of 2023, as of June 2022).
Source: Prepared by JRI based on data from CEIC and Bloomberg L.P.

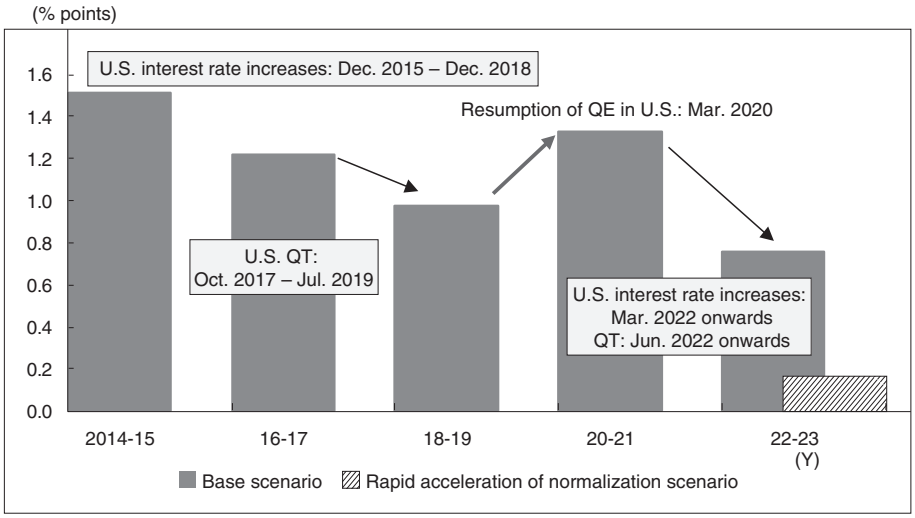
calls for interest rates to be reduced. Starting in August 2019, the FRB cut rates after three meetings in succession.

Moving into 2020, the spread of COVID became a huge problem, and in response to turmoil in the markets, the FRB called emergency meetings of the FOMC on March 3 and March 15, cutting the policy rate by 0.5% and 1.0%, respectively, after each meeting. It also rebooted its unconventional monetary policy, and the FRB's balance sheet (assets) swelled rapidly from USD4.1 trillion in February 2020 to USD8.6 trillion in October 2021.

However, this phase of expanded easing did not last long. The FRB began tapering in November 2021, and stopped enlarging its balance sheet through asset purchases in March 2022. In addition, March 2022 saw it start to raise interest rates, and it began QT in June of the same year. It decided to reduce assets by USD47.5 billion per month from June and USD95.0 billion per month from September. As such, the second round of monetary policy normalization got into full swing. As for the pace of QT, during the first period of normalization (October 2017 onwards), the balance sheet shrank by USD677.0 billion over 22 months, but during the second normalization, the shrinkage is expected to be around USD2.5 trillion over three years[(3)].

Fig. 5 employs panel data for nine emerging countries to estimate the impact of U.S. monetary policy on capital flows in major emerging countries (See Appendix 1). The explained variable is capital flows to emerging countries (net inflow from direct investment, portfolio investment, and other investment), and the explanatory variables are monetary policy factors (FRB balance sheet, interest rate differential between emerging countries and the U.S.), economic factors (growth rate differential between emerging countries and the U.S.), and risk factors (VIX etc.). According to the estimates, the U.S. monetary easing in 2020-21 increased capital flows to these countries as a percentage of GDP by an annual average of 1.3 points, but as progress is made with the normalization of U.S. monetary policy, this up-push effect will dip to +0.8 points, marking a decline of 0.5 points, in 2022-23. This is equal to the down-

Fig. 5 Impact of U.S. Monetary Policy on Emerging-Country Capital Flows (Net Inflows) (Relative to GDP)



Notes: Estimation results based on panel data for nine major emerging countries (India, Indonesia, Malaysia, Philippines, Thailand, Brazil, Mexico, South Africa, Turkey). Only monetary policy factors were extracted and presented following a regression analysis with capital flows to emerging countries (net inflow, relative to GDP) as the explained variable, and monetary policy factors (interest rate differential between emerging countries and the U.S., FRB assets), economic factors (growth rate differential between emerging countries and the U.S.), and risk factors (VIX index etc.) as the explanatory variables.
Base scenario: Assumed FRB assets indicated by the FOMC and the median forecasts for the policy interest rate by FOMC members (as of June 2022) were used.
Rapid acceleration of normalization scenario: Assumes that the U.S. policy interest rate and FRB assets will have returned to 2006 levels at the end of 2023.
Source: Estimates made by JRI

push effect on capital flows that occurred during the five years from 2015-2019, the previous phase of normalization (interest rate hikes and QT), which suggests that heavy downward pressure will be exerted on capital flows in a short space of time. Incidentally, supposing U.S. interest rates and balance sheet size were to return to the levels just before the 2008 global financial crisis (rapid acceleration of normalization scenario), capital flows would drop by 1.2 points.

Looking ahead, a decline in capital flows to emerging countries (capital inflows) is probably unavoidable. Of course, the FRB is aware of such impacts, and is unlikely to substantially accelerate the pace of normalization, so the risk of an extreme situation arising, such as a reversal of capital flows, is low. That being said, the pace of normalization this time is faster than in 2015-19, so the extent of the drop in capital inflows will be unprecedented, and there is a possibility that downward economic pressure will be coupled with heightened financial risk[4].

2. Resilience in the face of reduced capital inflows – Assessment of major Asian countries

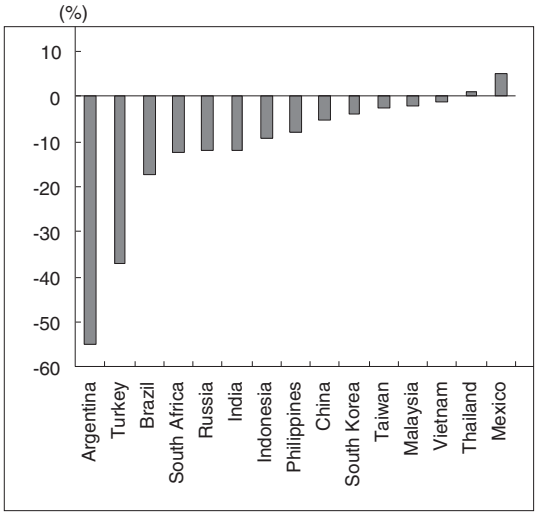
Going forward, capital inflows to emerging countries are expected to decline as the FRB presses ahead with its normalization of monetary policy. However, the level of vulnerability to external events differs among emerging countries. Here I will perform an assessment, based on recent economic/financial structure, of the vulnerability of each of the major Asian countries with which Japan has deep connections.

(1) Chronic current account deficits and dependence on foreign borrowing

In 2018, most emerging countries experienced turmoil in their financial markets as their currencies lost value, but some countries saw only slight drops in the value of their currencies, and limited damage to their economies (Fig. 6). One of the factors behind these country-to-country differences was chronic current account deficits and the resultant differences in the degree of dependence on borrowing from abroad.

Chronic current account deficits are a problem for many emerging countries. The current account deficit shows the situation with supply/demand from the point of view of actual demand for foreign currency and the country's own currency, and a protracted period in the red is a signal to sell the country's currency. Furthermore, to provide foreign currency, which is in short supply, the country finds itself continuously dependent on capital inflows (See Appendix 2). The current account balance fluctuates as a result of the influence of short-term economic trends and other factors, but over the medium to long term, it gradually stabilizes in positive territory as the country's level of development increases. At this point the country goes from being a borrower to a lender of money. In emerging countries where the current account has not stabilized, it is possible that the extent of currency decline in 2018 was greater.

Fig. 6 Percentage Falls in Emerging-Country Currencies (Jan. – Sep. 2018)



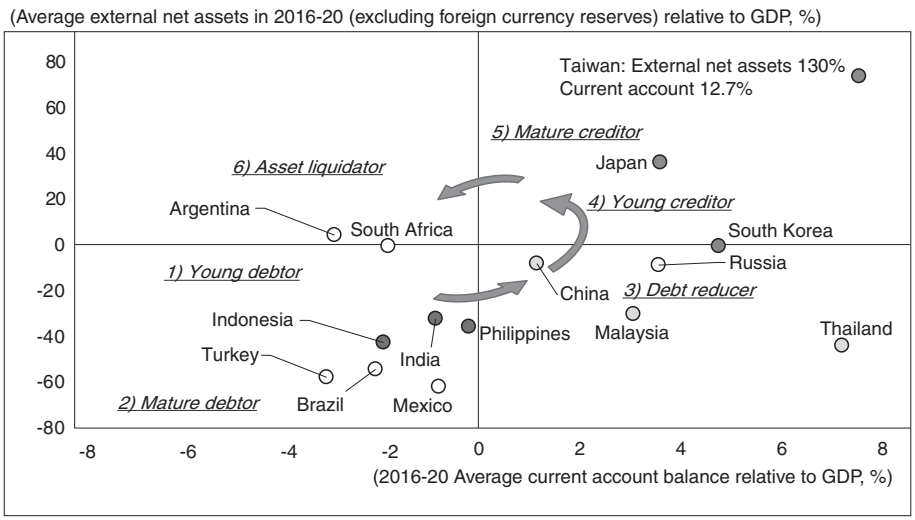
Source: Prepared by JRI based on data from CEIC

Current account stabilization can be organized using the "development stage theory of balance of payments" (Balance of payments development over time by Geoffrey Crowther). This theory focuses on the fact that a country's investment/saving balance changes as it develops economically. By combining the development stage and the asset accumulation process, it attempts to explain changes in the balance of payments structure from a long-term perspective (Bank of Japan [2000], Fig. 7).

There are six development stages. The first is the young debtor country, which needs inflows of capital because its domestic savings are not yet sufficient. Its balance of payments is characterized by a current account deficit and a financial (capital) account deficit, i.e., a capital inflow surplus. In the second stage, its industry grows, and its trade/service balance goes into the black, but due to the ongoing repayment of debt, the income balance remains in deficit, and the current account stays in the red. This is the mature debtor country stage. The trade/service balance is in surplus, but because the financial (capital) account is in deficit, the current account is also in the red. In the third stage, the trade/service balance moves into the black, borrowing from abroad declines, and the country becomes a debt reducer, with its financial (capital) balance in surplus. In the fourth stage, successive current account surpluses cause external assets to increase, and the country becomes a young creditor. In the fifth stage, factors such as an aging population cause the country to lose its competitive edge, and its trade/service balance drops into deficit, and continues to expand. This is the mature creditor country stage. Finally, the sixth stage is the asset liquidator stage, when the country liquidates the assets it has built up.

Argentina[(5)], Turkey, Brazil, South Africa, Mexico, and in Asia, India, Indonesia, and the Phil-

Fig. 7 Positioning of Emerging Countries/Territories According to the Development Stage Theory of Balance of Payments



Source: Prepared by JRI based on data from the IRF

ippines have been unable to break free of their current account deficits, and are therefore at the 1) young debtor or 2) mature debtor stages. Furthermore, these countries are strikingly reliant on foreign cash, and would be vulnerable in the face of reduced capital inflows. When U.S. monetary policy has entered a transition phase, such as the taper tantrum of 2013, India, Indonesia, and the Philippines, have often experienced sharp falls in their currencies. As Fig. 6 showed, these three countries were the top three of major Asian countries in terms of the percentage drops in their currencies in 2018. It is therefore likely that they will see investments pulled out of their countries and their currencies sold off as U.S. monetary policy normalization continues.

Although they remain debtor countries, China, Malaysia, and Thailand, are now in the 3) debt reducer country stage, as they are developing into creditor countries thanks to continuous current account surpluses. Their vulnerability to the effects of reduced capital inflows is less than that of countries in stages 1) and 2). This was also evident in the rates of currency depreciation they suffered in 2018, when the Thai baht actually gained ground against the U.S. dollar. Taiwan and South Korea, meanwhile, are at either the 4) young creditor or 5) mature creditor stages, which seems to give them adequate resilience against lower capital inflows, as in 2018 their currencies only fell by a small percentage.

(2) Vulnerability of Argentina and Turkey: Dependence on USD-denominated short-term debt

A number of emerging countries are still immature in terms of economic development, so they remain dependent on external borrowing for a long period of time. This makes them vulnerable to the effects of a reduction in capital inflows, so large declines in the value of their currencies are possible. During the turmoil in emerging-country financial markets in 2018, the currency drops experienced by Argentina and Turkey stand out, and the influence of monetary policy normalization was clear. In 2020, Argentina defaulted on its debt for the ninth time in its history, and has recently been recording annual inflation of over 50%. Turkey managed to escape default, but its currency has been sliding downward for a while, and the country is also struggling with fierce inflation. In Asia, emerging countries are unlikely to experience crises like those that occurred in Argentina

and Turkey, even though the issue of foreign borrowing dependence remains because of the immaturity of the balance of payments structure. The reason for this is differences in terms of dependence on USD-denominated short-term debt, which I will discuss next.

Unlike stocks, when debt increases through bond issuance and borrowing, the principal and interest need to be repaid. With USD-denominated external debt, the principal and interest are affected by the exchange rate and dollar interest rates, so changes in U.S. monetary policy have huge implications. In 2018, dollar appreciation and rising U.S. interest rates caused the debt service burden to rise steeply. Argentina and Turkey actually had the highest USD-denominated debt levels among emerging countries at the end of 2017. These stood at 36% and 43% of GDP, respectively.

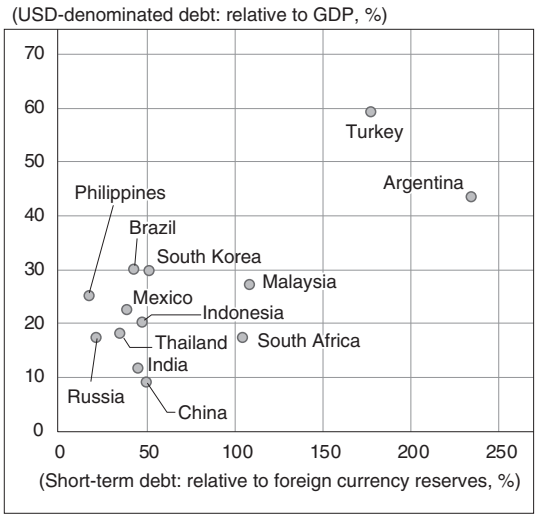
By the end of 2021, these numbers had climbed to 43% and 59%, making the two countries more vulnerable to outside developments (Fig. 8). Meanwhile, debt levels in Asian countries are all lower than 30% of GDP, so risks stemming from USD-denominated debt are low.

Another problem is reliance on short-term debt, i.e., debt with a short borrowing period. Short-term debt offers advantages in the form of low interest rates and low hurdles (e.g., loan screening) to borrowing. Yet there are also disadvantages. Factors such as a deterioration in economic conditions can make it difficult to roll over the debt, and currency depreciation can cause a substantial increase in the burden of debt service. If the borrower becomes unable to earn the foreign currency to repay the debt from its normal business transactions, whether it can be rolled over will depend on whether sufficient foreign currency reserves have been accumulated. Therefore, short-term external debt is always being compared with foreign currency reserves. At the end of 2017, the short-term external debt of Argentina and Turkey stood at 135.0% and 157.9% of foreign exchange reserves, respectively.

And by 2021, the figures for short-term external debt of the two countries were 192.9% and 160.8% of reserves, way higher than 100%. In Asia, Malaysia's figure is 109%, which is relatively high but low compared to the Argentina and Turkey numbers.

When the Asian financial crisis struck in 1997, East Asian countries were heavily dependent on USD-denominated short-term borrowing, and were described as facing a "double mismatch in currency and maturity[(6)]," and this is supposedly what triggered the crisis (Yoshitomi [2003]). Among Asian countries, India, Indonesia, and the Philippines are structurally vulnerable in that their chronic current account deficits have made them reliant on external borrowing. Nevertheless, they have kept a lid on USD-denominated short-term borrowing, as this had proved to be problematic in the past. This sets them well apart from Argentina and Turkey, so while India, Indonesia, and the Philippines can be said to be vulnerable, the degree of vulnerability is not so high in relative terms, and for that they deserve credit.

Fig. 8 USD-denominated and Short-term External Debt of Emerging Countries (2021-end)



Notes: For the Philippines, external debt was used instead of USD-denominated debt, as there are no statistics for the latter.
Source: Prepared by JRI based on data from the IMF, IIF (Institute of International Finance), and World Bank

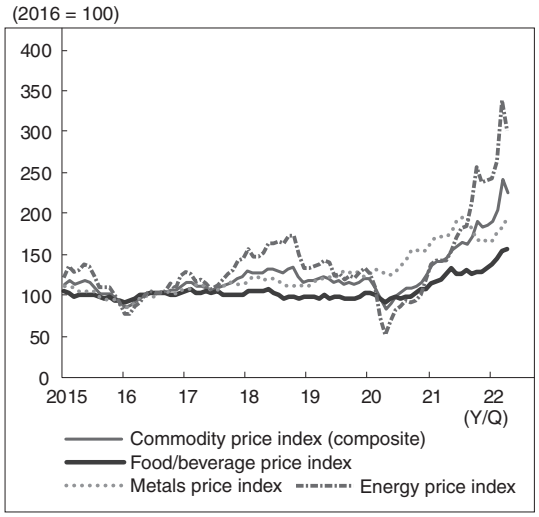
3. Heightened vulnerability in Asia as a result of COVID and the Ukraine crisis

COVID and the Ukraine crisis have transformed the environment surrounding emerging-country economies. In Asia, economic factors emphasized as fundamentals have deteriorated across the board. This worsening of fundamentals could become a factor in increasing vulnerability.

(1) Changes in economic fundamentals stemming from COVID and the Ukraine crisis

Fundamentals are measured using various indicators such as the economic growth rate and the unemployment rate, but when examining the stability of financial/forex markets, the current account, inflation rate, and fiscal balance are especially important. These indicators have changed dramatically as a result of COVID and the Ukraine crisis.

Fig. 9 IMF Commodity Price Indices



Source: Prepared by JRI based on IMF, Primary Commodity Prices

1) Current account

The spread of COVID has led to higher inflation around the world. Because problems such as the severing of supply chains in the manufacturing industry have occurred frequently, product supply has become unstable. In addition, the proliferation of teleworking has caused a rapid increase in demand for IT-related products such as PCs, but there have been shortages of semiconductors for some time, and these factors have also served to push up the prices of imports.

Russia's invasion of Ukraine has put additional upward pressure on prices. Western countries decided to impose harsh economic sanctions on Russia, but many countries, particularly European ones, are dependent on Russia for resources such as natural gas, so the supply-demand balance was upset, causing prices of a wide range of resources to soar (Fig. 9). In addition, because Russia and Ukraine are big producers of grains such as wheat, food prices are rising. Countries with trade deficits for energy and food probably have no way of avoiding current account deterioration as they are paying more for imports.

2) Inflation rate

Soaring import prices are also causing the domestic inflation rates of emerging countries to rise. Because higher inflation means that the value of currency in terms of goods is diminished, it adds to downward pressure on the currency. The currency can fall into a downward spiral as the weaker currency pushes up import prices, which results in inflation accelerating further. Such a situation has already been seen in Argentina and Turkey during the past few years, and it could spread to other emerging nations, especially if they are highly dependent on foreign countries for resources/food.

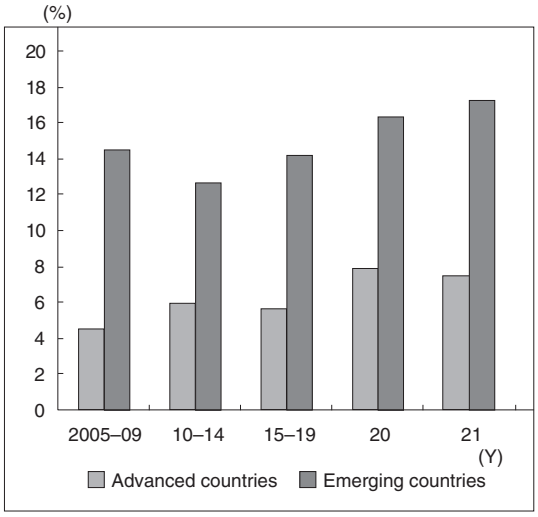
Accelerating inflation not only hits the domestic economy, but can also escalate into social instability as dissatisfaction among the populous grows. If such a situation were to occur, confidence in the currency would fall even further, causing external risks to heighten significantly.

3) Fiscal balance and government debt

The COVID pandemic led to a widening of fiscal deficits in many emerging countries as their governments ratcheted up spending on healthcare and keeping their economies afloat. And in 2022, measures to support households in the face of soaring energy costs mean that there is scant prospect of progress in paring back fiscal expenditures. If government debt soars and issuance of government bonds, i.e., the source of funding, rises too much, the supply-demand balance could deteriorate, and there is a danger that interest rates would rise. It could also lead to higher inflation and depreciation of currency.

In recent years, banks in emerging countries have purchased the bonds issued by their governments, pushing up government bonds as a proportion of their total assets. In 2021, this proportion had climbed to 17% (Fig. 10). In the background to this has been the desire of banks to increase their holdings of government bonds, which can serve as collateral. However, because emerging-country bond markets are not yet fully developed, the situation has been one in which governments feel that banks are doing them a favor by boosting their holdings. The IMF has warned that if risks to public finances increase, their effects will ripple through to the banking system through falling government bond prices, and that this could lead to serious problems[7].

Fig. 10 Government Bonds as a Proportion of Banking Sector Total Assets



Source: Prepared by JRI based on IMF, Global Financial Stability Report (April 2022)

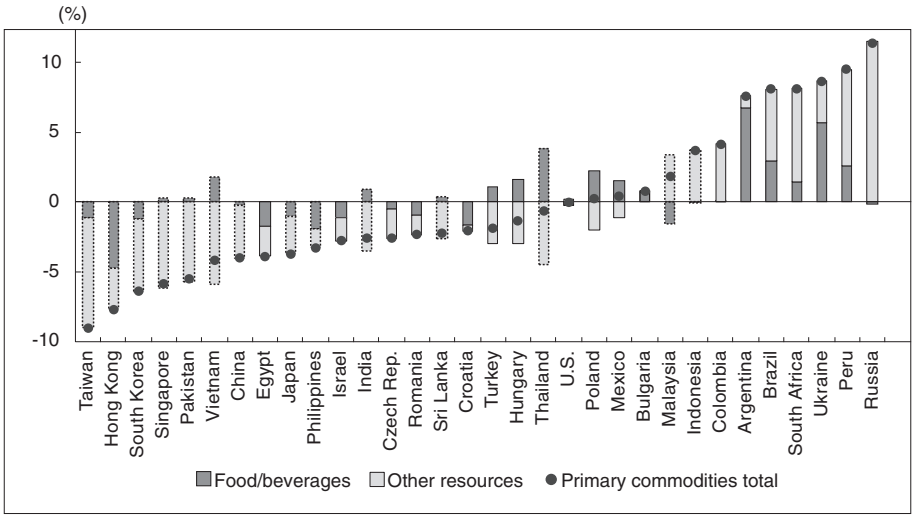
(2) Triple burden faced by emerging countries: current account deterioration, inflation acceleration, and government debt expansion

The worsening of fundamentals could rapidly increase risks for emerging countries that are faced with decreased capital inflows. Numerous papers have pointed out that adverse effects of the normalization of U.S. monetary policy on emerging-country financial markets could become greater if fundamentals are poor (Bowman et al. [2014], Chen et al. [2014], Tillmann [2016]).

However, there will be differences among emerging countries in the degree of deterioration. In particular, the major Asian countries, except for Indonesia and Malaysia, are running trade deficits for energy and food, so their current accounts are prone to deterioration (Fig. 11). Rising import prices, most notably the soaring prices of resources and food, are not only reducing current account surpluses or widening deficits, but are also pushing up inflation rates. According to the latest data (May 2022), consumer prices are 7.0% higher than they were a year earlier in India, 5.4% higher in the Philippines, and 7.1% higher in Thailand. These numbers are all above the inflation targets of the countries concerned.

The surge in government spending also stands out. General government debt (relative to GDP) has risen by 20 percentage points in the Philippines (from 37.0% in 2019 to 57.5% in 2021), while Thailand, China, Indonesia, Malaysia, and India have all recorded sharp increases of at least 10 points (Fig. 12). Furthermore, measures to ease the burden on households of skyrocketing energy prices also look set to swell expenditures, and fiscal deficits are forecast to expand. Also, in 2018-2020, government bond holdings as a percentage of total bank assets averaged 20.7% in India and

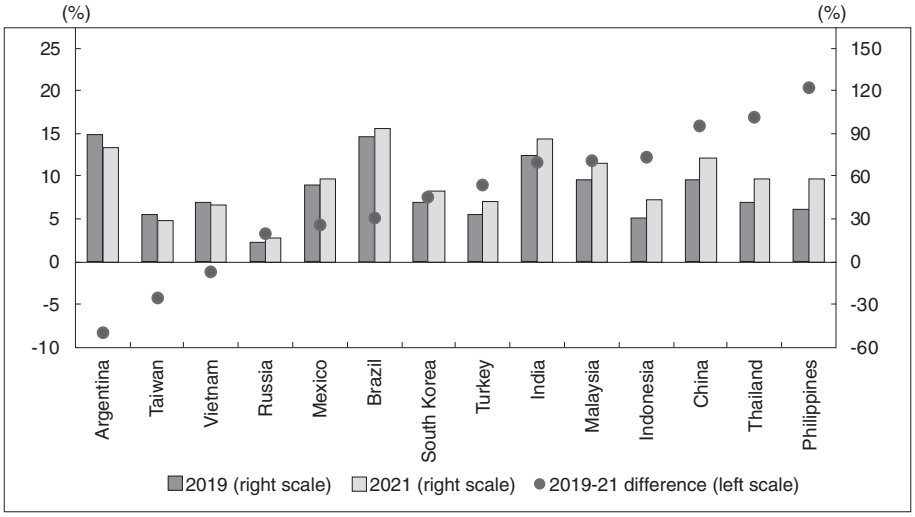
Fig. 11 Trade Balance for Primary Commodities (Relative to GDP, 2020)



Notes: Primary commodities are the totals for SITC (Standard International Trade Classification) Section 0, (food and live animals), Section 1 (drinks and tobacco), Section 2 (raw materials excluding mineral fuels), Section 3 (mineral fuels etc.), Section 4 (oils and fats), and Section 68 (nonferrous metals). The bar graph within the area of the dotted line shows the figures for Asian countries/territories

Source: Prepared by JRI based on data from WITS (World Integrated Trade Solution)

Fig. 12 General Government Debt (Relative to GDP)



Source: Prepared by JRI based on data from the IMF

13.4% in the Philippines, which are both high levels, so there are worries about the impact on the banking system.

In Asia, therefore, the triple burden of current account deterioration, inflation acceleration, and government debt expansion is becoming more and more of a problem. In India and the Philippines, the danger is that the current account deficit will further deteriorate and the vulnerability to the effects of lower capital inflows will increase. And if Taiwan and South Korea also see their current accounts slide into the red, assessments of their vulnerability will also be affected. The impacts wrought by COVID and the Ukraine crisis are also unlikely to dissipate in the immediate future. If the fundamentals continue to worsen, structural

vulnerability will increase, and in countries where such issues are apt to become apparent, uncertainty about the future will build.

Conclusion

With U.S. monetary policy normalizing, headwinds for emerging countries are steadily intensifying. However, resilience to the effects of reduced capital inflows differs among emerging countries, and within Asia, India, Indonesia, and the Philippines can be pointed to as being highly vulnerable due to their continued reliance on borrowing from abroad. That being said, unlike countries like Argentina or Turkey, Asian countries are not overly dependent on USD-denominated short-term debt, so the risk of them plunging into crisis is deemed to be low.

On the other hand, something that has become a major problem recently is the rapid deterioration of the fundamentals as a result of COVID and the Ukraine crisis. Coming into 2022, Sri Lanka has been facing an economic crisis. The fact that the country has been saddled with huge debts for some time has been viewed as a problem, but the spark that ignited the crisis was a rapid worsening of fundamentals as the current account deficit widened and inflation accelerated (Nogimori [2022]). With the exception of Indonesia and Malaysia, Asian countries/territories run large deficits in resources/food trade, and need to be on guard about the impact that rapid changes in fundamentals such as the current account would cause.

If the fundamentals deteriorate, resilience to the effects of reduced capital inflows could weaken or vulnerability could increase as a consequence. In countries where the triple burden of current account deterioration, inflation acceleration, and government debt expansion is a problem, attention will need to be paid to the stability of financial/forex markets.

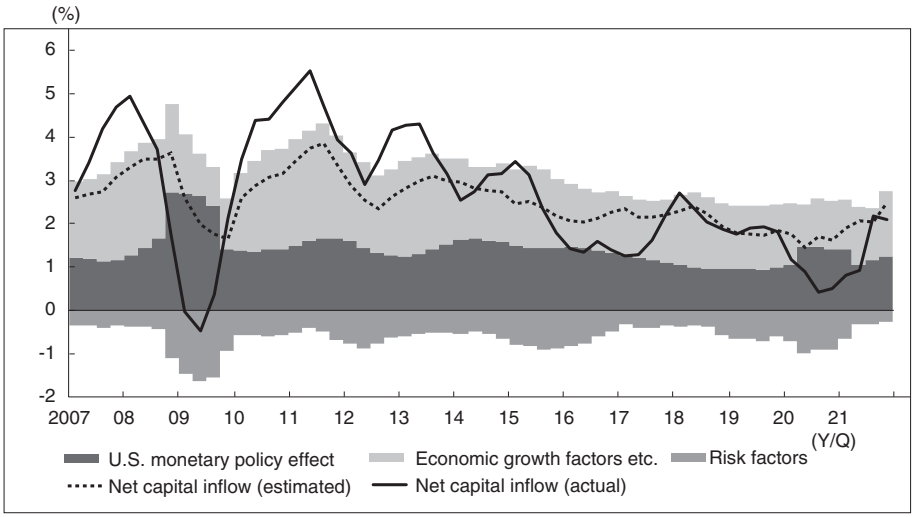
Appendix 1: Estimates of emerging-country capital flows (net inflow)

The estimates of the impact of U.S. monetary policy shown in Fig. 5 are estimation results produced using a model designed based on previous research by Clark et al. [2016]. In this paper, I used more or less the same variables as this previous study, and the results are also similar.

The explained variable is net capital inflow $Flow_{i,t}$ (relative to GDP), inflow – outflow (excluding foreign currency reserves), where t is the time period and i denotes the country. The explanatory variables comprise 1) monetary policy factors (as U.S. monetary easing spurs investment in emerging countries), 2) growth rate factors (as if economic growth in emerging countries is relatively higher than that of the U.S., the inflow of funds from overseas accelerates), and 3) risk factors (as with heightened risk, investors tend to spurn investment in emerging countries) (Fig. 13).

For monetary policy factors, I used the U.S. FRB balance sheet $FRBBS_i$ (quarter-on-quarter change) and the interest rate differential $RateDif_{i,t}$ (difference in yields on two-year government bonds) between each country and the U.S. Regarding the former, the previous study employed the U.S. shadow policy rate (the policy interest rate estimated after including the effects of unconventional monetary policy), but I replaced this with the FRB balance sheet as FRB shows the outlook of it. As growth rate factors, I used the GDP growth rate differential between the countries concerned and the U.S. (quarter-on-quarter change) $GrowthDif_{i,t,}$ and as risk factors, I used the rate of growth of the IMF commodity price index (quarter-on-quarter change) $Commodity_t$, the VIX index (the volatility index calculated based on S&P500 option transactions, i.e., the so-called "fear index") VIX_t, and emerging-country interest rate spread (the spread between global interest rates and emerging-country interest rates) $EMBIG_t$. Note that I included the IMF commodity price index not in growth factors but in risk factors. In the previous study, it was included in growth factors, on the assumption that because emerging countries are highly reliant on resource industries, ris-

Fig. 13 Factor Analysis of Emerging-Country Capital Flows (Net Inflow) (Relative to GDP)



Notes: Moving average for past four quarters. Economic growth factors etc. include capital flow (one-quarter lag) factors.
Source: JRI estimates

Table 1 Emerging-Country Capital Flows (Net Inflow) Estimation Results

Panel data With fixed effects for each country	Period: Jan-Mar 2009 to Oct-Dec 2021	No. of countries: 9 India, Indonesia, Malaysia, Philippines, Thailand, Brazil, Mexico, South Africa, Turkey			
	Explained variable Capital flows (net inflow)				
	Explanatory variables	Coefficient	Standard deviation	t value	p value
Monetary policy factors	FRB assets (QoQ change)	0.03	0.03	1.08	0.28
	Interest rate differential with U.S. two-year treasuries	0.20	0.07	2.71	0.01
Risk factors	VIX index	- 0.03	0.04	- 0.76	0.45
	EMBI global spread	- 0.00	0.00	- 0.13	0.89
	Crude oil price (QoQ change)	0.03	0.02	1.30	0.19
Economic growth factors	Growth rate differential with U.S. (QoQ change)	0.16	0.09	1.80	0.07
	Capital flows (one-quarter lag)	0.29	0.04	7.05	0.00
	Coefficient of determination	0.30			

Source: JRI estimates

ing commodity prices encourage inflows of capital from overseas. However, Iwaisako and Li [2019] provide different views, pointing out that speculative fluctuations in commodity prices that are not explained by supply-demand also affect capital inflows to emerging countries.

I added a one-quarter lag for the explained variable, and performed a regression analysis using the formula below. The estimation results are as shown in Table 1.

$$Flow_{i,t} = \beta_1 FRBBS_t + \beta_2 RateDif_{i,t} + \beta_3 GrowthDif_{i,t} + \beta_4 Commodity_t + \beta_5 VIX_t + \beta_6 EMBIG_t + \beta_7 Flow_{i,t-1}$$

Statistically significant results were not obtained for several of the variables, but all the variables satisfy the sign condition from economic theory. In this paper, I focused on monetary policy factors, and presented the future trend, but attention also needs to be given to changes in other

factors. Risk factors, in particular, exacerbate the negative impact of financial market instability, and could have a greater push-down effect on capital flows to emerging countries than U.S. monetary policy normalization.

Appendix 2: Relationship between current account and financial (capital) account

In balance of payments statistics, the current account and financial (capital) income are always interconnected. When the current account is in deficit, payments exceed receipts, making it necessary to procure funds from overseas to complete settlement. When this happens, money is borrowed from overseas, which increases liabilities. While the current account transactions cause money to flow out across national borders from one's own country to overseas, the financial (capital) account transactions cause money to flow in from overseas, which puts the financial (capital) account in deficit. Conversely, if the current account is in surplus, receipts exceed payments, and the excess receipts are invested in overseas assets. When this happens, the current account transactions cause money to flow in across national borders from overseas to one's own country, while the financial (capital) account transactions cause money to flow out across national borders overseas, which puts the financial (capital) account in surplus (i.e., capital outflows exceed inflows).

Currency crises are often described separately as either "current account crises" or "financial (capital) account crises." With the former, worsening fundamentals cause the current account to deteriorate, and with insufficient foreign currency reserves to cover the deficit, a crisis unfolds. With the latter, meanwhile, the crisis stems from changes in capital flows. Specifically, an acceleration in capital inflows results in the economy overheating, but as the economy stalls, the pace of capital outflows picks up (Kamikawa and Fujita [2017]). Just before the 1997 Asian currency crisis, the fundamentals in East Asia were relatively favorable (current account surpluses, low inflation, and overall healthy fiscal administration). Yet even so, capital flow changes led to a major crisis, which was a classic example of a "financial (capital) account crisis." However, many crises arise from a confluence of factors, and sometimes it is impossible to categorize them.

End Notes

1. Regarding typical transmission channels, several effects through large-scale asset purchases and commitments have been pointed out: (1) private-sector demand for cash rises as the overall yield curve is pushed downward, (2) commercial banks are encouraged to sell assets to the central bank and use the proceeds to make loans or purchase risk assets (portfolio rebalancing effect), and (3) overall demand is stimulated as promises of future easing push up inflation and reduce real interest rates (Cabinet Office [2016]).

2. In 2013, Morgan Stanley Research identified the "Fragile Five" emerging market economies of Brazil, India, Indonesia, South Africa and Turkey, based on high inflation, weak growth, large external deficits, and dependence on fixed income inflows.

3. Open Market Operations During 2021 (May 2022): http://www.newyorkfed.org/medialibrary/media/markets/omo/omo2021-pdf.pdf

4. Much literature points to increases in U.S. long-term interest rates, and especially increases in the "term premium," as a factor affecting capital flows to emerging countries, though it was impossible to include this factor in this analysis (Fujita et al. [2019], Miyajima et al. [2014]). Long-term interest rates represent the average short-term interest rate (policy rate) expected at each time point until maturity plus a term premium to cover risks such as interest-rate fluctuations during the holding period of the bond (Inoue [2014]). If this term premium rises, uncertainty surrounding the cost of adapting to policies in emerging countries (cost of interest rate hikes) also increases, and investors demand a high premium for investing in emerging-country assets, which builds pressure for capital outflows from emerging nations. In particular, at the time of the turmoil caused by the taper tantrum in 2013, term premiums surged. Recently, zero interest rates have continued for some time. However, term premiums may change according to the degree of future uncertainty concerning monetary policy or the level of confidence in monetary policy, or be affected by changes in government-bond supply/demand through increased fiscal spending. Therefore, it is difficult to predict future trends.

5. In recent years, Argentina's external assets (excluding foreign currency reserves) have tended to exceed its external liabilities, but part of the reason for this may be investors parking their assets overseas (Morikawa [2014]). Furthermore, this theory is premised on a capital accumulation in conjunction with industrialization, with the capital accumulated leading to greater industrial capacity. It therefore may not apply to the economic development patterns of, for example, resource-producing countries.

6. In Asian countries at that time, capital expenditures were typically funded with local-currency-denominated long-term borrowings from domestic financial institutions, but these financial institutions procured foreign-currency-denominated short-term funding from abroad. The flow of funds reversed, and was coupled with the depreciation of the local currency, so the debts of the financial institutions swelled, and they had difficulty servicing them, which became a serious problem.

7. IMF blog, Emerging Market Banks' Government Debt Holdings Pose Financial Stability Risks
http://imf.org/ja/News/Articles/2022/04/18/blog041822-gfsr-ch2-emerging-market-banks-government-debt-holdings-pose-financial-stability-risks

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