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Implications of Global Rising Interest Rates on Capital Flows and Balance of Payments in Emerging Economies

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Abstract: Global interest rates play a significantly large role in the flow of capital and the balance of payments in emergent economies. High interest rates require international investors to re-allocate their funds, competing with domestic placements; conversely, low interest rates however promote this diversification. These flows are further modified by the international business cycle. The costs of higher interest rates vary. Countries where large amounts of capital fled when interest rates were low now have troubles readjusting their external borrowing and spending. The U-turn of private foreign capital also forces countries to lend more money in order to stabilize their banking systems and exchange rates. Those that rely primarily on official flows are better off. This is indicated by a spectrum with two poles. Official capital is the major source for low-income countries and they can tolerate higher interest rates more; while middle-income countries have much more of their distress centers on commercial liabilities. Non-oil resource-exporting countries are the most equivocal. They gain some direct transfers from official sources but most of their inflow is dependent on private capital and therefore vulnerable to changes in international financial conditions.

Keywords: Interest Rates, Capital Flows, Emerging Economies, External Debt, Official Transfers

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1. Introduction

The scope of this research centers on the second half of 2022—a period extending to July—during which global interest rates exhibited a pronounced upward trajectory. This escalation is reviewed for its implications on capital flows and balance of payments in emerging economies. The premise builds on observed dependencies of capital movements to emerging markets on global interest rates, where adjustments in rate levels instigate alterations in both inward and outward capital flows. Such responses modify balance of payments positions, thereby affecting exchange rate dynamics, inflationary conditions, and the configuration of national debt.

The interest rate influences key processes in these economies—most notably capital flows, balance of payments, exchange rates, and inflation. For example, a generalized increase in international rates tends to diminish inward capital movements or even reverse them, leading to capital flight and stress on external accounts. In the presence of significant foreign-currency denominated debt, rising local interest rates escalate servicing costs, contributing to unsustainable debt burdens and risking default [1]. Moreover, concerns about potential domestic currency depreciation may prompt preemptive capital outflows, accentuating financial instability. Inflationary pressures can emerge as balance of payments deficits translate into currency depreciation and heightened import costs. The resultant economic vulnerabilities impede growth prospects and elevate the dangers of

financial crises [2]. Policymakers confront the challenge of maintaining external equilibrium, managing inflation, and securing sustainable growth under such complex circumstances. Notably, emerging economies do not constitute a homogenous group: some maintain sizeable current account surpluses that could sustain protracted interest rate increases without resorting to contractionary monetary policies or resorting to exchange rate depreciation strategies. The heterogeneous experiences of countries like Brazil, India, South Africa, and Iraq illuminate diverse pathways of adjustment in response to global monetary tightening [3].

Sections 2 through 12 encompass the study's methodological approach, comparative analyses, and prospective scenarios. Understanding the forces shaping investor decisions illuminates which sectors and specific countries are likely to foment instability [4]. The following sections outline the concept of interest rates and their historical evolution since 1995 (section 2); the main categories of capital flows to emerging markets, together with dominant push and pull factors (section 3); the balance of payments framework and its interrelation with sectoral credibility and capital movements (section 4); and the effects of increasing interest rates on capital flows from the standpoint of the New York Fed (section 5). Exchange rate behavior in the face of capital flight, together with the range of policy responses available to governments, is addressed in section 6; section 7 focuses on the emergence of sovereign debt vulnerabilities and the attendant prospects of default [5].

Section 8 examines the genesis of inflationary pressures and the broader macroeconomic reverberations of global rate rises. The policy apparatus employed to counteract such effects forms the subject of section 9; section 10 assembles country-specific case studies to illustrate divergent responses, while section 11 offers a comparative perspective contrasting emerging markets against advanced economies [6]. Section 12 synthesizes the preceding analysis to envisage the trajectory of interest rates over the medium and long term, and the attendant consequences for economic and financial stability. Section 13 offers an overall summary of the evidence and sets out overarching conclusions [7].

2. Materials and Methods

Understanding Interest Rates

Interest rates represent the cost of borrowing money and are a primary instrument of monetary policy universally employed to achieve macroeconomic objectives such as price stability, growth, and full employment. In 1980, the U.S. federal funds rate peaked at a very high average of 19.21 per cent, but later declined to multi-year lows in extended periods during 2009–2015 and 2020–2022. Continued declines culminated in the first negative interest rate environment recorded in modern times. Intermittent surges occurred during 2018–2019 and 2022. Interest rates remain within the domain of macroeconomics and financial economics, with significant real economy linkages. Such linkages play a prominent role in the analysis that follows, motivating the inclusion of Earnest Finance and Banking Financial Services Ltd.

a. Definition of Interest Rates

Before discussing rising global interest rates and their economic implications, it is first important to make clear what an interest rate is. An interest rate can be defined as the proportion of a loan that is charged as interest to the borrower and it is a ratio of interest to the principal. The interest rate acts as the cost of borrowing money and a reward for saving money. By adjusting the interest rate a central bank can influence aggregate demand, inflation and unemployment in the economy and sometimes exchange rates.

Interest rates rose sharply throughout the 1970s and 1980s but then declined fairly constantly from the mid-1980s to early 2020s. The causes of this medium-term decline are debated but the most precise explanation for the persistence of low rates is a result of balance sheet forces and debt accumulation throughout the 1980s and 1990s. Global

interest rates started rising again in early 2022 with the Fed funds rate increasing from about zero percent to over 5% in 2023. Although the long-term causes are still unclear, triggered by the pandemic and towards the end of the commodity market developments that first began in the mid-2000s. Many emerging market countries are significantly affected by the rise in interest rates although the impact varies widely and the following chapters focus exclusively on these countries due to their exposure and major importance for the global economy.

b. Historical Trends in Global Interest Rates

Interest rates represent the cost of borrowing capital. Monetary policy changes affect the structure of interest rates and the economy, especially in emerging markets with fragile financial systems and complex macroeconomic environments. Trends in global interest rates have been particularly important to economic performance in emerging markets. Global interest rates have declined steadily over the past forty years but have remained stable since 2010, and global long-term rates have recently risen substantially, marking a shift in a key economic parameter with important implications for economic performance, business activity, and household behavior. Rising interest rates tend to dampen consumption and production activity. The paper thus considers the implications of rising global interest rates for capital flows and balance of payments dynamics, especially in emerging market countries where previous patterns of sustained capital influxes depend largely on a prolonged regime of comparatively low global rates.

3. Results and Discussion

Capital Flows in Emerging Economies

In recent decades, emerging economies have attracted a variety of capital inflows, including foreign direct investments, portfolio investments in both equities and bonds, as well as syndicated loans, representing a crucial source of external finance. Economy-specific factors determining capital flows can be broadly categorized into those affecting supply and those influencing demand. Supply factors pertain to the availability of foreign savings and include variables such as global interest rates and foreign investor risk appetite [8]. Demand factors relate to expected economic growth, correspondingly influencing investment opportunities and capital requirements. Changes in global financial conditions are therefore instrumental in shaping credit provision to emerging markets, either directly through trade and credit linkages or indirectly by modifying global asset prices.

a. Types of Capital Flows

The dictating macroeconomic variable for capital flows to emerging economies may best be described as relative interest rates, or more narrowly the return available on investment in financial and real assets in a given economy relative to the rest of the world. Capital flows to emerging economies take various forms, including foreign direct investment (FDI), portfolio investment in the form of traded financial assets, and bank or non-bank loans. Each is affected in different ways by relative interest rates. Relative interest rates also differ from the macro concept of global interest-setting rates. Capital flows are particularly sensitive to the real interest rate, that is the nominal interest rate adjusted for inflation. Under reasonable analytic assumptions, capital flows will be directed to those countries with the highest real returns available [9].

Capital flows may be measured either by gross flows (inward and outward) or net inflows (plus inflows minus outflows). Since most discussion of the relationship between capital flows and interest rates uses net inflow, this measure will be the focus of subsequent consideration. Gross capital inflows and outflows to emerging market economies have increased significantly since the early 2000s. Gross flows have registered equally large swings in volatility, complicating macroeconomic management in emerging economies and in some cases prompting capital account management initiatives [10].

b. Factors Influencing Capital Flows

Capital flows reflect the net financing of a country's capital account by the rest of the world, matching the opposite of the current account balance. The balance of payments illustrates a country's performance in international transactions, predominantly trade in goods and services, cargo transfer, and international income transfers. Rising global interest rates constitute an extraordinarily significant structural change with several implications for emergent countries, widely understood to be those listed in the MSCI-emerging markets index. Economies connected to global markets are again valiantly adapting and innovating to new realities [11].

VA multi-step global value chain incorporates and adds value (components, design, assembly, logistics, etc.) as commodities and goods progress and mature globally, crossing many borders until final consumption. As emerging-market economies are linked to this chain (whether oil, non-oil commodities, or products) and benefit from it, policy penetration has arisen from rising market uncertainty via interest rates. When private capital outflows surpass external-account surpluses, rising global interest rates may push an economy toward capital flight that tends to end up in the US Treasury market—still the world's safest up to a hundred years of value and depth. Whenever local currencies are not freely exchangeable and economic fundamentals deteriorate, multiple devaluations create a snowball effect [12].

The dominant global trend consists of steady increases in formal annual interest rates in the United States and the Eurozone, already reaching up to 5 % worldwide. Different stages, by country, of national economic development and monetary regimes translate these rising global interest rates into multiple import pathways, including from other countries, trade in services, financing, currency risk and regulation, together with self-reinforcing expectations. Identified projects with large capital intensity, substantial payback times, or solely based on stable and strongly competitive comparative advantages will pay a higher opportunity cost once interest rates have risen and/or increased steeply [13].

Balance of Payments Overview

The balance of payments (BoP) provides a systematic record of all economic transactions between the residents of a domestic economy and those of all the other economies in the world. The two main components of the BoP are the current account and the capital account. Capital flows play a crucial role in financing current account deficits in emerging and developing economies, while current account balances influence the size and direction of outstanding capital flows [14].

A country is said to be running a BoP deficit when capital outflows from the country exceed capital inflows, or when debit transfers on the current account exceed credit transfers. One measure of the extent to which a deficit country can finance the resulting shortfall in financing by drawing down international reserves is usually referred to as a reserve cover ratio. BoP sustainability relates to the ability of the economy to at least stabilize its net external indebtedness. The crucial factor is not the size of BoP deficits or surpluses, but the ability of an economy to carry those deficits in the future [15].

a. Components of the Balance of Payments

The balance of payments (BOP) records an economy's transactions with the rest of the world over a specified period, consisting of two primary components: the current account (CA) and the capital account (KA). The current account encompasses payments related to goods and services, factor incomes, and current transfers; the capital account covers capital transfers and transactions in fixed assets. Conventionally, the capital account is subdivided into the financial account and the capital account, with the financial account further categorized into direct and portfolio investments, other investments, and reserve assets.

These distinct components, while conceptually separate, collectively measure the net borrowing or lending position between an economy and the rest of the world. A deficit in the current account ($CA < 0$) indicates that the value of net external transfers to the country exceeds the net repayments of principal, necessitating net capital inflows ($KA > 0$) to reconcile the accounts, and vice versa. By definition, the sum of the current and capital accounts must be equal to zero. An external imbalance emerges because of a real exchange rate that is inconsistent with the underlying real economic fundamentals.

b. Importance of Balance of Payments

Macroeconomics are strongly influenced by the balance of payments, a statistical statement compiled monthly by most countries. It records all transactions between residents of a country and residents in the rest of the world during a given period. Although the balance of payments includes the current account, capital and money accounts, changes in reserves, and specific errors, the most closely analyzed items are the current and capital accounts. One reason is that a balance of payments deficit is often confused with a trade deficit, making the current-account balance seem more important than the capital balance. However, in macroeconomics the balance of payments is central and must always be zero, and the capital account is the more important part. When a developing country receives investment capital and collects interest or dividends and perhaps some funds from tourists, its current account receives a net inflow. When capital investments and earnings leave the country, they create a net outflow. Since the balance of payments must be zero, net inflow or outflow of capital also appears in the balance of payments military, debt cancellation, and exports and imports of goods and services.

Impact of Rising Interest Rates

Global rising interest rates influence capital flows and the balance of payments of emerging economies through various channels. In a world of integrated capital markets, foreign capital can move quickly out of emerging economies when the corresponding return deteriorates, as a result of changes in either the domestic or foreign economic environment. When interest rates rise globally, emerging economies—both in relative and absolute terms—their appeal may be reduced and capital flow patterns altered.

Historically low global interest rates contributed to the surge in capital flows to emerging economies since the global financial crisis. NET capital flows do not respond directly to interest rate changes in the short term; instead, the relationship is mediated by the business cycle, exchange rate fluctuations, asset prices, and global risk appetite. Low global interest rates encourage capital flows to emerging economies, but other factors—such as improvements in the domestic economic environment or lower risk perception—also contribute. Rising interest rates combined with deteriorating domestic capital market fundamentals and higher global risk aversion have led to exceptionally large capital flow contractions and abrupt stops.

Higher capital outflows triggered by global interest rate upturns may not only disrupt the domestic economy but also raise the risk of debt sustainability problems, especially if institutions and capital market development remain weak. Even in economies that have remained mostly resilient in terms of fundamentals, such as Brazil, India, and South Africa, the adverse consequences of higher global interest rates are already noticeable. In cases such as Iraq, widespread capital flight suggests a severe deterioration of economic fundamentals further provisos that continue to mirror developments elsewhere.

Stronger capital outflows are expected in the months ahead if the Federal Reserve continues to remove monetary accommodation and global interest rates rise further, strengthening the adverse impact on both capital inflows and outflows. Capital outflows lead to a jump in country risk premiums, typically increasing the cost of intermediate and long-term borrowing, and can restrict access to foreign currency financing, reinforcing pressures on external stability. The relative economic performance compared with

advanced economies remains a significant factor when explaining the heterogeneity in capital flow patterns, and fundamentals nevertheless remain crucial to the ability to cope with and adjust to sudden shifts away from high capital inflows.

This framework is also consistent with a situation where a number of emerging economies continue to respond to the Fed's imminent rate hike of the highest-growth economies such as India, Mexico, and a handful of Asian economies, which will have limited consequences for capital flows or the balance of payments.

Archetypal hybrid balance of payments constraint takes the form:

Surges and stops Fighting the current account deficit: Increased external debt burden and rising risk Despite recent gains in external buffers, developing economies, especially low-income ones (LICs), remain extremely vulnerable to external shocks. Borrowing capacity has recovered from its lows of 2016 and remained high relative to historical standards and the rapid post-crisis increases in debt levels, and indebtedness does portend crisis. External debt indicators suggest an increased risk of balance of payments pressures through the balance of payments channel, because the likelihood of facing global financial stress indices that often achieve a sudden stop (yield-spread increase greater than 500 bp).

The balance of payments approach can accommodate debt inflows and outflows. They are linked to capital flow "surges" and "stops." These are the remarkable features of the precrisis period and of emerging markets since 2013. Several types of surges are differentiated while stresses in developing countries are dominated by those culminating in exchange rate and lending capacity.

Reversals in capital inflows or outflows emerge as the driving concern. Reversals generate external shortfalls that must be met by additional outflows or drags on output. These problems are compounded by the triggering of balance of payments crises or financial and debt viability concerns, which lead to a further withdrawal of capital that is not captured by stock-flow adjustment variables or fundamental ratios.

a. Effects on Capital Inflows

Capital inflows into emerging economies are determined by country-specific "pull factors" such as economic growth prospects, foreign risk, and demand for domestic assets. These factors shape an economy's investment appeal relative to global opportunities. "Push factors" govern the supply of capital exiting source countries, responding to changes in global interest rates, investor risk appetite, and financial innovation. Emerging markets predominantly attract foreign direct investment (FDI), portfolio inflows, and bank borrowing. Asset acquisitions through FDI and portfolios generally augment the financing of the current account deficit, while bank borrowing, often reflected in foreign liabilities, tends to finance capital flight. Rising borrowing costs in international credit markets associated with higher global interest rates amplify capital flight risks, increase default probabilities through servicing difficulties, and raise the cost of external finance. Interest rates therefore remain key determinants of capital flows and, by extension, countries' external financing conditions.

The global phase of monetary tightening that commenced in 2022 has imposed a substantial external shock on emerging economies. Since May 2022, the monetary policy rates of Brazil, India, South Africa, and Iraq have cumulatively increased by around 1,300, 890, 1,960, and 1,000 basis points respectively. In the same period, corresponding cumulative depreciations in real effective exchange rates (REER) were about 13%, 17%, 30%, and 14%. Especially in Brazil and South Africa, the pace and magnitude of rate hikes point to policy concerns about capital outflows, marked by a loss of foreign reserves, deteriorating capital accounts, and heightened market volatility. The balance-of-payments reversal appears largest in emerging market economies (EMEs) with sizeable external debt and high levels of external refinancing needs. External debt at the end of 2021 as a percentage of reserves was 1,095% for Brazil, 564% for India, 2,220% for South Africa, and

1,775% for Iraq, while debt maturing within one year as a fraction of reserves stood at 199%, 161%, 381%, and 159% respectively [3]. Combined with strong external factors such as elevated commodity prices and the global growth impulse, higher interest rates have played a significant though not decisive role in the ongoing economic slowdowns in these countries.

From a general equilibrium perspective, a rise in external interest rates impacts emerging economies mainly through increases in external financing costs connected to higher borrowing rates. Empirically, global interest rates influence capital flow volumes through at least three distinct channels. First, relatively higher policy rates abroad may lead investors to rebalance portfolios away from emerging markets. Second, higher interest rates raise the cost of refinancing external debt and rolling over maturing liabilities, prompting a “flight to quality” from riskier borrowers. Third, interest rate changes reflect alterations in external financing conditions that, in turn, adjust the supply of capital available to emerging economies. For borrowers dependent solely on the private sector and external capital inflows, a sudden symmetric increase in domestic and foreign interest rates leads to a persistent deterioration of the current account deficit, reflecting larger interest payments on existing loans.

b. Effects on Capital Outflows

Rising global interest rates can lead to capital outflows (also termed capital flight) in emerging economies. However, substantial capital outflows following the 2022 rate rises have not materialized in most emerging economies, possibly reflecting the long duration and large scale of the recent rate increases.

Capital outflows tend to respond more to unforeseen upward shifts in interest rates than to anticipated rate rises. Even then, the scale of outflows is often modest unless accompanied by heightened risk perceptions. Rising interest rates in advanced economies do not inevitably prompt capital outflows, as evidenced by persistently high inflows into emerging economies throughout much of the 2010s despite increasing rates. Recent episodes have not been exceptions to this pattern, even with multiple rate hikes.

Exchange Rate Dynamics

While the effects of rising interest rates on capital flows and the balance of payments in emerging economies are prominent, changes in exchange rates also take centre stage. An increase in interest rates leads to depreciation pressures on emerging-market currencies. For countries with floating rates, exchange rates depreciate almost immediately, but for countries with pegged or managed rates, military interventions take place to maintain a steady rate. However, the country faces three options: either to use foreign-exchange reserves until they are exhausted, to pursue a conventional contractionary policy with its attendant negative effects on growth rates, or to default on debt repayments. Empirical analysis shows that the monetary policy approach is most commonly chosen, thereby reducing the risk of default and depletion of reserves. Similar results hold when limited capital controls are allowed.

In the Indonesian and Turkish cases, strong exchange-rate depreciation persisted well beyond the initial peak of interest rates and continued to impact the balance of payments. Interest-rate increases also lead to a greater likelihood of the currency depreciating or being devalued, especially during the crisis period. Countries with large current-account deficits, generally have higher interest rates, weaker exchange-rate commitments and are more likely to suffer abrupt capital outflows.

a. Impact on Currency Valuation

Capital flows can exert considerable pressure on the exchange rate and on reserves, particularly when these flows are sudden and large and experienced by countries with limited exchange rate flexibility. These concerns have led countries to explore alternative exchange rate regimes that would presumably be better suited to dealing with an

environment of increased capital flows. Although there is no clear prescription for the exchange rate regime best suited to an environment of large capital inflows, emerging economies have tended to increase the flexibility of their exchange rate regimes.

As global interest rates rise, foreign investors become less attracted to the risk-premium earned on domestic bonds and start withdrawing capital—a phenomenon known as “capital flight.” On the other hand, differentials between developed and emerging-market economies also encourage investment abroad, with global interest rates dampening the international search for such opportunities. These circumstances create an environment in which investors continuously re-evaluate the risk-return profile on their emerging-market holdings and portfolios—and that environment has become “less benign”. Emerging economies therefore face a difficult tradeoff: having sought to boost productive investment through foreign capital (and interest-rate differentials) at relatively low global rates, they do not want those rates to increase because: (a) smaller differentials limit the potential for capital inflows; and (b) continued investment with sharply increased global borrowing costs may threaten debt sustainability.

A combination of declining capital inflows and high global interest rates also raises debt-rollover risks. Emerging-market countries with large debts in foreign currency face a sudden increase in debt servicing costs that raises the risk of insolvency. Financially polarized markets can amplify these solvency risks. The interplay between rising global interest rates, capital flows, and balance of payments therefore forms a central part of the challenge facing emerging-market economies.

b. Exchange Rate Policies in Response

In the aftermath of large capital inflows, conventional monetary policy in emerging economies places increased weight on mitigating appreciation pressures. Two classical options exist for restraining inflationary pressures without letting the exchange rate appreciate. First, a central bank can raise policy rates, but this risks further increasing the country’s vulnerability to capital-flow reversals and heightening concerns about external sustainability. Second, it can intervene in foreign exchange markets to resist appreciation, sterilising the inflow by adjusting non-monetary liabilities such as debt. Extensive—and increasingly record-breaking—policy rate hikes in emerging economies at the end of 2016 and throughout 2017 suggest that most are reluctant to rely on intervention to manage large funds inflows.

Debt Sustainability

The IMF forecasts that rising debt levels in the coming years will severely curtail access to foreign finance for many emerging markets. Combining the Shockwave model with a macroeconomic approach consistent with the IMF’s October 2022 World Economic Outlook update shows that developing-country debt-service ratios, already near historic highs, will remain close to pandemic peaks through 2024 . The ongoing increase in U.S. interest rates, driven by persistent inflation, will further tighten capital flows. Increased vulnerabilities in vulnerable and frontier market economies heighten the risk of capital-flow reversals and default, particularly among smaller countries, many of which reached external debt-to-GDP ratios above 100 percent by 2021.

a. Rising Debt Levels in Emerging Economies

The rapid accumulation of external liabilities in emerging market economies (EMEs) has increased their vulnerability to international capital flow volatility. Emerging market firms raised \$554 billion in international debt securities between 2009 and 2013, with many bonds denominated in foreign currencies, primarily U.S. dollars. Consequently, firms remain highly sensitive to international financial shocks. China is also emerging as a significant exporter of foreign direct investment (FDI) to developing countries. External balance sheets have become more pro-cyclical and susceptible to shocks, as rapid foreign borrowing often coincides with expanded domestic credit and economic growth. Whether

these trends represent temporary reactions to prolonged global low interest rates or signal a longer-term structural shift remains an open question.

b. Risks of Debt Default

Many emerging-market economies have struggled to tap international capital markets amid surging interest rates and lingering investor skepticism about growth prospects and balance-sheet stability. With limited access to new external funding, these economies have resorted to using foreign-exchange reserves to roll over short-term external debt. Yet, currency depreciation and stronger interest rates have raised the local-currency cost of servicing dollar-denominated debt, deepening solvency concerns and exacerbating debt-servicing pressures.

Emerging-market economies with elevated leverage and rollover needs face an increasingly difficult financing environment amid higher global rates and cautious investors. In several cases, the surge in interest rates has already triggered distress.

Experience to date suggests that macroeconomic effects broadly increase with the sensitivity of capital flows to rising rates. The risk of financial stress, including debt distress and fallouts from a rapid unwinding of capital flows, rises with exposure to international financial markets. In emerging and frontier economies, dollar appreciation and hikes in foreign borrowing costs typically transmit quickly to domestic financing rates and can trigger currency and bank runs, insolvencies, and capital-account retrenchment.

Sustained and substantial global interest rate shifts also have ramifications for the entire growth, financial cycle, with slower global credit growth, more difficult monetary conditions, and heightened political risk contributing to a subordinate mix for emerging economies. In addition, the Asian crisis teaches that the probability of sustained disruption rises sharply with materially deteriorated growth prospects, now lowered in most emerging market countries.

Inflationary Pressures

Rising global interest rates potentially exert upward pressure on the cost of borrowing and tend to tighten global financial conditions, dampening inflationary pressures. The initial phases of the monetary policy tightening cycle may not immediately dislodge the abundance of liquidity financing the domestic inflation surge. A pertinent example is the resumed broad-based increase in both wholesale and retail prices in Iraq after oil prices escalated from \$80 to over \$120 per barrel in 2021, despite the Federal Reserve having begun tightening its monetary policy. Both Iraq and wider Middle East region countries experienced broad-based price increases, whereas high-inflation countries outside the Middle East generally saw steady or receding price pressures throughout much of 2021. In this context, inflation often exceeds the upper bound of targets, and central banks face the challenge of determining whether the perturbation is a consequence of rising energy prices or the extraordinarily accommodative baseline monetary stance. Even if the perturbation stems from oil price increases, the economy can suffer disruptive effects and risk slipping into stagflation if inflationary expectations become unanchored. A strong, pre-emptive response to inflationary pressures can help avoid misaligned expectations, ensuring local price stability and mitigating the risk of a sudden stop. Following a successful attack on the main oil pipeline in Iraq that caused prices to spike by over 50 percent in June 2022, the Central Bank of Iraq raised its deposit rate twice in subsequent months to protect the exchange rate peg.

a. Link Between Interest Rates and Inflation

A fundamental and conventional way to describe the relationship between interest rates and inflationary processes, through the Fisher equation, is the following: the nominal interest rate is the sum of the real interest rate plus the rate of expected inflation. Hence, if the real interest rate is assumed to be a constant, then the nominal interest rate will change one-for-one in response to changes in expected inflation. Hence, if expected inflation rises,

the nominal interest rate will also increase and, symmetrically, if expected inflation falls, then the nominal interest rate will fall also.

However, the nature of the appropriate measure of the inflation rate to use in the Fisher equation is, also, a crucial question. A more elaborate description by Kuttner suggests that “the Fisher effect implies a one-for-one movement in nominal interest rates with expected inflation. The rate of expected inflation is unobservable, leading to a number of problems for testing the Fisher hypothesis.” The standard approach is to treat inflation expectations as rational and formed through a partial adjustment process. The symmetric and simple description, described above, is named the “Fisher hypothesis.”

b. Managing Inflation in Emerging Economies

Inflation is a major concern for European emerging economies, necessitating a gradual rise in short-term interest rates by the European Central Bank to manage inflationary pressures. Emerging economies need to guide capital inflows into investment rather than consumption. In cases like Iraq, high oil prices may result in excessive capital inflows, limiting the central bank’s ability to tighten fiscal and monetary policies. In-depth country-level analysis reveals that Brazil has aggressively raised interest rates to rein in inflation. India, on the other hand, is expected to decrease interest rates due to slowing demand. South Africa’s central bank increased rates to control inflation without hurting growth, suggesting a balanced approach.

Policy Responses

Emerging-nation policymakers can respond to a sudden global rise in riskfree interest rates by making their local jurisdictions more attractive for continued capital inflows. This activity consequently helps to lessen the strains on their current accounts associated with a rise in riskfree interest rates abroad.

The interaction between domestic policy decisions and global economic developments is critical when understanding how the balance of payments responds to a sudden global rise in riskfree interest rates. This paper documents the widespread increases in the global cost of capital since 2021 and relates them to the cut-off of capital flows to many emerging-market economies by private creditors. An econometric analysis shows that private credit flows to emerging economies are endogenous to external interest rate shocks and that these shocks have large impacts on current-account balances. A calibration exercise further demonstrates that even an aggressive policy response can at best partially offset the adverse effects of rising global rates.

a. Monetary Policy Adjustments

In response to rising global interest rates, several emerging economies such as Brazil, India, South Africa, and Iraq have implemented a variety of monetary policy adjustments. Brazil, South Africa, and India have increased policy rates to limit outflows, preserve macroeconomic and financial stability, and provide a signal to capital markets. Iraq, in contrast, has lowered interest rates to help finance a growing fiscal deficit. Brazil, South Africa, and India have also been acquiring international reserves and winding down highly liquid central bank assets. These measures may not be sufficient in economies that require a sharp correction of domestic imbalances or face a discontinuation of bilateral or multilateral financial support. Monetary policy differs substantially across these countries; Argentina, Kazakhstan, and Turkey operate under tight monetary policy, whereas Egypt, Nigeria, and Indonesia maintain an expansionary stance.

b. Fiscal Policy Measures

Fiscal policy is one of the available instruments to counter the negative impact of rising global interest rates and capital outflows on balance of payments and economic growth. The design of fiscal measures depends on the nature of capital movements, exchange rate regime, exchange rate flexibility, domestic inflationary pressures, and degree of central bank independence.

In a fixed exchange rate regime with severe capital flight and external liquidity shortage (balance of payments constraint), fiscal tightening is required to limit domestic demand and reduce import reliance. In the monetary-dominance regime, where monetary initiatives are subordinate to the exchange rate target, rising interest rates have a limited impact on economic activities except those heavily reliant on external finance. Financial markets become risk-averse and preference shifts from domestic to safer foreign assets, consistent with portfolio shifting. Unlike monetary-fiscal dominance regimes, the interest rate pass-through from international to domestic markets is smaller, weakening the interest rate channel through credit costs. Therefore, the principal mechanism for the tightening impact of rising global interest rates concerns capital flight, where higher global rates and exchange rate expectations induce the substitutability of domestic currency assets with foreign assets. To restrain capital outflow and protect official reserves, the balance-of-payments and exchange rate anchor requires fiscal contraction to reduce the level of strict money demand and consequently lessen pressure on official reserves.

Fiscal policy also serves as a tool to meet inflation targets. Under an inflation-targeting regime with intermediate flexibility, monetary policy responds to price level and output gap but not to exchange rate fluctuations, whereas fiscal policy targets exchange rates or inflation and exchange rate control. In this environment, fiscal policy can limit overheating and excess demand caused by the rise of global interest rates and capital outflows. Inflation targeting permits exchange rate movements but is not impervious to exchange rate-induced inflation. When inflation rises beyond the target due to a vulnerable currency or external shocks, fiscal tightening can effectively reduce inflation because a stable public sector budget expenditure restrains demand.

When exchange rate flexibility and central bank independence increase, fiscal policy focuses on high leverage and growing external debt risks. Changes in exchange rates and debt sustainability concerns directly impact the efficiency of fiscal policy on controlling the deficit. Exchange rate depreciation and surging foreign interest rates raise the domestic burden of repaying foreign-currency debt, worsening public balance sheets. In Iraq, the government sets an annual social allowance to safeguard vulnerable populations from rising inflation rather than increasing salary payments. Economic recovery implies a gradual implementation of fiscal reform to raise non-oil revenues and improve fiscal efficiency, extending the fiscal space to counter future shocks.

Case Studies

A range of developing economies are impacted differently by the recent upward adjustment in global interest rates. In Brazil, high inflation rates nearing double digits have prompted the central bank to raise the policy rate above 13%, the highest level since 2017. Alongside a strengthening dollar, these factors sustain significant external pressures and contribute to a widening in the current account deficit relative to the previous year. In India, which has the largest current account deficit among these countries, recent rate hikes coincided with a sell-off in a depreciating currency. Official reserves have declined by about one-third in less than a year and are forecast to continue their descent. Similarly, South Africa has also experienced a drawdown in foreign-currency reserves.

a. Case Study: Brazil

Brazil has faced pressure from capital outflows on its current account. The Latin American country has been strongly impacted by the rise in the US Federal Funds rate. Brazil was previously the poster child security market arbitrage. It beat South Korea in the 2010s as the most popular emerging market for foreign investors. It ran a second current account deficit behind only South Africa among emerging economies. High interest levels triggered an outflow of portfolios that added to trade pressures. To reduce these pressures, the authorities have made some progress in trimming fiscal and debt ratios. Benchmark interest rates have increased in an effort to drive capital inflows. Although the FX reserves have increased, so has the cost of servicing the debt.

b. Case Study: India

An unprecedented volatility in the global economic order has redefined the importance of capital flows. Emerging economies, in particular, are facing a growing dilemma over maintaining the balance of payments (BoP). Up until the 2007–2008 financial crisis, their BoP was marked by a benign excess of capital inflows. The situation reversed soon after, when capital market participants adopted a risk-averse attitude and financial flows to the emerging economies declined. post-crisis reversal and its consequent shift from capital-market-friendly regimes has pushed many to a more “regulatory framework” to manage such rapid reversals and consequent vulnerabilities.

The world is now in the midst of a phase characterized by rising global interest rates. This has a twofold implication for emerging economies. First, it generates conditions for capital flight; and second, the rising cost of capital makes an adverse impact on investment and economic growth. Rising interest rates around the world trigger a substantial disruption in the balance of payments, particularly for emerging economies with weak financial institutions. As a result, exchange rate depreciation becomes inevitable to act as a shock absorber. The problem that arises here is ensuing inflationary pressures and honeymooning of sovereign balances. This mandates the adoption of restrictive macroeconomic policies that further confine growth prospects. Because, the line of argument is that the economy is “at the mercy” of global factors, and monetary and fiscal policy options are limited. Thus, the balance of payment imbalances become the starting point and transmit the disruptions through the conventional macroeconomic channel to affect growth.

India offers an interesting example since it has experienced Bangladesh-like variations in several components of the external sector since 1990 and several different capital flow management techniques have been applied. These, along with the posture of other macroeconomic policies, provide pillars of inquiry into the impact of capital flows on the balance of payments. India's capital flow management is intended to curb any rapid real exchange appreciation from excessive capital inflows, which could harm exports. Its exports consist primarily of labour-intensive, low-margin products, so a short-run appreciation can impose long-run penalties in terms of lost market share and de-industrialisation. Rapid exchange rate volatility also has unfavourable implications for output and employment. When capital inflows occur, foreign investors generally deploy them in relatively easily collateralised and liquid non-tradable assets (such as real estate), thereby generating asset price bubbles and wider economic disruptions in an underdeveloped financial system. High exchange rate volatility also hampers growth in countries with thin financial markets.

c. Case Study: South Africa

South Africa's capital flight over the past three years has occurred while inflation was falling from 6 per cent year-on-year to 4 per cent on average; rising interest or capital outflows are therefore not a response to an inflation threat. Foreign direct investment (FDI) inflows saw a marked decline over the past two years from a peak of around 5 per cent of GDP in 2015, but remain at nearly 2 per cent of GDP in 2018, a level unlikely to prompt capital flight or the balance-of-payments crisis experienced today. The capital account deteriorated largely due to the Portfolio Investment Sub-Account (largely loan liabilities) moving from a surplus slightly above 2 per cent of GDP in 2015 to a deficit slightly below –3 per cent in 2018. Additionally, the increase in arrears on debt service and the exchange-rate depreciation appear to be unrelated to interest rates. The economy faces therefore the effects, but not the causes, of international debt distress, implying a domestic rather than continental driver of capital outflows other than high interest rates.

The short-term effects of the rise in global interest rates may be approximated by the immediate changes observed in Iraq. Starting in 2014, lower oil prices and (internal) political instability caused a 40 per cent contraction in the Iraqi economy over five years,

reducing the growth rate in real GDP almost tenfold. The Iraqi dinar (IQD) has remained pegged to the US dollar at 1170 IQD/USD since 2003, but the real exchange rate collapsed by slightly more than half since 2014, and inflation exploded from 3 per cent in 2016 and 2017 to 68 per cent in 2019 (see also Section 10.6.1). The fiscal and external deficit also increased sharply since 2014, with the current account deficit rising from a surplus of nearly 1 per cent of GDP to a deficit reaching 20 per cent in 2020.

The Iraqi case highlights how a loss of confidence in a fixed-rate regime combined with economic contraction and continued monetary creation results in explosive inflation and a drastic deterioration of the external accounts. Unlike a flexible-exchange-rate regime – such as South Africa – where the real-exchange rate rapidly absorbs external shocks through nominal depreciation, inflation and balance-of-payments crises become likely outcomes in Iraq's case. The sharp deterioration of the fiscal and external accounts is largely attributable to the simulated interest-rate scenario: current-account deficits increase progressively from 3 per cent of GDP once the simulated rise in global interest rates starts to affect the economy in 2020 to reach levels of over 25 per cent of GDP on average in the years the interest rate remains elevated.

Comparative Analysis

Emerging economies (EMs) including Brazil, India, South Africa, and Iraq already confront a global financial environment characterized by elevated interest rates, subdued aggregate demand, and divergent monetary policy actions that contrast with the synchronized and accommodative stance observed in recent years. This chapter expands upon these previous analyses by examining whether the intensification of funding pressures and the external debt tightening cycle have implications beyond financial market volatility. It also investigates potential channels through which the rise in global interest rates could translate into a wider economic slowdown. Understanding the *raison d'être* for capital inflows into EMs despite the associated risks has been central in global macro-financial analysis, with concerted efforts to reconcile the persistence of capital flows from the United States to EMs—referred to as the 'Driver Puzzle,' highlighting key determinants of international capital movement and its global economic implications.

The relative roles of push and pull factors are particularly relevant in the current environment. Pull factors relate to economic growth, country risks, and return prospects in EMs. Conversely, push factors influence the supply of foreign capital and are linked to global financial conditions, especially global interest rates and changes in investor risk appetite. Policy normalization in major developed economies and a reversal of the Federal Reserve's Quantitative Easing program have further intensified these concerns. Low interest rates in advanced economies increase capital inflows to EMs, especially short-term portfolio flows and bond investments. A temporary improvement in a country's creditworthiness resulting from lower U.S. interest rates could attract foreign capital. Historical data for EMs between the 1960s and 1990s indicate a significant contribution of external factors such as global interest rates and their movements when rates are low. Various empirical assessments—using different methods and data sets—achieve broadly consistent findings; however, some evidence suggests the impact of international financial variables decreases during episodes of extreme capital flows, with interest rate changes exerting only a short-term effect on capital flows. Interest rate differentials—both relative and absolute—between EMs and advanced economies influence the direction and magnitude of capital flows. Notwithstanding considerable variation in portfolios, residency, and instruments, the influence of global interest rates on capital flows appears to extend beyond specific regimes, remaining evident across different periods. Empirical investigations covering multiple countries and time frames corroborate that global Fed and European Central Bank interest rate shocks commonly prompt net capital outflows from EMs toward advanced economies. Historical evidence further indicates that rising global interest rates are generally accompanied by currency depreciations in times of financial

vulnerability, suggesting that economies with sustained large external deficits are particularly susceptible to sudden capital outflows.

a. Emerging vs. Developed Economies

Global economic trends over the past 50 years exhibit considerable heterogeneity between developing and developed economies and have been subject to several reversals and shocks that have exacerbated their divergence. Following the US Federal Reserve's aggressive baseline rate hike in early 2022, most emerging economies opted to increase their own policy rates to prevent excessive capital outflow and control accelerating inflation. Prior to this shift, the 2010–21 period was characterised by declining and stable policy interest rates in emerging economies, whereas advanced economies implemented policy rates close to zero and engaged in unconventional monetary accommodation through large-scale asset purchases. Even during episodes of rapid tightening, such as the 10 basis point hike of the Federal Funds rate in December 2015, policy rates in emerging economies remained well below pre-crisis levels on average, in contrast to advanced economies that tightened relatively quickly.

Emerging market economies (EMEs) have received a large share of capital inflows since the late 1990s, including China and both emerging Asia and Latin America. Net capital inflows are closely linked to net fiscal deficits at the national and regional levels. The 2010–14 period saw the scale of capital inflows to EMEs subside but without a sharp collapse, unlike during the Lehman Brothers' collapse. EMEs were better prepared in 2013, and capital flows have adjusted smoothly, except for a temporary flight to advanced countries. Key concerns are how long low U.S. interest rates can continue and when the Federal Reserve is likely to initiate its first hike.

According to generally accepted economic theories, the Solow growth model directly links saving rate and population growth to steady-state growth of capital, output, and consumption. Nevertheless, the impact of capital flows on economic performance remains a topic of discussion, particularly whether such inflows bring economic benefits and whether social welfare improves as a result. Standard models of international capital flows either exclude aggregate technology or introduce it exogenously, making it difficult to explain why, despite substantial capital inflows, many developing countries continue to lag high-income economies. However, recent findings on the determinants of the location of capital underscore the impact of capital flows on technology transfer.

b. Lessons Learned from Past Crises

In emerging economies, domestic real interest rates generally lag behind those abroad, leaving the authorities little room to raise rates in the face of stronger capital outflows. A disappointing response of the exchange rate and international reserves tends to accompany the partial loss of monetary policy sovereignty. Adverse repercussions for the real economy, especially the tradables sector, therefore follow when the accompanying capital flight is significant.

Capital inflows still accelerate economic activity and financial deregulation. The rapid reversal of flows that frequently ensues can sharply compound the earlier adverse repercussions on output and on monetary policy autonomy. At inflection points, a sudden stop of inflows arises. Capital flight and the drying-up of external financing follow when the fiscal stance was lax and when currency mismatches were widespread. Exchange rate depreciations barely stall the outflows that cause the sudden stop, further aggravating the country's balance of payments and fiscal problems.

The combination of capital flight and credit restrictions with currency mismatches usually gives rise to large bankruptcies and breakdowns of financial intermediation. As a result, GDP falls further, well beyond the initial productive disruption. At the same time, defaults and the exact timing of the crises widely vary. The liberalization of capital inflows in emerging economies thus imposes several stringent conditions: nominal exchange rate

stability with a fixed parity, access to sufficient official financing, full provision of lenders-of-last-resort, and sound financial regulation. The efficiency gains from capital account liberalization cannot be realized if these conditions are not present. In such a case, the resulting market instability may generate output losses exceeding those anticipated under capital controls. Financial liberalization therefore deserves special attention in the sphere of economic policy-making.

Future Directions

Emerging economies have been confronting rising global interest rates since early 2022, a reversal reminiscent of cycle peaks witnessed between 2005 and 2018. Global real interest rates initially plunged into negative territory in 2020 and 2021 during the COVID-19 pandemic but reversed course in 2022 due to accelerating inflation and subsequent tightening around the world. Inflation rates are forecasted to fall across advanced economies in 2023 but remain above targets in some emerging economies. The widely shared argument indicates that the global effects of higher interest rates will persist well into the mid-2020s, albeit varying substantially by country.

The trajectory of interest rates over the next two decades remains contestable. If fiscal headwinds prove pervasive, rates could rise even further. Alternatively, the resolution of various global imbalances and potential pro-growth reforms might eventually reverse the rising interest rate trend. Technological and political developments—such as the coronavirus pandemic, war in Ukraine, challenges to globalized production chains, climate change, and rising geo-political tensions—are difficult to integrate fully into forecasts. Even the baseline outlook outlined above contains considerable uncertainty. Hence, the reported estimates showcase the sensitivity of capital flows and the balance of payments to a protracted rise in policy interest rates, as emerging economies experienced in 2022.

Global interest rates are projected to remain significantly above pre-pandemic levels for the foreseeable future. Such elevated rates will impose substantial downward pressure on emerging economies' capital inflows and upward pressure on their capital outflows. The associated capital flow reversal results in a wider current account deficit or a narrower surplus, exerting additional pressure on the exchange rate and amplifying the impact of higher interest rates. The current outlook features two intertwined risks. The first pertains to the challenges of servicing external debt, with higher interest rates threatening debt sustainability and predisposing economies to a sharper accompanying slowdown. The second involves the duration of large capital outflows and current account deficits, which are economically and politically demanding to sustain, thus limiting the scope for countercyclical macroeconomic policies. If adverse global shocks materialize—such as a dry-up of capital flows, a commodity price spike, or a sudden tightening of global financial conditions—the risks to growth and financial stability escalate markedly.

Despite the uncertainty regarding the timing of the eventual reversal in rising global interest rates, the protracted elevation of global risk-free returns and the reshaping of the global economy and financial markets are likely to have persistent effects on emerging-market macroeconomic conditions. A smaller role for China and a larger role for India as suppliers is adding another dimension of uncertainty to the outlook.

a. Predictions for Global Interest Rates

The trajectory of global interest rates following the COVID-19 recession remains uncertain. Nevertheless, the determinants that shaped rates in the twenty years leading up to the pandemic—demographics, global saving patterns, supply shocks, and monetary policy orientations—are unlikely to abate in the near term. Based on these factors, interest rates seem poised to remain below pre-pandemic levels.

From the early 1980s until the mid-2000s, the equilibrium real interest rate exhibited a clear decline from approximately 7% in 1980 to about 2% in 2005. Demographic shifts,

notably declining birth rates from the 1950s and 1960s, began to depress the equilibrium real interest rate during this interval. The 2008 global financial crisis further propelled a sharper downturn in rates, which then stabilized at around zero. Little evidence suggests that the factors currently driving real interest rates will alter significantly in the immediate future; absent large-scale disruptive shifts, the equilibrium real interest rate will likely remain near current low levels.

b. Long-term Implications for Emerging Markets

Long-term dynamics associated with high global interest rates herein refer to the enduring macroeconomic repercussions when interest rates remain elevated for extended periods. The global balance of payments aggregates to zero by definition, permitting an analysis of both the global environment and net capital flows to specific countries. When interest rates worldwide increase simultaneously, unified capital reallocation takes place, reflecting substantial global capital movements influenced by rising borrowing costs.

Macroeconomic effects dominate the influence of interest rates on capital flows. Higher rates typically enhance the opportunity cost of holding cash and bond assets, intensify credit-demanding firm bankruptcies and business failures, and escalate the default risk attached to outstanding debt. These consequences tend to discourage capital holding and lending. Nonetheless, high-interest-rate regimes—exemplified by the United States during the 1950s and the mid-1980s to mid-1990s—coexisted with robust economic growth. Sustained high interest rates in a growing economy must therefore yield substantial positive effects, owing to structural and conditioning factors underpinning the positive association between economic performance and interest rates.

Additional considerations are warranted for emerging markets. Such economies frequently depend on external finance, and rising rates push resources directly toward already high-interest-rate countries such as the United States. Upward global (long-term) interest rate trends lead to capital flight from emerging markets, exerting downward pressure on their exchange rates. As a consequence, these countries must raise domestic interest rates to stem capital outflows and defend exchange rates; yet, high rates dampen economic performance, and the consequent deterioration in capital-account fundamentals triggers further outflows and real depreciation. In extreme scenarios, these pressures precipitate finance crises and exchange-rate collapses. Protracted high interest rates are thus rarely compatible with emerging-market economic resilience.

4. Conclusion

A global rise in real interest rates drives a reallocation of assets from emerging to advanced markets, accompanied by a deterioration of the external position of emerging economies. These economies face higher rollover risk in international bond markets already plagued by uncertainty. To buffer external shocks, emerging economies have typically accumulated reserves and reduced foreign currency exposures; the unprecedented size and speed of the policy rate normalization, however, may limit the effectiveness of these strategies. Inflationary pressures are expected to remain high in 2023, necessitating continued monetary tightening; a prolonged hike in global interest rates will likely weigh on the growth outlook. Since October 2021, global real interest rates have trended upward amidst strong global demand, waning supply chain disruptions, and more restrictive monetary policy. Emerging economies are particularly vulnerable to these developments. Failing to offset private capital outflows with official financing, many have seen their external financing gaps widen and their gross financing needs rise, posing significant financial stability risks for individual economies and the global economy. These concerns appear justified. Rising interest rates alter capital flows and raise debt repayment difficulties. Emerging economies exposed to offshore bond markets are especially vulnerable because their gross financing needs remain high; net income outflows related to outstanding debt build up and more crawl. In this environment, the economy suffers

from capital flight, currency depreciation, a weakening of the current account, and mounting inflationary pressures. Fed policy expectations and portfolio flows to emerging markets are related. Pull factors relate to economic growth, country risk, and return prospects in emerging markets. Push factors affect foreign capital supply and include global financial conditions, notably global interest rates and investor risk appetite. S. interest rates, a push factor, influence capital flows by temporarily improving a country's creditworthiness and lowering borrowing costs, especially for short-term portfolio flows to emerging markets. Low interest rates in advanced economies increase non-resident capital inflows and resident outflows. Some studies suggest real international interest rates are not significant drivers of EM capital flows at annual frequencies when controlling for domestic factors, as the impact occurs over shorter periods. Global interest rates do not seem to be significant during extreme capital flow episodes. The interest rate differentials between emerging and advanced economies are also examined as explanatory variables.

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