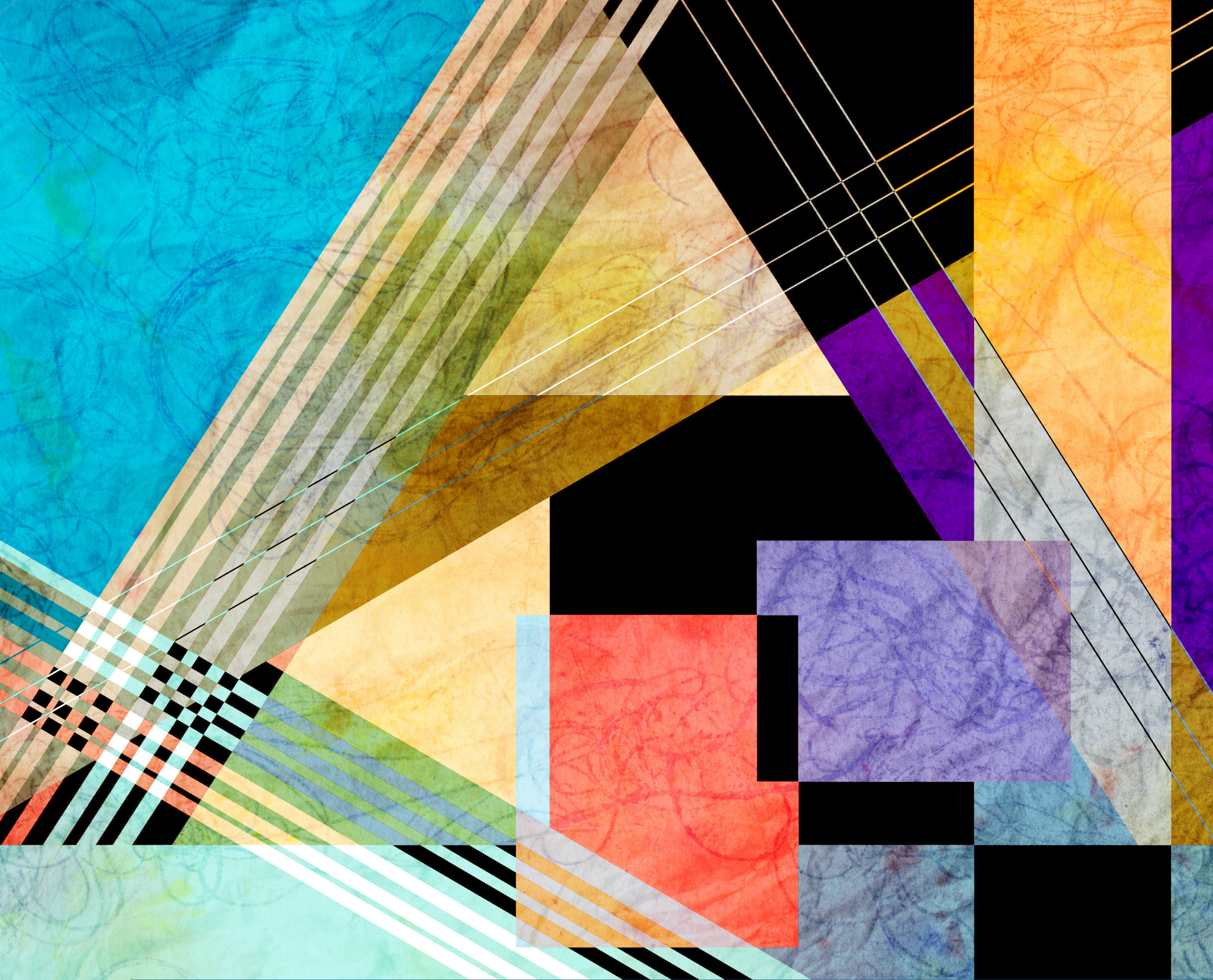

SEACEN CAPITAL FLOWS MONITOR 2023

December 2023

The South East Asian Central Banks (SEACEN)
Research and Training Centre

The **SEACEN** Centre

SEACEN
CAPITAL FLOWS MONITOR
2023

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Notes:

The SEACEN Centre recognizes "China" as People's Republic of China; "Hong Kong" as Hong Kong SAR, China; and "Korea" as Republic of Korea.

USD and US$ refer to U.S. dollar.

IMF and national source data accessed through CEIC Database. Data cut-off as 03 November 2023.

Asian economies include the nineteen economies of the SEACEN member central banks and monetary authorities. It includes Brunei Darussalam; Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Myanmar; Nepal; Papua New Guinea; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand and Vietnam.

This report also discusses subregional groupings. Advanced Asian Economies includes Hong Kong, China; Korea; Singapore; and Chinese Taipei. ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Asian Frontier Markets include Cambodia, Lao PDR, Mongolia, Nepal, and Sri Lanka.

This report has been reviewed and approved by Dr. Mangal Goswami (Executive Director of The SEACEN Centre). Dr. Ole Rummel (Director of Macroeconomic and Monetary Policy Division - MMPM) and Dr. Srichander Ramaswamy (Director of Financial Stability, Supervision, and Payments) also edited and reviewed the report. Dr. Rogelio Mercado (Senior Economist, MMPM) authored Sections 1 to 3 and supervised the production of the report. YunYee Seow edited the draft sections, and Mr. Aizul Fazli Zulkifli of Swift Cursor Studio designed, typeset and layout the report. Sections 1 and 2 of this issue greatly benefited from discussions with Euben Paracuelles (Chief ASEAN Economist) of Nomura and Gene Ma (Head of China Research) of the Institute of International Finance.

CONTENTS

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
BoP	Balance of Payments
BPM6	Balance of Payments Manual 6
IMF	International Monetary Fund
IIF	Institute for International Finance
IIP	International Investment Position
SEACEN	South East Asian Central Banks Research and Training

CONCEPTS

Net Foreign Assets or Net IIP	Net International Investment Position, computed as the total foreign asset holdings minus total foreign liabilities.
Resident capital flows	Net purchases of foreign assets by domestic residents, commonly referred to gross capital outflows. This corresponds to financial account assets in the BoP's Financial Account Balance.
Nonresident capital flows	Net purchases of domestic assets by non-residents, commonly referred to gross capital inflows. This corresponds to financial account liabilities in the BoP's Financial Account Balance.
Net resident capital flows	Computed as resident capital outflows minus non-resident capital inflows. Positive values may refer to situations where domestic residents are purchasing more foreign assets than non-residents purchasing domestic assets.

FOREWORD

Capital flows inform us about cross-border financial transactions and investments. They facilitate portfolio diversification and risk-sharing; and aid economic growth, financial development, and knowledge transfer. However, large capital inflows and outflows can be disruptive, leading to sharp fluctuations in the exchange rate, asset price bubbles, excessive credit growth, sudden reversals of flows and cross-border spillovers. Monitoring and understanding their recent trends and outlook as well as the underlying drivers remain important steps in managing capital flows.

As the Secretariat of the SEACEN Expert Group (SEG) on Capital Flows, which includes SEACEN's nineteen-member central banks and monetary authorities, The SEACEN Centre is reissuing its bi-annual report on capital flows – the "SEACEN Capital Flows Monitor", as part of its surveillance work on capital flows in the Asian region. The report is expected to be released every June and December covering specific periods. The June issue discusses the previous year's overall trends, latest patterns, and the outlook for the current year, while the December issue focuses on the current year's quarterly capital flows and an updated analysis of the current year.

The report includes three sections. The first section reviews the recent global and regional trends that impact capital flows in Asia. The second section discusses the latest composition of capital flows and international investment positions. The third section is an analytical section which focuses on a specific policy relevant topic related to capital flows and international investment positions. For this issue, the analytical section highlights the renewed importance of U.S. policy rate as a key driver of capital flows in Asia.

The views expressed in this report are those of The SEACEN Centre and do not necessarily represent those of its member central banks/monetary authorities.

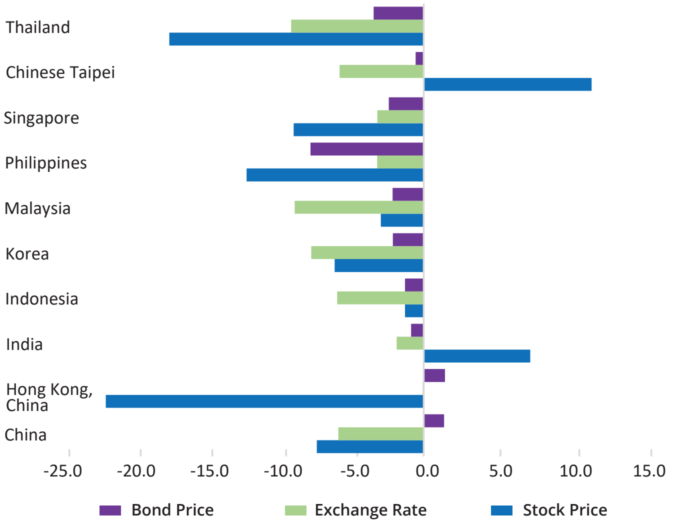
Mangal Goswami
Executive Director
The SEACEN Centre

December 2023

SEACEN Capital Flows Monitor December 2023: Key Messages

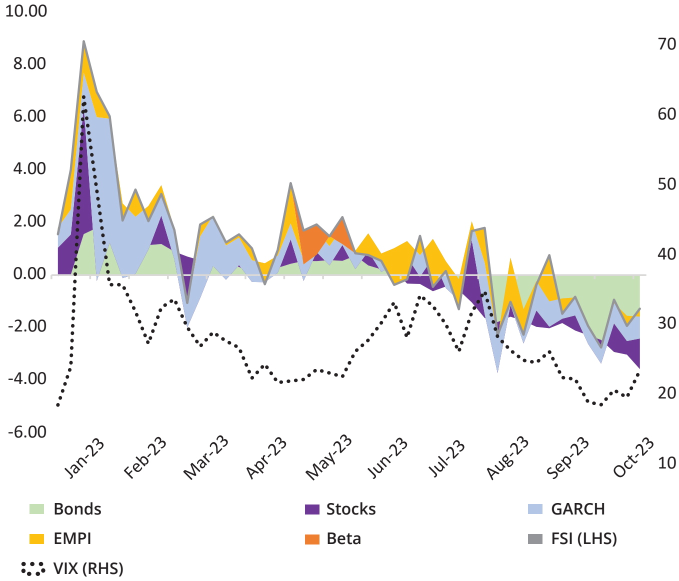
- *Although inflationary pressures have been receding during the second half of 2023, they remain a concern for policymakers in Asia and elsewhere.*
- *Policymakers continued to be vigilant in monitoring and taking appropriate and calibrated policy actions to address remaining inflationary concerns in 2023.*
- *Widening differentials between global and regional policy rates prolonged the weakening of Asian currencies, while elevated regional policy rates led to lower asset prices (equities and bonds), and wider risk premiums in the first ten months of 2023.*
- *Asian economies witnessed several months of foreign portfolio equity and debt flow reversals during the first ten months of the year.*
- *Nonetheless, there were no visible signs of global investor risk aversion and financial market distress in the region during the review period.*
- *The resilience of the Asian economies combined with robust policy responses helped to cushion the impact of the shocks.*
- *Asian economies, as a group, continued to be a net capital exporter during the period.*
- *But the region's resident and nonresident capital flows remained smaller compared to recent periods due to higher U.S. and domestic interest rates.*
- *The region's aggregate net foreign asset position stayed positive but, for some economies, there was a deterioration in their net asset positions due to higher liabilities in the first half of 2023.*
- *Nonresident capital inflows to Asia and elsewhere have declined in 2022-23 in line with tightening U.S. monetary policy stance, suggesting the renewed importance of global interest rates as a significant driver of gross capital inflows.*
- *Based on regression coefficients, nonresident capital flows usually decline whenever U.S. policy rate increases.*

Figure H1: Exchange Rate, and Asset Price Changes, Selected Asian Economies *(Year-to-date changes, %)*



Notes: Values refer to year-to-date changes (January to October 2023) in percent. Asset prices include bonds and benchmark stock price indices.

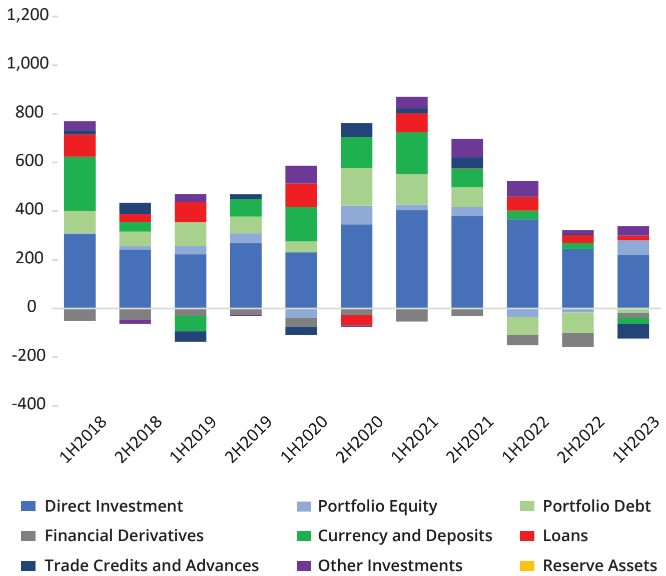
Figure H2: VIX and Financial Market Stress Index, Selected Asian Economies *(Index)*



Notes: FSI Asia includes China; Hong Kong, China; India; Indonesia; Korea; Malaysia; Philippines; Singapore; Chinese Taipei; and Thailand. The financial market stress index was computed as the sum of simple average financial market stress indicators including sovereign yield differential, stock market returns, stock market price volatility, exchange rate market pressure and financial sector beta, following the methodology of Park and Mercado (2014). Financial market stress indices were computed starting 2010. VIX refers to the Chicago Board of Exchange Volatility Index.

Sources: SEACEN staff calculations using data sourced from CEIC and Haver Analytics (accessed in November 2023).

Figure H3: Nonresident Capital Flows, Asia, by category *(USD billion)*



Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singa-pore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Other investments include other payables, other equity, insurance and pen-sion, and SDRs liabilities. Values for Singapore and Vietnam were estimated using derived weights and reported aggregate values.

Sources: SEACEN staff calculations using data sourced from CEIC and Haver Analytics (accessed in November 2023).

Figure H4: Regression Coefficients of Nonresident Capital Inflows to Asia on U.S. Policy Rate
(% of annual nominal GDP)

Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Cambo-dia; China; Hong Kong, China; India; Indonesia; Rep. of Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam from 2009Q1 to 2023Q2.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources taken from CEIC (accessed December 2023).

SECTION I: RECENT GLOBAL AND REGIONAL ECONOMIC AND FINANCIAL TRENDS AND DEVELOPMENTS

This section reviews the global and regional economic and financial trends that impacted capital flows to Asia in the first ten months of the year. It highlights several key developments:

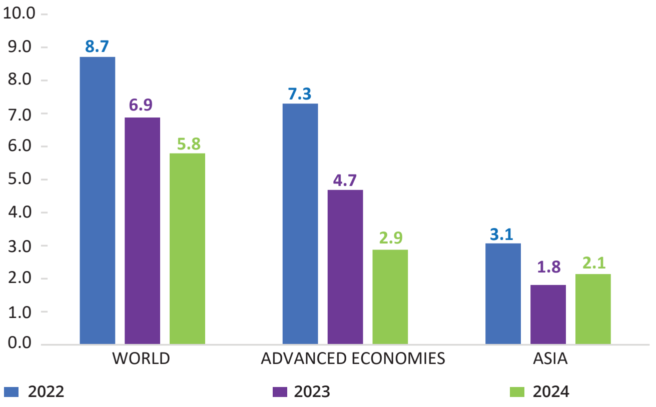
- *Although inflationary pressures have been receding during the second half of 2023 they remain a concern for policymakers in Asia and elsewhere.*
- *Policymakers continued to be vigilant in monitoring and taking appropriate and calibrated policy actions to address remaining inflationary concerns in 2023.*
- *Widening differentials between global and regional policy rates prolonged the weakening of Asian currencies, while elevated regional policy rates led to lower asset prices (equities and bonds), and wider risk premiums in the first ten months of 2023.*
- *Asian economies witnessed several months of foreign portfolio equity and debt flow reversals during the first ten months of the year.*
- *Nonetheless, there were no visible signs of global investor risk aversion and financial market distress in the region during the review period.*
- *The resilience of the Asian economies combined with robust policy responses helped to cushion the impact of the shocks.*

Inflationary pressures in major advanced economies remained elevated in 2023. In Asia, the inflation outcome for 2023 and the outlook for 2024 have been revised upwards. Commodity prices have stayed high in recent months. Brent crude oil price per barrel breached US$90 in September and October 2023, which has been trending upwards since July 2023. Although the Food and Agricultural Organization (FAO) Food Price Index continued to drop in 2023, it stayed above the index level of 120 in October 2023, which is still high compared to levels in early 2021. Moreover, inflationary pressures in major advanced economies, G7 economies, remain elevated in 2023 due to demand-side pressures such as labour market conditions and pass-through effects from past shocks to headline inflation (IMF, 2023b).[1] Consequently, inflation forecast for major advanced economies in 2023 was slightly revised upwards from 4.65% in the IMF's April 2023 World Economic Outlook (WEO) (IMF, 2023a) to 4.69% in its October 2023 Update (IMF, 2023b). IMF's inflation forecast for these economies in 2024 was also raised from 2.5% in WEO April 2023 to 2.9% in the WEO October 2023 Update (IMF, 2023a and 2023b). Meanwhile, in its October 2023 report, the ASEAN+3 Macroeconomic Research Office (AMRO) expected inflation in ASEAN+3 economies to reach 6.5% in 2023 before moderating to 3.8% in 2024. However, its full year inflation forecast for 2023 has been revised upwards from 6.3% for 2023 and 3.4% for 2024 in its July 2023 report. Elevated commodity prices and still-high core inflation were cited as reasons for its inflation forecast revisions (AMRO, 2023). These upward revisions in inflation forecasts for 2023 and 2024 suggest continued inflationary pressures, albeit weaker than in 2022. Using IMF's October 2023 WEO Update forecasts, inflation in Asia, as a group, is expected to moderate to 1.8% in 2023 but then increase to 2.1% in 2024 **(Figure 1).**[2 3]

Policymakers in the region and elsewhere continued to raise interest rates to anchor inflation expectations and bring down inflation to target levels. The U.S. Federal Reserve raised its policy rate in February, March, May, and July 2023, bringing total basis points increase to around 100 since the start of the year to November 2023, following the 425 basis points increase in 2022. The European Central Bank also continued to be hawkish in 2023 by hiking its policy rate cumulatively by 200 basis points from January to November 2023, after raising its policy rate by 250 basis points in 2022. In Asia,Thailand, Philippines, Indonesia, Malaysia, India, Korea, and Chinese Taipei continued to raise policy rates in 2023, although generally lower compared to

1. Major advanced economies refer to G7 economies, which include Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
2. Asian economies in this section refers to selected economies of SEACEN member central banks and monetary authorities, including Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam, whenever economic and financial data are available.
3. The aggregate inflation forecasts were weighted using Gross National Income (Atlas Method) sourced from the World Bank's World Development Indicators (accessed November 2023). In contrast, AMRO's (AMRO, 2023) inflation forecast for ASEAN+3 uses simple average. This explains the discrepancy in inflation forecasts between AMRO and in this report.

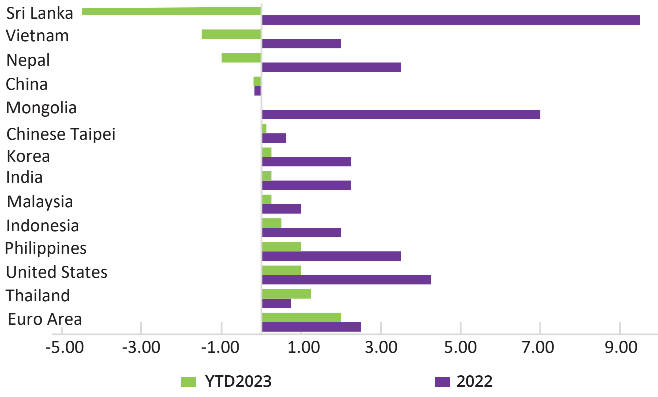
Figure 1.1: Inflation
(%, year-on-year)



Notes: Forecast values for 2023 and 2024 were taken from the IMF's World Economic Outlook October 2023 Update. Advanced Economies refers to G7 economies. Asia excluding China (CHN) and India (IND) includes Cambodia; Hong Kong, China; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Inflation values for Asia excluding China and India were weighted using Gross National Income (Atlas Method) from World Bank's World Development Indicators.

Sources: SEACEN staff calculations using data from IMF's World Economic Outlook October 2023 Update and World Bank's World Development Indicators (accessed in November 2023).

Figure 1.2: Policy Rate Changes, Selected Economies *(in % per annum)*



Notes: YTD2023 values refer to the cumulative changes in policy rate from January to October 2023. Values for 2022 refer to cumulative changes in policy rates from January to December 2023.

Sources: SEACEN staff calculations using national sources downloaded from CEIC (accessed in November 2023).

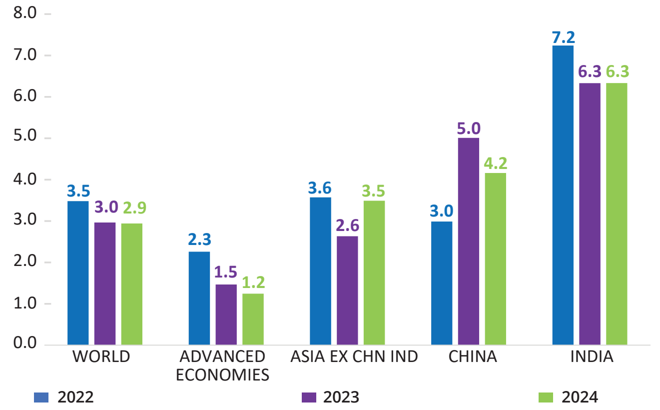
their rate hikes in 2022. Meanwhile, China, Nepal, Vietnam, and Sri Lanka began lowering their policy rates, suggesting diverging inflationary pressures within the region, leading to asynchronous policy actions **(Figure 1.2).**

Output growth is expected and slowdown in 2023 along with lower global liquidity and interest rate hikes taking hold. As most central banks and monetary authorities in the region and elsewhere raised policy rates in 2023, output growth is expected to slowdown in 2023. Based on the latest IMF WEO October 2023 Update forecasts, GDP growth of G7 economies will decelerate to 1.5% in 2023, from 2.3% in 2022 **(Figure 1.3a).** In Asia, excluding China and India, GDP growth is expected to also slowdown to 2.6% in 2023 from 3.6% in 2022. In the case of India, output growth will decelerate, while China's growth will accelerate. The expected slowdown across most economies will translate to lower profits and corporate earnings and could dampen cross-border investments, including direct and portfolio equity investments. Moreover, higher interest rates, particularly in major advanced economies, have translated to lower global liquidity growth since 4Q2022 up to 2Q2023 **(Figure 1.3b),** coinciding with the decline in cross-border loans as reported in Asia's BoP Statistics from US$57 billion and US$32 billion in 1H2022 and 2H2022, respectively, to only US$20 billion in 1H2023.

The US dollar sustained its strength against major currencies in 2023 in line with the U.S. Federal Reserve rate hikes. Consequently, most Asian currencies continued to weaken against the U.S. dollar on a year-to-date basis in 2023. The ICE U.S. Dollar Index hovered above the 100 index level throughout most of 2023, peaking around October at 106. This suggests that the U.S. dollar stayed stronger relative to a basket of world currencies.[4] Consequently, almost all Asian currencies depreciated against the U.S. dollar from January to October 2023. However, there are notable differences across currencies **(Figure 1.4).** The depreciation of the Indonesian rupiah, Chinese renminbi, NT dollar, Philippine peso, and Indian rupee from January to October 2023 were considerably less than their full year depreciation in 2022, while that of the Korean won and Vietnamese dong in the same period were almost the same as in the full year 2022. In contrast, the depreciation of the Malaysian ringgit and Thai baht against the U.S. dollar were considerably larger in January to October 2023 compared to the full year 2022.

4. The ICE U.S. Dollar Index futures contract is a leading benchmark for the international value of the US dollar. It allows market participants to monitor movements in the value of the US dollar relative to a basket of world currencies (euro, Japanese yen, British pound, Canadian dollar, Swedish krona, and Swiss franc) and to hedge their portfolios against the risk of a movement in the U.S. dollar. It is traded for 21 hours a day on the ICE platform.

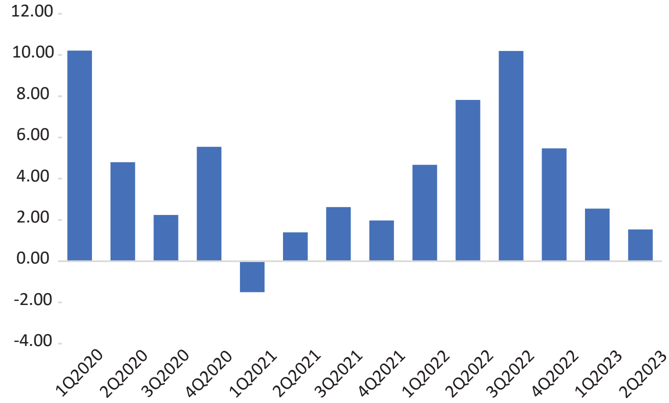
Figure 1.3a: GDP Growth, Selected Economies
(%, year-on-year)



Notes: Forecast values for 2023 and 2024 were taken from the IMF's World Economic Outlook October 2023 Update. Advanced Economies refer to G7 economies. Asia excluding China (CHN) and India (IND) includes Cambodia; Hong Kong, China; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. The growth values for Asia excluding China and India were weighted using Gross National Income (Atlas Method) from World Bank's World Development Indicators.

Sources: SEACEN staff calculations using data from IMF's World Economic Outlook October 2023 Update and World Bank's World Development Indicators (accessed in November 2023).

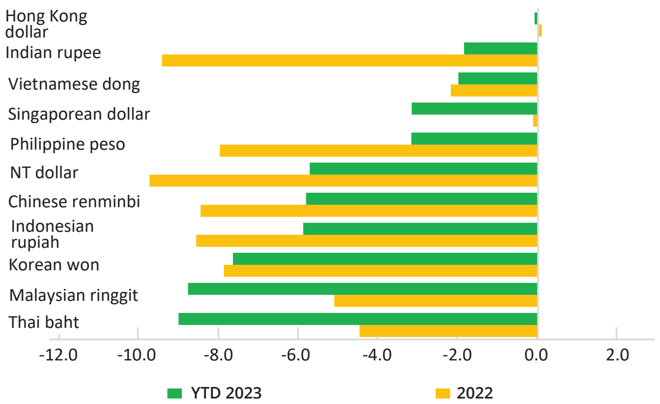
Figure 1.3b: Global Liquidity Growth
(%, year-on-year)



Notes: Values refer to year-on-year changes cross-border and local lending of banks in all instruments, currency, and borrowing sector.

Sources: Global Liquidity Indictors, Bank for International Settlements (accessed in November 2023).

Figure 1.4: Exchange Rate Changes, Selected Economies*(%, year-on-year)*



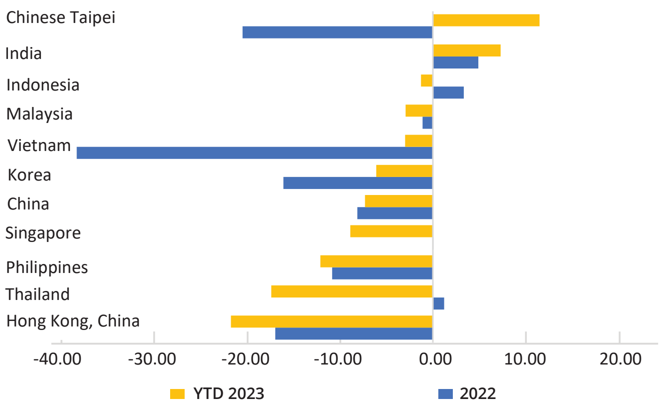
Notes: YTD2023 values refer to the change in benchmark stock price index from January to October 2023. Values for 2022 refer to the change benchmark stop price index from January to December 2023. Positive values mean appreciation of the local currency versus the U.S. dollar, and negative values refer to depreciation of local currency versus the U.S. dollar.

Sources: SEACEN staff calculation using IMF International Financial Statistics data downloaded from CEIC (accessed in November 2023).

As most of the region's economic growth softened in 2023 due to higher interest rates, coupled with the strong U.S. dollar, stock prices retreated in most markets in the region. From January to October 2023, benchmark stock price indices of Hong Kong, China; Thailand; Philippines; Singapore; Malaysia; and Indonesia dropped more in 2023 than they did the previous year **(Figure 1.5).** In contrast, the decline in stock price indices of China, Korea, and Vietnam were considerably less in 2023 than in 2022. Among regional equity markets, benchmark share prices of India and Chinese Taipei bucked the regional trend as both grew by more than 5% in the January to October 2023 period. Technology stocks sustained the rally of share prices in Chinese Taipei, while robust growth outlook for 2023 and 2024 filliped India's share prices.

High policy rates and continued interest rate hikes in both advanced and regional markets pushed regional bond yields even higher in January to October 2023, following their respective larger increases in 2022. Regional sovereign bond yields rose in nearly all markets from January to October 2023, mirroring the upward trend of bond yields in advanced economies, including the Euro Area, Japan, and the United States (ADB, 2023). The 5-year sovereign bond yields of most regional economies rose on a year-to-date basis in 2023 **(Figure 1.6).** Except for Thailand, the year-to-date increases in 2023 (January to October 2023) were noticeably smaller than the year-to-date increases in 2022 (January to December 2022). In contrast, sovereign bond yields declined in China and Vietnam over the review period in line with their implemented policy rate cuts **(Figure 1.2).** Accordingly, 5-year sovereign bond prices across the region dropped as yields rose, except for China and Hong Kong, China.

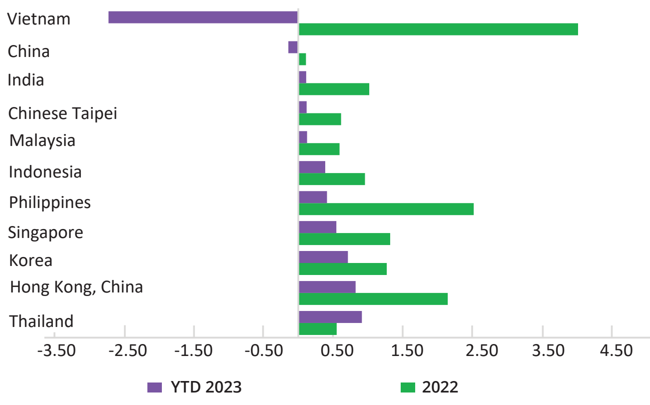
Figure 1.5: Changes in Benchmark Stock Price Indices, Selected Economies*(%, year-on-year)*



Notes: YTD2023 values refer to the change in benchmark stock price index from January to October 2023. Values for 2022 refer to the change benchmark stop price index from January to December 2023.

Sources: SEACEN staff calculation using data from CEIC and Haver Analytics (accessed in November 2023).

Figure 1.6: Changes in Sovereign Bond Yields, Selected Economies *(%, year-on-year)*



Notes: YTD2023 values refer to the change in 5-year sovereign bond yields from January to October 2023. Values for 2022 refer to the change in 5-year sovereign bond yields from January to December 2023.

Sources: SEACEN staff calculation using data from Tullett Prebon Information downloaded from Haver Analytics (accessed in November 2023).

Moreover, high interest rates continued to drive higher risk premiums across the region in 2023. Risk premiums on USD-denominated government bonds of selected Asian economies, measured by year-to-date changes in 5-year credit default swaps, increased by 2.4 basis points (simple average) from January to October 2023, following the substantial widening of around 26.4 basis points (simple average) from January to December 2022. However, across periods, risk premiums have noticeably dropped by 6.2 basis points (simple average) for the period of January to June 2023, but then increased by 12.0 basis points (simple average) from July to October 2023 **(Figure 1.7).**

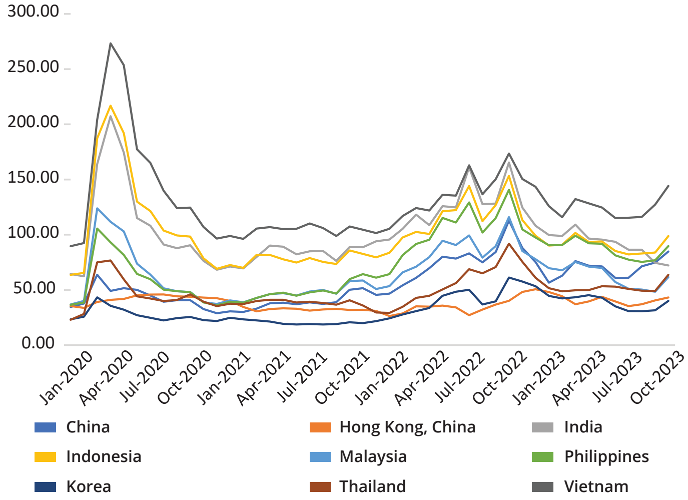
Consequently, concerns over an extended period of elevated interest rates in major advanced economies and in the region as well as increasing sovereign yields, dented the prospects of Asia's nonresident portfolio inflows in 2023. For selected Asian economies with available data from the Institute of International Finance, nonresident portfolio equity flows reported reversals in August to October 2023 **(Figure 1.8).** China also witnessed foreign portfolio equity outflows in August to October 2023, amounting to US$27 billion. Meanwhile, foreign portfolio debt flows registered reversals in most months of 2023. China had a cumulative foreign portfolio debt outflow of around US$82 billion in the first ten months of the year. Excluding China, the rest of Asia's economies had a cumulative nonresident portfolio debt inflow of around US$33 billion. Overall, nonresident portfolio flows in selected Asian economies witnessed reversals for much of 2023.

Despite remaining concerns on inflation, uncertainty on the future path of U.S. monetary policy stance, and elevated global and regional interest rates, global investor risk aversion and financial market stress remained muted in the first ten months of 2023. The Chicago Board of Exchange Volatility Index (VIX) trended downwards in 2023, below the index level of 20 **(Figure 1.9a).** In addition, Asia's financial market stress indices from January to October 2023 do not suggest any sign of financial sector distress in the region **(Figure 1.9b).** Taken together, these measures suggest that there were no visible signs of global investor risk aversion and financial market distress in the region during the review period.

Asian economies were quite resilient to the shocks that potentially impact capital flows while robust policy responses also helped cushion the impact. Most economies used interest rates as the primary tool for ensuring price stability. That said, several other complementary tools were also used to manage the difficult trade-offs between price and financial stability. In particular, several central banks used foreign exchange intervention to dampen the shock amplification and to lower the impact of imported inflation, notably from the appreciation of the dollar vis-à-vis Asian currencies. In conjunction, macroprudential measures and some capital flow measures were also used to manage the adverse impact of the tightening financial condition on financial stability.[5]

5. See BIS Asian Consultative Council Report on Inflation, External Financial Conditions, and Macro-Financial Stability Frameworks in Asia-Pacific (2023) for detailed discussion on policy tools in 2022.

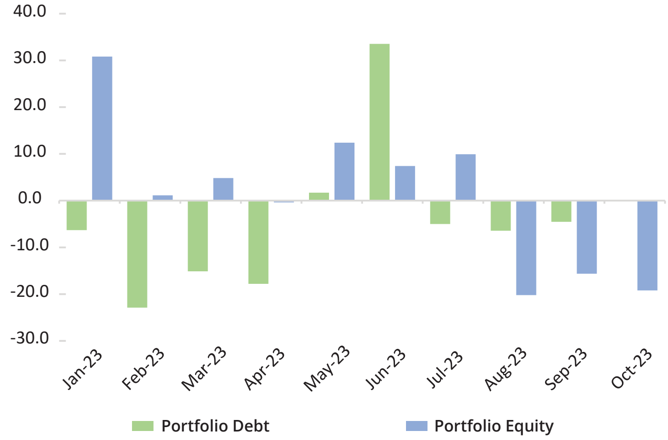
Figure 1.7: 5-Year Sovereign Credit Default Swap, Selected Economies *(basis points, year-to-date)*



Notes: 5-Year USD Credit Default Swap par Mid-Rate in basis points.

Sources: CMA Datavision and Haver Analytics downloaded from Haver Analytics (accessed in November 2023).

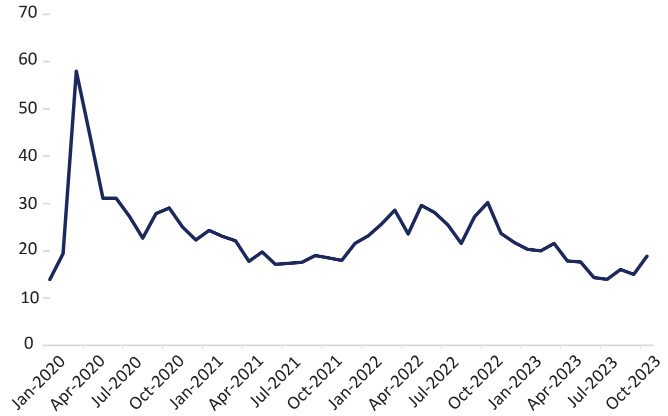
Figure 1.8: Nonresident Portfolio Equity and Debt Flows, Selected Economies *(USD billion)*



Notes: Portfolio debt refers to nonresident portfolio debt inflows to China, India, Indonesia, Korea, Malaysia, Mongolia, and Thailand. Portfolio equity refers to nonresident portfolio equity inflows to China, India, Indonesia, Korea, Malaysia, Philippines, Sri Lanka, Chinese Taipei, Thailand, and Vietnam.

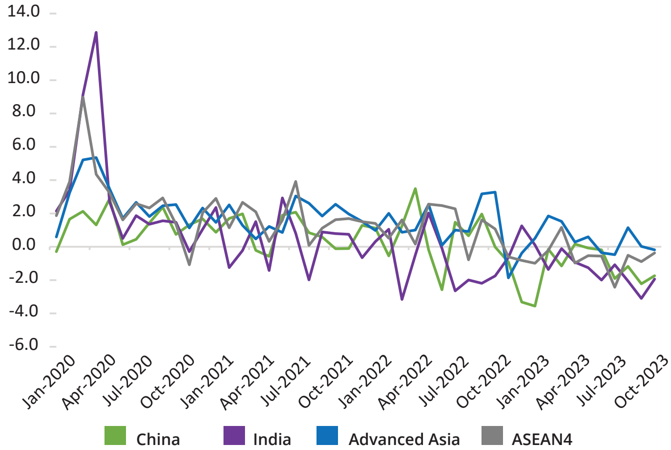
Sources: SEACEN staff calculations using data from Institute of International Finance (accessed in November 2023).

Figure 1.9a: CBOE VIX
(Index)



Sources: Chicago Board of Exchange downloaded from Haver Analytics (accessed in November 2023).

Figure 1.9b: Financial Market Stress Index, Selected Economies *(Index)*



Notes: Advanced Asia includes Hong Kong, China; Korea; Singapore; and Chinese Taipei. ASEAN4 includes Indonesia, Malaysia, Philippines, and Thailand. Financial stress indices for Advanced Asia and ASEAN were computed as simple average of individual country financial stress index. Individual country financial stress index was computed following the methodology of Park and Mercado (2014) but uses financial sector beta instead of banking sector beta. Financial market stress indices were computed starting 2010.

Sources: SEACEN staff calculations using data sourced from CEIC and Haver Analytics (accessed in November 2023).

Moving forward, several scenarios warrant consideration. First, inflationary pressures might linger. In particular, stronger inflationary pressures in the U.S. could prompt the Federal Reserve to either further raise its policy rate or delay policy rate cuts. Changes in U.S. policy rate will have an impact on cross-border investments. Given the diverging monetary policy stance in the region, this could reinforce asynchronous policy actions, which can trigger volatility in capital flows. Second, prolonged high interest rates may undermine economic growth and weaken bank balance sheets. Some developing economies have reported an uptick in the nonperforming loans ratio and downtrend in Tier-1 capital to risk-weighted asset ratio. High borrowing costs and interest rates in these economies may restrain growth and pose challenges to financial stability. Third, the financial system in the region and elsewhere has, so far, withstood tightening monetary policy actions to rein in on inflation. In this regard, constant, timely, and clear communication of monetary policy stance remains vital for asset pricing and pricing of risks. Policy actions in relation to upside inflation surprises could trigger sudden asset price revaluations.

SECTION II: RECENT TRENDS IN CAPITAL FLOWS AND EXTERNAL POSITIONS

This section reviews the recent trends and compositions of capital flows and international investment positions of Asian economies in the first half of 2023.[1]

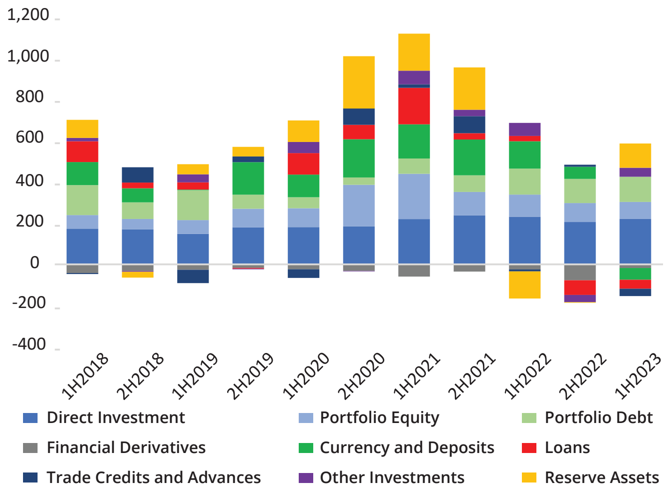
- *Asian economies, as a group, continued to be a net capital exporter during the period.*
- *But the region's resident and nonresident capital flows remained smaller compared to recent periods due to higher U.S. and domestic interest rates.*
- *The region's aggregate net foreign asset position stayed positive but, for some economies, there was a deterioration in their net asset positions due to higher liabilities in the first half of 2023.*

A. Recent Trends in Capital Flows and International Investment Positions

Net resident capital flows of Asian economies, as a whole, amounted to US$216 billion in mid-2023.[2] Net acquisition of foreign assets by residents (Financial Account Assets) reached US$431 billion, while net incurrence of liabilities to nonresidents (Financial Account Liabilities) amounted to US$215 billion, bringing net resident capital flows to around US$216 billion. Most of the net acquisitions of foreign assets were in the form of direct investment abroad, followed by portfolio debt and official reserve assets **(Figure 2.1a).** The region's resident investment abroad in these categories were largely driven by Advanced Asian Economies (Hong Kong, China; Korea; Singapore; and Chinese Taipei) and China. Likewise, net incurrence of liabilities to nonresidents were mostly in the form of foreign direct investment, followed by portfolio equity and loan liabilities **(Figure 2.1b).**[3] The largest recipient of foreign direct investment in 1H2023 was Advanced Asian Economies, followed by China and ASEAN5.

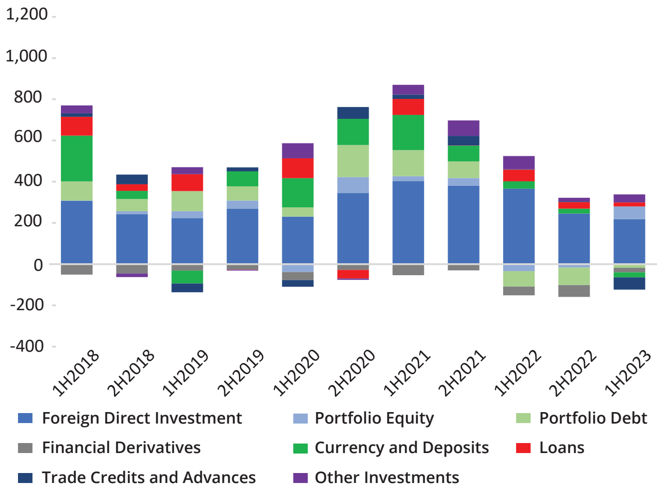
Across economies and subregions, China and Advanced Asian Economies reported the largest resident outflows, followed by India, ASEAN5 (Indonesia, Malaysia, Philippines, and Vietnam) and Asian Frontier Markets (Cambodia, Lao PDR,

Figure 2.1a: Resident Capital Flows, Asia, by category *(USD billion)*



Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Other investments include other receivables, other equity, and insurance and pension. Values for Singapore and Vietnam were estimated using derived weights and reported aggregate values.

Figure 2.1b: Nonresident Capital Flows, Asia, by category *(USD billion)*



Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Other investments include other payables, other equity, insurance and pension, and SDRs liabilities. Values for Singapore and Vietnam were estimated using derived weights and reported aggregate values.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

1. Asian economies include the nineteen economies of the SEACEN member central banks and monetary authorities of Brunei Darussalam; Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Myanmar; Nepal; Papua New Guinea; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. However, since not all economies report quarterly Balance of Payments (BoP) and International Investment Position (IIP) data to the International Monetary Fund (IMF), all figures and data in this section excludes Brunei Darussalam, Myanmar, and Papua New Guinea. Data from the IMF (downloaded from the CEIC database) are consistently classified and standardised series in U.S. dollars across economies.
2. The value of US$216 billion net capital flows refers to net acquisition of foreign assets by residents minus net incurrence of liabilities to non-residents.
3. In this section, other investments include other receivables (payables), other equity, insurance and pension, and SDRs (for liabilities). Currency and deposits, loans, and trade credits and advances are treated as separate items in this report.

Figure 2.2a: Resident Capital Flows, Asia, by subregion *(USD billion)*

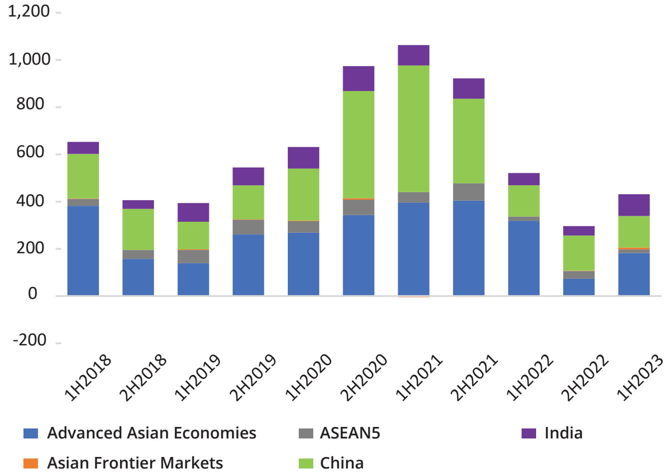
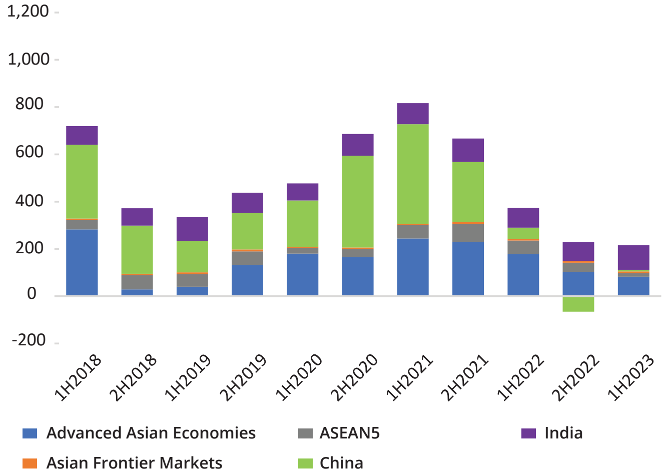


Figure 2.2b: Nonresident Capital Flows, Asia, by subregion *(USD billion)*



Notes: Advanced Asian Economies include Hong Kong, China; Korea; Singapore; and Chinese Taipei. ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Asian Frontier Markets include Cambodia, Lao PDR, Mongolia, Nepal, and Sri Lanka. Values for Singapore and Vietnam were estimated using derived weights and reported aggregate values.

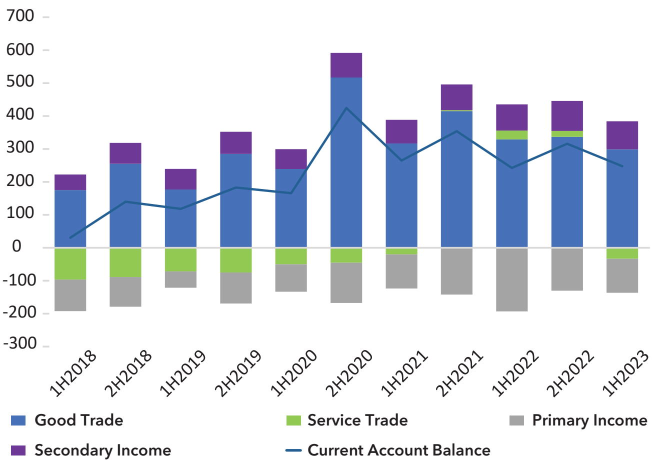
Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

Mongolia, Nepal, and Sri Lanka) **(Figure 2.2a).** For nonresident capital inflows, India received the largest nonresident capital flows in the first half of 2023 (1H2023,) followed by Advanced Asian Economies, ASEAN5, China, and Asian Frontier Markets, respectively **(Figure 2.2b).** Consequently, net resident capital outflows in 1H2023 were considerably higher compared to the first and second halves of 2022. It grew by around 62% from 2H2022 and 48% from 1H2022. The net increase reflects higher reserve asset accumulation as well as larger resident purchases of foreign portfolio debt assets.

The region's higher net resident capital flows coincided with a narrower current account surplus in the first half of 2023 of around US$248 billion, which was considerably less than the surplus posted in the second half of 2022 of about US$316 billion. The region's trade in goods balance remained in surplus albeit significantly lower as China's trade in good surplus weakened to US$293 billion in 1H2023 from US$357 billion in 2H2022 **(Figure 2.3).** In contrast, the region's trade in services registered a deficit during the period due to a larger deficit from China (including larger resident travel debits), following three consecutive semesters of surpluses from 2H2021 to 2H2022. Meanwhile, Asia's primary income deficit (which includes investment income) improved from a deficit of US$130 billion to a deficit of around US$103 billion in 1H2023, whereas the secondary income balance (which includes remittances) stayed in surplus at US$85 billion, although slightly lower from the previous period. Across economies in the region, the current account balances of India, Nepal, Philippines, and Thailand were in deficit during the period, while the rest posted current account surpluses. However, the current account surpluses of China; Hong Kong, China; Indonesia; Korea; Malaysia; and Chinese Taipei declined in 1H2023 compared to 2H2022, while those for Singapore, Sri Lanka, and Vietnam grew over the period.

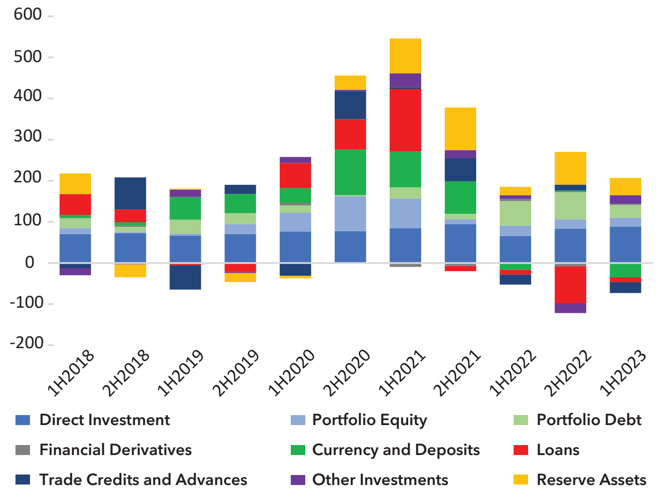
The first half of 2023 witnessed a divergence in the overall trend of resident capital outflows across Asian economies, with China and ASEAN5 reporting lower investment abroad while India, Advanced Asia and Asian Frontier Markets registered larger overseas investment. China's resident capital outflows decreased in 1H2023 compared to 2H2022, mostly due to smaller portfolio debt (bond) investment abroad and lower accumulation of official foreign reserves, in line with its narrower current account surplus during the period **(Figure 2.4a).** Similarly, resident foreign investments of ASEAN5 economies halved from US$32 billion in 2H2022 to US$16 billion in 1H2023 due to lower direct investment abroad and loans; and retrenchment of currency and deposit from abroad **(Figure 2.4b).** In contrast, India's resident investment abroad doubled from US$40 billion in 2H2022 to US$93 billion in 1H2023 given the notable increase in resident currency and deposits abroad and foreign reserve accumulation **(Figure 2.4c).** Advanced Asia's resident flows more than double in 1H2023 to US$182 billion from US$73 billion in

Figure 2.3: Current Account Balance, Asia *(USD billion)*



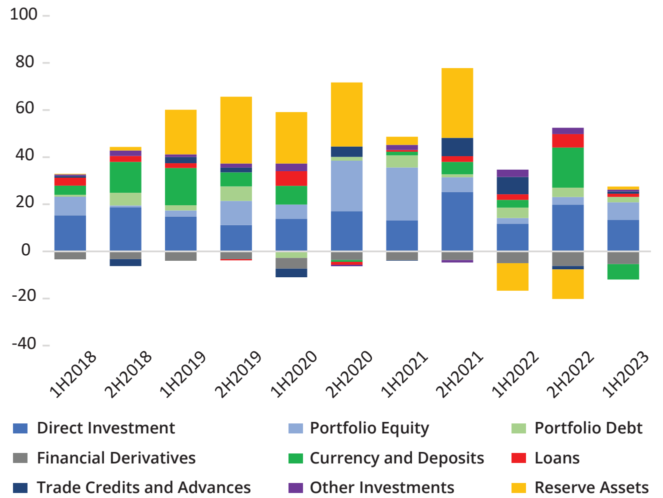
Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand, and Vietnam.

Figure 2.4a: Resident Capital Flows, China *(USD billion)*



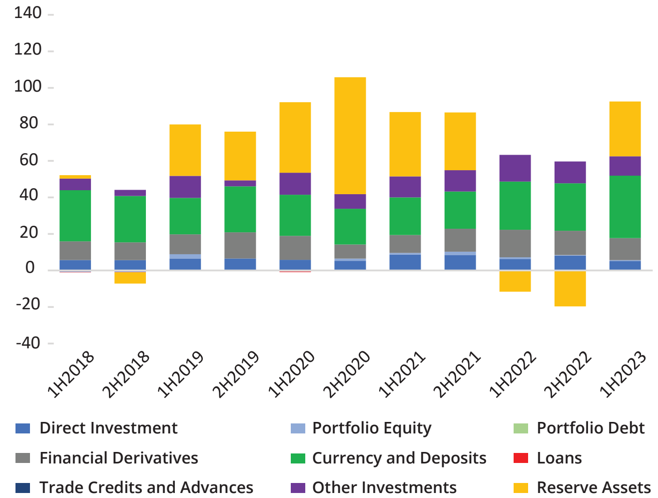
Notes: Other investments include other receivables, other equity, and insurance and pension.

Figure 2.4b: Resident Capital Flows, ASEAN5 *(USD billion)*



Notes: ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Other investments include other receivables, other equity, and insurance and pension. Values Vietnam were estimated using derived weights and reported aggregate values.

Figure 2.4c: Resident Capital Flows, India *(USD billion)*



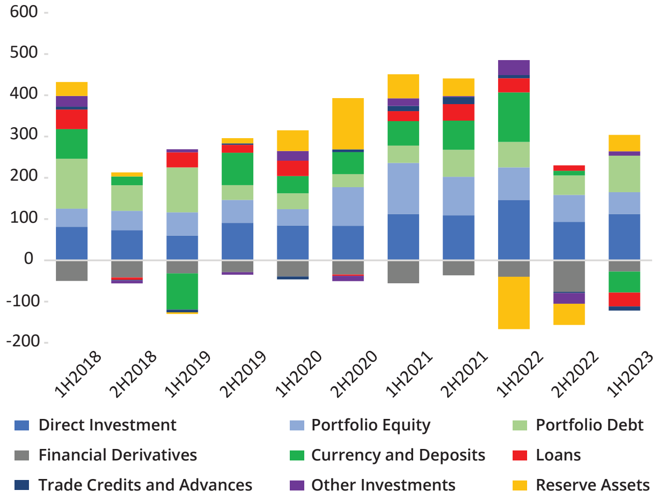
Notes: Other investments include other receivables, other equity, and insurance and pension.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

2H2022 driven by larger resident direct investments abroad, portfolio debt, and reserve accumulation **(Figure 2.4d).** Likewise, resident investment abroad grew for Asian Frontier Markets due to larger currency and deposits abroad and foreign reserve accumulation **(Figure 2.4e).**

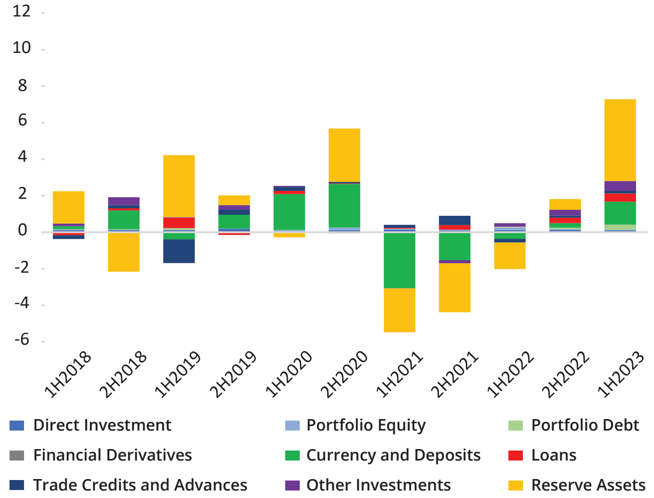
The region's nonresident capital inflows also diverged between economies which reported higher nonresident capital inflows with those that registered lower capital inflows. For the former group, China's nonresident capital inflows improved in 1H2023 to US$7 billion, following a reversal of US$65 billion in 2H2022. Nonresident portfolio equity, currency and deposits, and other investment inflows increased, while foreign direct investment remained positive, albeit lower than in 2H2022 due to financial and other reasons such as weaker foreign profits and larger nonresident profit repatriation **(Figure 2.5a).** India also registered a significant increase in nonresident capital inflows during the period driven by portfolio equity, portfolio debt, currency and deposits, and loans **(Figure 2.5b).** For the latter group, nonresident capital inflows to Advanced Asia Economies dropped from US$103 billion in 2H2022 to US$83 billion as currency and deposits as well as trade credits and advances reported reversals, while nonresident loans and other investments dropped **(Figure 2.5c).** Foreign capital inflows to ASEAN5 economies also dropped by more than half from US$38 billion in 2H2022 to US$15 billion in 1H2023 as it witnessed

Figure 2.4d: Resident Capital Flows, Advanced Asian Economie *(USD billion)*



Notes: Advanced Asian Economies include Hong Kong, China; Korea; Singapore; and Chinese Taipei. Other investments include other receivables, other equity, and insurance and pension. Values for Singapore were estimated using derived weights and reported aggregate values.

Figure 2.4e: Resident Capital Flows, Asian Frontier Markets *(USD billion)*



Notes: Asian Frontier Markets include Cambodia, Lao PDR, Mongolia, Nepal, and Sri Lanka. Other investments include other receivables, other equity, and insurance and pension.

Figure 2.5a: Nonresident Capital Flows, China *(USD billion)*

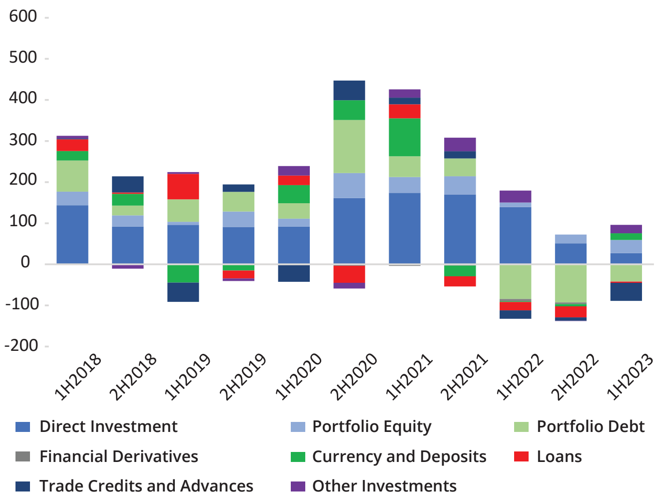
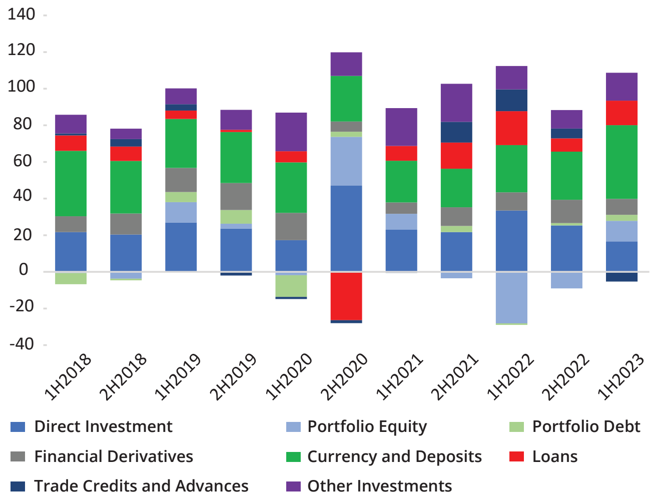


Figure 2.5b: Nonresident Capital Flows, India *(USD billion)*



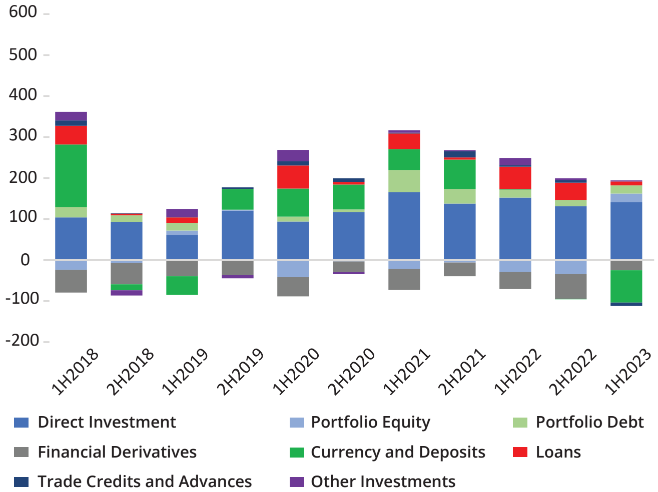
Notes: Other investments include other payables, other equity, insurance and pension, and SDR liabilities.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

nonresident capital flow reversals on almost all categories except foreign direct investment and other investments **(Figure 2.5d).** Nonresident capital inflows to Asian Frontier Markets decreased slightly in 1H2023, compared to the previous period, due to smaller foreign capital inflows on currency and deposits, loans, and other investments **(Figure 2.5e).**

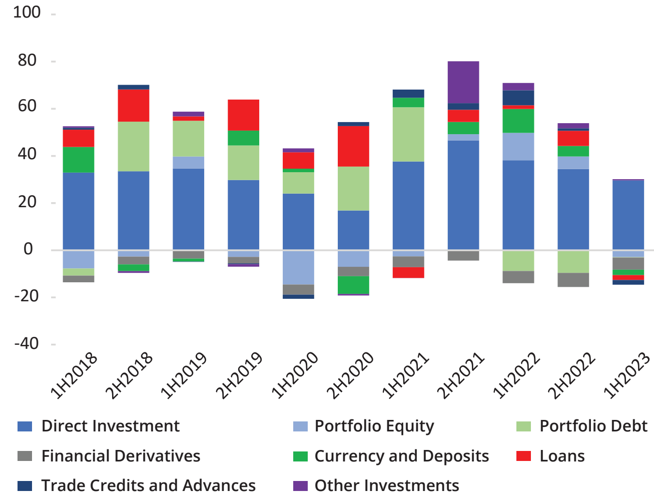
High interest rates discouraged cross-border investment flows. In percentage of regional GDP, average resident capital outflows were significantly larger during the COVID-19 pandemic period (1H2020 to 2H2021) at 3.5% of the region's GDP, followed by the pre-COVID-19 pandemic period (1H2018 to 2H2019) at 2.2%. In contrast, for the current period of higher inflation (1H2022 to1H2023), average resident capital outflows were substantially smaller at 1.5%, less than half than the average during the COVID-19 period. This pattern holds true for China, India, Advanced Asian economies, and ASEAN5. Likewise, the average nonresident capital inflows were largest during the COVID-19 pandemic period (1H2020 to 2H2021) at 2.6% of regional GDP, followed by the pre-COVID-19 pandemic period (1H2018 to 2H2019) at 2.1%, while it was lowest during the prevailing period of higher interest rates at 0.9% (1H2022 to 1H2023). This pattern is also observed for China, India, Advanced Asian economies, and ASEAN5.

Figure 2.5c: Nonresident Capital Flows, Advanced Asian Economies *(USD billion)*



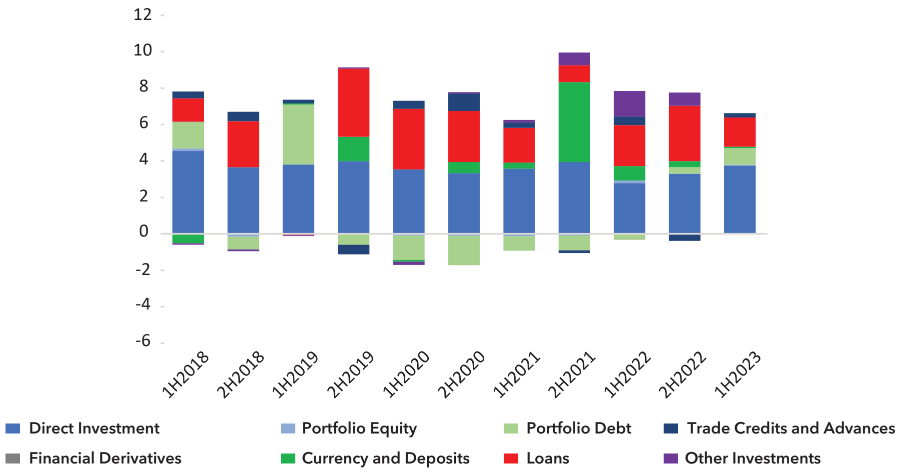
Notes: Advanced Asian Economies include Hong Kong, China; Korea; Singapore; and Chinese Taipei. Other investments include other payables, other equity, insurance and pension, and SDR liabilities. Values for Singapore were estimated using derived weights and reported aggregate values.

Figure 2.5d: Nonresident Capital Flows, ASEAN5 *(USD billion)*



Notes: ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Other investments include other payables, other equity, insurance and pension, and SDR liabilities. Values for Vietnam were estimated using derived weights and reported aggregate values.

Figure 2.5e: Nonresident Capital Flows, Asian Frontier Markets *(USD billion)*



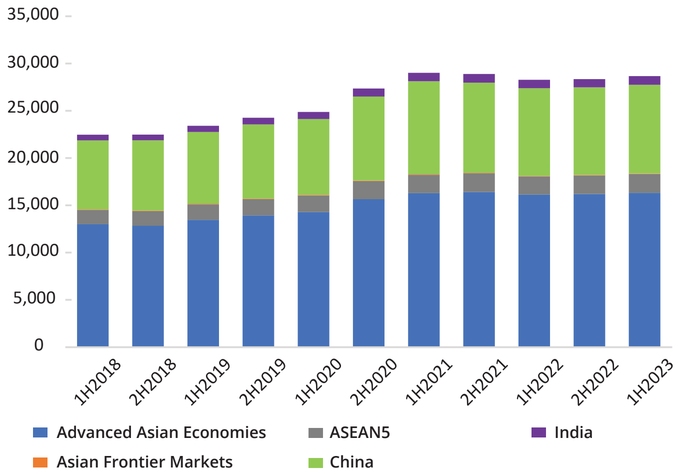
Notes: Asian Frontier Markets include Cambodia, Lao PDR, Mongolia, Nepal, and Sri Lanka. Other investments include other payables, other equity, insurance and pension, and SDR liabilities.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

Total international investment assets of Asian economies reached US$28.7 trillion in the first half of 2023, up by 1.1% from US$28.3 trillion at end-2022. Among Asian economies, Advanced Asian economies, as a subgroup, had the highest international financial assets amounting to US$16.3 trillion as of 1H2023, followed by China (US$9.4 trillion), ASEAN5 (US$2 trillion), India (US$920 billion), and Asian Frontier Markers (US$60 billion), respectively. The international investment holdings of Advanced Asian economies and China alone comprised around 90% of the region's total international investments **(Figure 2.6a).** Across asset types, direct investment abroad (US$8.6 trillion) and official reserve assets (US$6.4 trillion) dominated asset holdings in 1H2023, followed by portfolio equity (US$ 3.8 trillion), portfolio debt (US$ 3.1 trillion), and currency and deposits (US$ 2.9 trillion). Interestingly, portfolio investment assets were roughly equally distributed between portfolio equities and portfolio debt **(Figure 2.6b).** Excluding financial derivatives, the debt-equity asset ratio stood at 1.26 as of the end-June 2023, which was slightly lower than 1.28 as of end-2022.[4] Compared to 2018-19 when debt-equity asset ratio stood at 1.45, the continued decline of debt-equity ratio for international assets

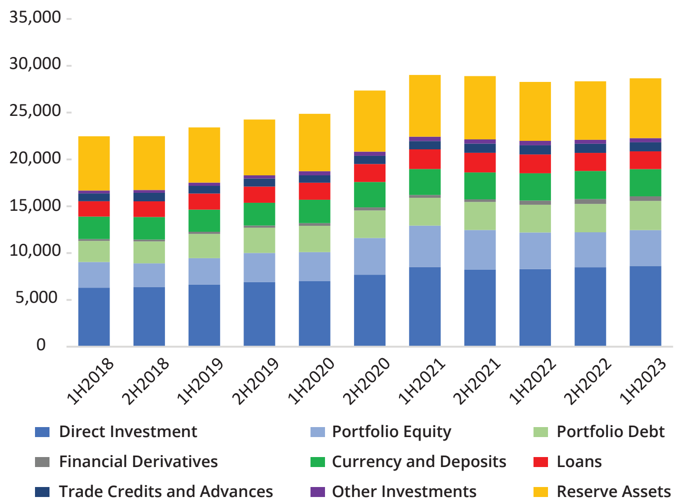
4. Debt investments includes portfolio debt, currency and deposits, loans, trade credits and advances, other investments, and official reserve assets, which are mostly currency and deposits and portfolio debt securities.

Figure 2.6a: International Investment Assets, by sub-region *(USD billion)*



Notes: Advanced Asian Economies include Hong Kong, China; Korea; Singapore; and Chinese Taipei. ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Asian Frontier Markets include Cambodia, Mongolia, Nepal, and Sri Lanka. Values for Chinese Taipei and Vietnam were estimated using derived weights and reported aggregate values. 2H2022 and 1H2023 data for Nepal is the same value as 1H2022.

Figure 2.6b: International Investment Assets, by category *(USD billion)*



Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Other investments include other receivables, other equity, and insurance and pension. Values for Chinese Taipei and Vietnam were estimated using derived weights and reported aggregate values. 2H2022 and 1H2023 data for Nepal is the same value as 1H2022.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

suggests a growing preference for equity-type investments which could offer higher returns.

Total international investment liabilities of Asian economies slightly increased by US$29 billion to US$21.8 trillion as of end-June 2023, up by 0.1% from end-2022. Among Asian economies, Advanced Asian economies had the highest international financial liabilities amounting to US$11.3 trillion in 1H2023, again followed by China at US$6.6 trillion and ASEAN5 at US$2.4 trillion, respectively **(Figure 2.7a).** Across investment types, the region incurred foreign direct investment liabilities amounting to US$10.2 trillion as of 1H2023. This was followed by portfolio equity investment at US$3.3 trillion and currency and deposits at US$3.0 trillion, respectively. **(Figure 2.7b).** Excluding financial derivative liabilities, the debt-equity liabilities ratio stood at 0.57 as of the first half of 2023, lower than 0.58 as of end-2022, reflecting a continued tilt towards equity liabilities since 1H2022.

Asian economies, as a group, remained a net capital exporter as of end-June 2023 as their positive net foreign asset position stood at US$6.9 trillion, slightly higher than the US$6.6 trillion at end-2022. However, within Asian economies, there was a clear divide between net capital exporters and net capital importers. China; Hong Kong, China; Chinese Taipei; and Thailand were net capital exporters as they have positive net foreign asset position as of 1H2023. In contrast, Cambodia, India, Indonesia, Mongolia, Nepal, Philippines, Sri Lanka, and Vietnam have negative net foreign asset position, indicating they were net borrowers as of end-June 2023. Across subregions, the net negative position of ASEAN5 economies improved slightly in 1H2023 whereas the net negative position of the Asian Frontier Markets continued to slide during the same period.

B. Outlook on Capital Flows and Net Foreign Asset Positions[5]

As a group, Asian economies will most likely sustain their positive net resident capital outflows and net foreign asset position in 2023, although at a lower level compared to 2022, as downside risk factors to capital flows and cross-border investment remain at large. Compared to the full year of 2022, net resident capital outflows in Asia will likely remain positive, although lower than the previous year. The region's overall positive net resident flows will be buoyed by the Advanced Asian economies, whose current account balance is expected to remain positive. Although China's nonresident capital flows might continue to weaken in 2H2023 due to lower nonresident portfolio flows and foreign direct

5. The outlook discussed in this section is mostly based on SEACEN staff assessment of economic and financial projections and prospects from the International Monetary Fund (World Economics Outlook Database October 2023) and Institute of International Finance reports (IIF Capital Flows Tracker October 2023).

Figure 2.7a: International Investment Liabilities, by sub-region *(USD billion)*

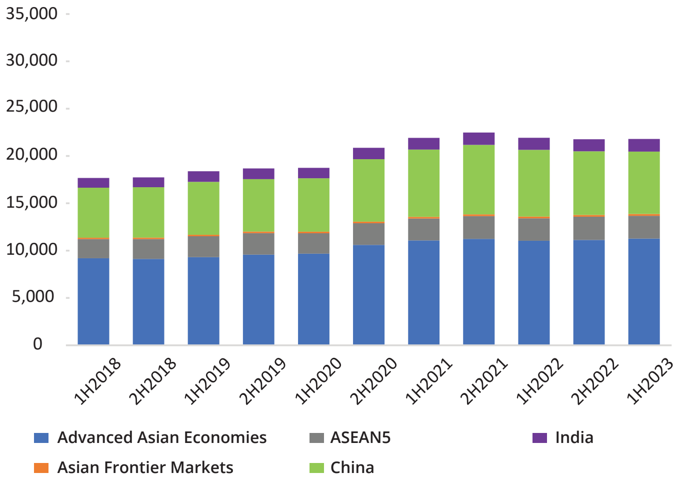
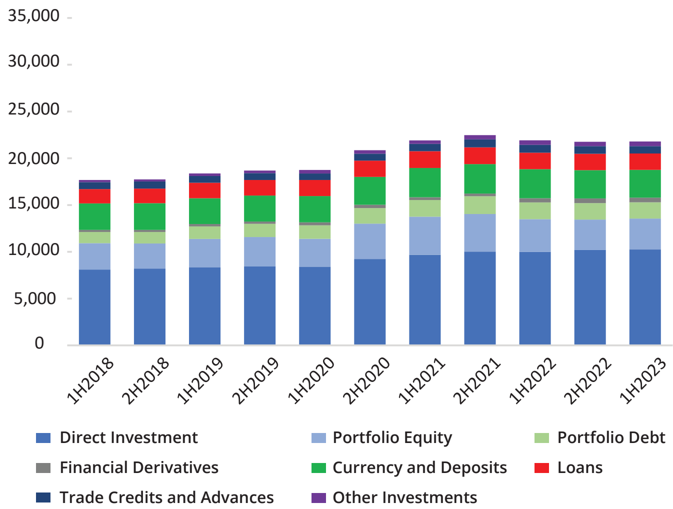


Figure 2.7b: International Investment Liabilities, by category *(USD billion)*



Notes: Advanced Asian Economies include Hong Kong, China; Korea; Singapore; and Chinese Taipei. ASEAN5 includes Indonesia, Malaysia, Philippines, Thailand, and Vietnam. Asian Frontier Markets include Cambodia, Mongolia, Nepal, and Sri Lanka. Values for Chinese Taipei and Vietnam were estimated using derived weights and reported aggregate values. 2H2022 and 1H2023 data for Nepal is the same value as 1H2022.

Notes: Asia includes Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam. Other investments include other payables, other equity, insurance and pension, and SDR liabilities. Values for Chinese Taipei and Vietnam were estimated using derived weights and reported aggregate values. 2H2022 and 1H2023 data for Nepal is the same value as 1H2022.

Sources: SEACEN staff calculations using data from IMF's Balance of Payments Statistics and national sources accessed through CEIC Database (downloaded November 2023).

investments because of lower profits and slower economic growth in 2023, its resident capital flows will most likely hold because of its current account surplus, bringing its full year net resident capital flows into positive territory. Net resident capital flows are expected to be negative in India and Asian Frontier Markets in line with their current account deficit forecasts in 2023. For ASEAN5 economies, its net resident capital outflows will continue to improve in 2023 by ending the year with either a small positive or small negative net resident capital outflows, compared to the full year of 2022. Given the region's expected current account surplus in 2023, it will maintain its positive net international investment position, although divergence between economies with positive or negative positions will persist depending on current account balances, exchange rate movements, and capital gains in the remainder of the year.

Downside risk factors to cross-border investments remain at large in the second half of 2023. First, the current period of high U.S. policy rates will continue to undermine cross-border investments, including those to the region, as investors will be more attracted to hold U.S. assets. The U.S. Effective Federal Funds Rate rose to 5.33% p.a. in July 2023, from 5.08% p.a. in May 2023, the fourth time that the U.S. Federal Reserve raised its policy rate in 2023. The rate hike in July 2023 will negatively impact Asia's nonresident capital inflows in the second half of 2023, as witnessed by the region's portfolio flows in 2H2023. The European Central Bank also raised policy rates thrice in 2H2023. Second, higher domestic policy rates in the region will further dent economic activity, leading to weaker profits, lower nonresident portfolio investments, and fewer foreign direct investments. Economic forecasts suggest that Asian economies (excluding China and India) will have slower economic growth in 2023. In the case of China, its growth will increase in 2023 but then slowdown in 2024. For India, growth will also decelerate in 2023. The slowdown in economic growth forecast in 2023 will likely translate to lower cross-border flows into the region for the rest of the year. Lastly, geopolitical risks may further weaken global investor sentiment in 2H2023.

SECTION III: U.S. POLICY RATE AND NONRESIDENT CAPITAL INFLOWS TO ASIA

This section discusses the impact of high U.S. policy rates on nonresident capital inflows to Asia.

- *Nonresident capital inflows to Asia and elsewhere have declined in 2022-23 in line with the tightening U.S. monetary policy stance, suggesting the recurring importance of global interest rates as a significant driver of gross capital inflows.*
- *Based on regression coefficients, the amount of nonresident capital flows usually declines whenever U.S. policy rate increases.*
- *The importance of U.S. policy rate as a key driver of capital flows seems to have found a renewed relevance, suggesting the evolving relevance of global factors across time.*

A. Capital Inflows and U.S. Interest Rates: Empirical Literature and Stylised Facts

The U.S. policy rate was raised several times in 2023 to stem inflationary pressures. The Federal Reserve has raised the Federal Funds Rate four times in 2023, amounting to an unprecedented 100 basis points increase in a six-month period. Likewise, the ECB has also increased its interest rates by 200 basis points to control inflationary pressures. In Asia and elsewhere, policy rates were mostly raised or held at high levels to control inflationary pressures and/or bring inflation to target levels. Following years of low inflation and low interest rate, the current period of high interest rates highlights the importance of U.S. interest rates in driving cross-border capital flows to advanced, emerging, and developing economies. This renewed relevance of U.S. policy rates contrasts with a long period of low interest rates in major advanced economies, starting with the Great Financial Crisis of 2008-09. The role of the U.S. policy rate as a driver of global capital flows is again important as it can affect the magnitude, volume, and volatility of nonresident capital flows going into emerging and developing economies.

Nonresident capital inflows tend to decrease when US interest rates are high. Conceptually, high global interest rates will raise borrowing costs in emerging and developing economies, making borrowing more expensive. Moreover, the external debt repayments of sovereigns, banks, and corporates in emerging and developing economies will likewise increase, making debt payments burdensome. In fact, one of the causes of debt crises in developing countries during the early 1980s was high interest rates in major advanced economies, including the United States which raised its policy rate in a move to lower inflation (Federal Reserve, 2013). As high global interest rates lead to higher borrowing costs and default risks, this poses financial risks to global investors and banks, causing them to invest and lend less overseas. Moreover, tighter domestic financial conditions in large advanced economies such as the U.S. could encourage global investors and international banks to lend and invest in their domestic markets instead of overseas (Cetorelli and Goldberg, 2012). Consequently, cross-border investments are expected to decline under this scenario. For this reason, U.S. policy rate and that of major advanced economies are considered as a significant factor in driving nonresident capital inflows across the world.

Empirical literature provides evidence on the relevance of U.S. policy rate in driving cross-border capital inflows. A large body of empirical literature on capital flows has used push (global) and pull (domestic) factors in assessing the relevant determinants of capital inflows.[1] Push factors are external factors which are beyond the control of domestic policy makers. The most common factors include global or advanced economy growth, global commodity prices, global risk aversion (measured by the VIX), and global interest rates (including U.S. and Euro Area). In contrast, pull factors are domestic factors within the influence of policy makers. The commonly

1. See Yeyati and Zuñiga (2015) on literature review on capital flows in the context of push and pull factors. Refer to Ahmed and Zlate (2014), Byrne and Fiess (2016), Fratzscher (2012), Ghosh et al. (2014), Lepers and Mercado (2021), Mercado and Park (2011), Mercado (2018), Park and Mercado (2011) Niel, Sedik, and Mondino (2014), and Wang (2018) on empirical tests of push and pull factors on the size or magnitude of capital flows. The reader is advised to differentiate between various empirical papers using push and pull factors on capital flows as they differ on the dependent variable used, particularly between magnitude, volatility, and occurrence of extreme episodes.

considered factors include domestic growth and other structural characteristics such as capital account openness, level of financial development, and quality of governance measures. Most empirical studies include global interest rates, mostly proxied by advanced economy interest rates, as a relevant push factor. For instance, Ghosh et al. (2014) and Mercado (2018) show that higher global interest rates (including U.S. interest rates) lower gross capital inflows even during episodes of capital flow surges and sudden stops. It also lowers the occurrence of capital flow surges (Ghosh, 2014). Using bank level data in the U.S., Cetorelli and Goldberg (2012) show that U.S. global banks borrow from their foreign branches whenever U.S. policy rate increases, or domestic liquidity conditions tighten. Avdjiev et al. (2018) find that monetary tightening in the U.S. leads to a decline in cross-border bank lending denominated in U.S. dollars.

Meanwhile, earlier studies find that lower global or U.S. interest rate triggers search for yields and improves creditworthiness of emerging and developing economies, thereby raising cross-border flows (Fernandez-Arias, 1996; and Calvo et al., 1993). Based on these and other studies, there appears to be a strong negative covariation between higher global (U.S) interest rates and capital flows across the sample of economies over time, i.e. higher global interest rates lead to lower nonresident capital inflows. However, the importance of global policy rates might vary across specific periods. Meanwhile, the analysis using interest rate differentials is more nuanced as global and domestic interest rates are push and pull factors, respectively. Nonetheless, Ahmed and Zlate (2014) show that large interest rate differential increases cross-border net resident capital inflows, particularly net portfolio flows.

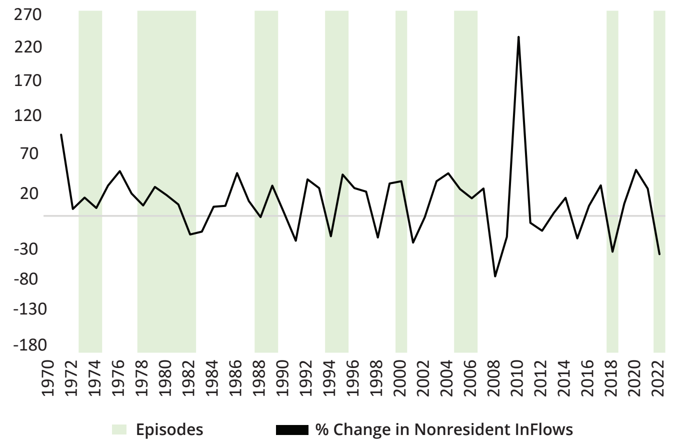
The magnitude of nonresident capital flows tends to decline in Asia and elsewhere whenever U.S. policy rate increases. **Figure 3.1** shows specific episodes when U.S. monetary policy stance was on a tightening phase along with the global year-on-year growth of nonresident capital inflows. In most cases, U.S. monetary tightening policy stance coincided with periods of high inflationary pressures such as the oil price shocks of the 1970's as well as the current period of high inflation which began in 2022. The figure implies that the growth of nonresident capital inflows tends to slow or even decelerate during periods of U.S. monetary policy tightening. For instance, U.S. policy rate was raised from 1979-81 while the global growth of nonresident capital flows slowed in 1980-81, which eventually reversed in 1982-83. U.S. interest rate was again raised in 2022, due to high inflation, coinciding with the reversal of global nonresident capital inflows by around 50%. The same pattern is observed when we consider the Asia region **(Figure 3.2).** The growth of nonresident capital flows to Asia decreased whenever U.S. policy rate was raised, more so during episodes of high inflation.

The regression coefficient between nonresident capital flows and U.S. policy rate suggests that Asia's nonresident capital flows decline whenever U.S. policy rate increases. However, the regression coefficients vary across period and composition of nonresident flows **(Figure 3.3).**[2] Across period, the regression coefficient is significant from 2015 to present, which coincides with the start of normalisation of U.S. monetary policy, following years of unconventional monetary policy, up to the present period of high inflation and high interest rate in the U.S. The estimated coefficient is insignificant from 2009-14 due to low interest rates and quantitative easing. Across different types of investments, the negative correlation between U.S. interest rate and gross capital inflows in Asia is primarily due to the other investment category which includes banking sector loans and currency and deposits. This concurs with the findings of Cetorelli and Goldberg (2012); and Avdjiev et al. (2018). However, there appears to be evidence on the positive correlation between higher U.S. policy rate and portfolio equity inflows in 2009-14, perhaps due to the impact of U.S. quantitative easing on emerging markets capital flows and stock markets (Bhattarai et al., 2021).

In the case of China and India, the same pattern holds, albeit the correlations are weaker. For both large economies, higher U.S. policy rate lowers nonresident capital flows, particularly in the 2015-23 period **(Figures 3.4a and 3.4b).** Interestingly, across types of investments, foreign direct investment

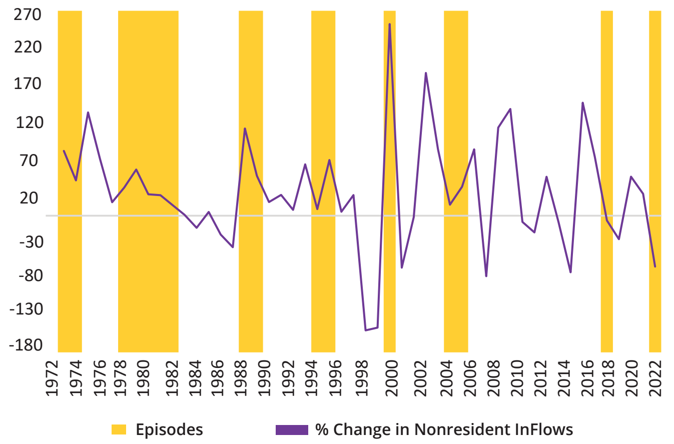
2. The regression coefficients are OLS estimates of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate level of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Cambodia; China; Hong Kong, China; India; Indonesia; Rep. of Korea; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam from 2009Q1 to 2023Q2.

Figure 3.1: Episodes of U.S. Policy Tightening and Growth of Nonresident Capital Inflows, World
(year-on-year growth, %)



Notes: Shaded bars refer to episodes of U.S. monetary policy tightening. Line refers to the year-on-year growth of total nonresident capital flows for all countries with available data during the period.

Figure 3.2: Episodes of U.S. Policy Tightening and Growth of Nonresident Capital Inflows, Asia
(year-on-year growth, %)



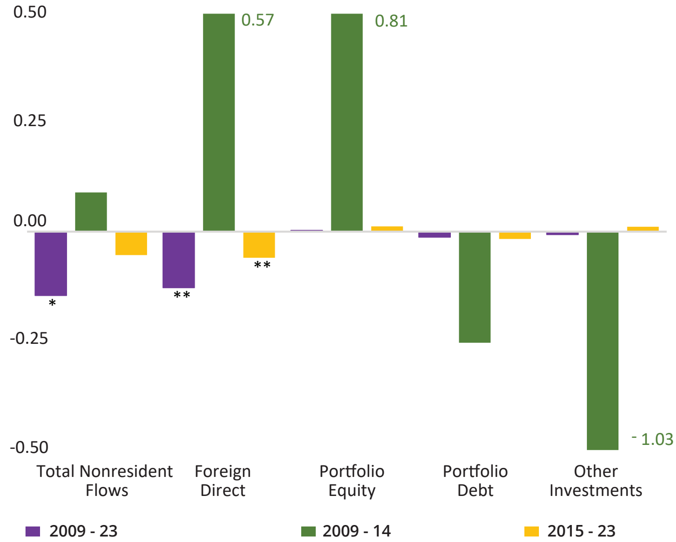
Notes: Shaded bars refer to episodes of U.S. monetary policy tightening. Line refers to the year-on-year growth of total nonresident capital flows for all countries with available data during the period. Asia includes Brunei Darussalam; Cambodia; China; Hong Kong, China; India; Indonesia; Korea; Lao PDR; Malaysia; Mongolia; Myanmar; Nepal; Papua New Guinea; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam, whenever economic and financial data are available.

Sources: SEACEN staff calculations using data from Federal Reserve and IMF's Balance of Payments Statistics taken from CEIC (accessed December 2023).

Figure 3.3: Regression Coefficients of Nonresident Capital Inflows to Asia on U.S. Policy Rate
(% of annual nominal GDP)

Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Cambodia; China; Hong Kong, China; India; Indonesia; Lao PDR; Malaysia; Mongolia; Nepal; Philippines; Singapore; Sri Lanka; Chinese Taipei; Thailand; and Vietnam from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

Figure 3.4a: Regression Coefficients of Nonresident Capital Inflows to China on U.S. Policy Rate
(% of annual nominal GDP)

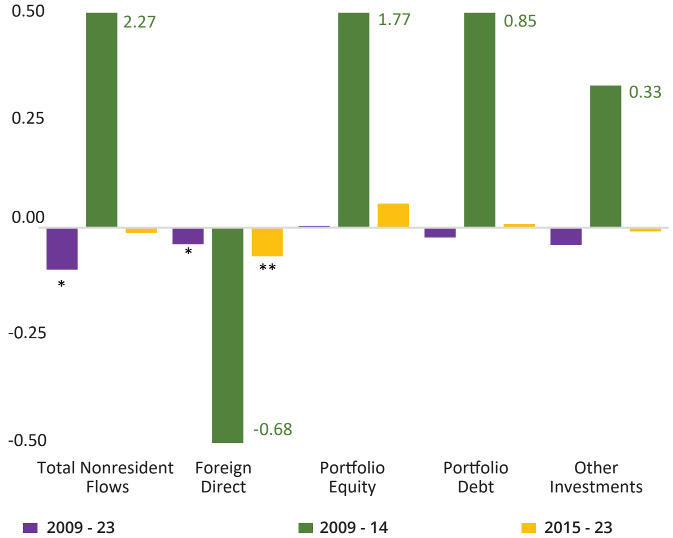


Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

Sources: SEACEN staff calculations using data from Federal Reserve and IMF's Balance of Payments Statistics taken from CEIC (accessed December 2023).

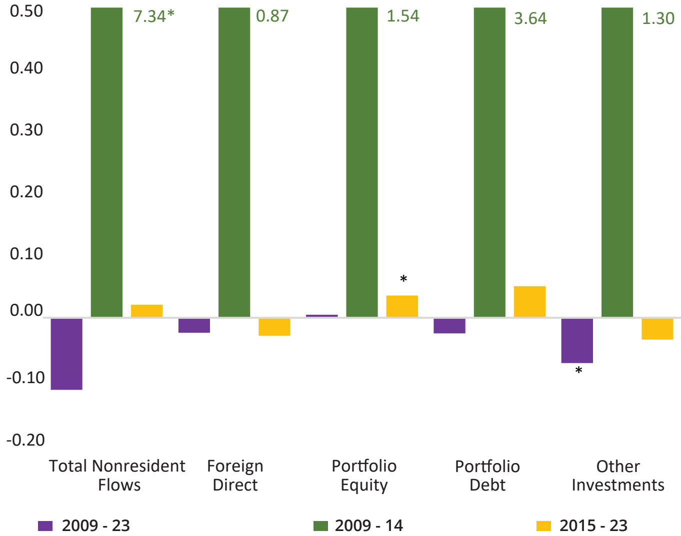
flows show the strongest negative correlation for both countries. The correlations between U.S. policy rate and nonresident capital flows to ASEAN5 and Asian Frontier Market Economies are broadly weak, although they suggest negative relationship between U.S. interest rate and nonresident other investment flows **(Figures 3.4c and 3.4d).** In the case of Advanced Asian Economies, the negative correlations appear to be particularly strong for total and other investment nonresident flows **(Figure 3.4e).** Taken together these regression coefficients provide more recent

Figure 3.4b: Regression Coefficients of Nonresident Capital Inflows to India on U.S. Policy Rate
(year-on-year growth, %)



Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

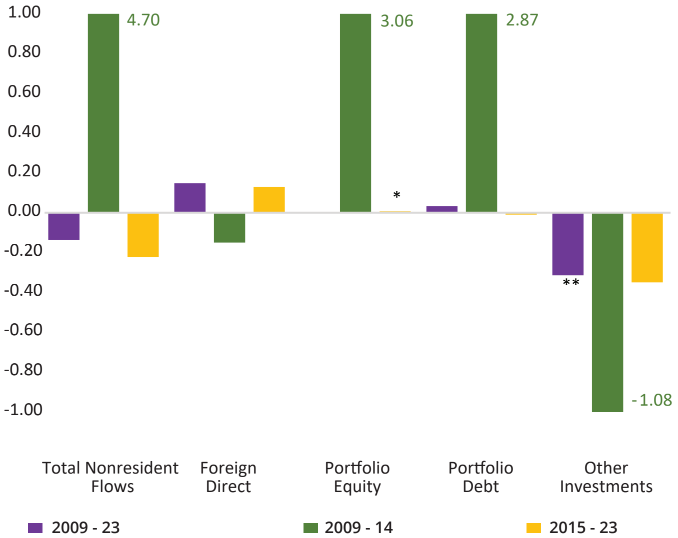
Figure 3.4c: Regression Coefficients of Nonresident Capital Inflows to ASEAN5 on U.S. Policy Rate
(year-on-year growth, %)



Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Indonesia, Malaysia, Philippines, Thailand, and Vietnam from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

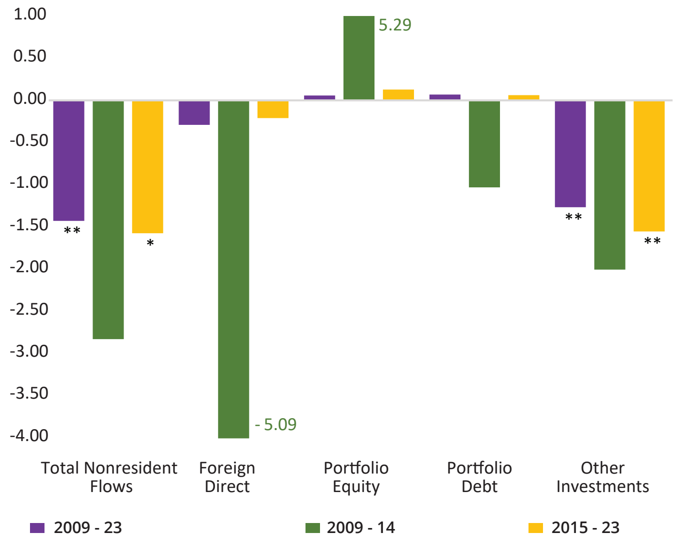
Sources: SEACEN staff calculations using data from Federal Reserve and IMF's Balance of Payments Statistics taken from CEIC (accessed December 2023).

Figure 3.4d: Regression Coefficients of Nonresident Capital Inflows to Asian Frontier Market Economies on U.S. Policy Rate
(% of annual nominal GDP)



Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Cambodia, Lao PDR, Malaysia, Mongolia, and Nepal from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

Figure 3.4e Regression Coefficients of Nonresident Capital Inflows to Advanced Asian Economies on U.S. Policy Rate
(% of annual nominal GDP)



Notes: Values refer to regression coefficients of nonresident capital inflows on global and domestic factors including GDP growth of major advanced economies (G7 economies), VIX, commodity prices, global liquidity growth, and domestic GDP growth. The asterisks indicate levels of significance of the estimated coefficients, (***) = 1%, (**) = 5%, and (*) = 10%. The sample includes quarterly data of Hong Kong, China; Korea; Singapore; and Chinese Taipei from 2009Q1 to 2023Q2. Some bars have data labels as their respective values fall outside the scale of the y-axis.

Sources: SEACEN staff calculations using data from Federal Reserve and IMF's Balance of Payments Statistics taken from CEIC (accessed December 2023).

evidence on the negative relationship between U.S. policy rate and nonresident capital flows to Asia, highlighting the renewed significance of U.S. policy rate on Asia's nonresident capital inflows.

B. Capital Inflows and U.S. Interest Rates: Implications and Considerations

The regression coefficients presented in this section have several implications that warrant consideration.

- *First, the importance of U.S. policy rate as a key driver of capital flows seems to have found a renewed relevance, following years of lower interest rate due to quantitative easing. This suggests the changing relevance of global factors across time. This observation is in line with Forbes and Warnock (2020) who showed that the relevance of global risk aversion on the occurrence of "stops" and "surges" have declined in the decade following the GFC. This implies that the drivers of capital flows, whether push or pull factors, change over time. Consequently, continued monitoring of the trends, patterns, and drivers of capital flows to Asia remains vital in calibrating appropriate responses.*

- *Second, unexpected changes in inflationary pressures and other surprises; as well as intensification of downside risks could lead to volatile capital flows to the region and elsewhere.*

- *Lastly, financial stability challenges and risks arising from periods of high interest rate should, likewise, be considered and examined more in-depth particularly in the context of the Asia region. The current period of high U.S. policy rate due to high inflation and their impact on capital flows and cross-border investment may serve as a case study for future reference.*

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SEACEN Capital Flows Monitor 2023

The SEACEN Capital Flows Monitor is a bi-annual report on cross-border capital flows and net foreign asset positions of SEACEN member economies, which are members of the SEACEN Expert Group (SEG) on Capital Flows. The report discusses financial market developments in the region as well as recent trends and outlook on capital flows and international investment positions. A separate section provides thematic analysis on topical issues, such as high U.S. policy rate and lower nonresident capital inflows to Asia.

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Since its inception in the early 1980's, The South East Asian Central Banks Research and Training Centre (the SEACEN Centre) has established its unique regional position in serving its membership of central banks in the Asia-Pacific region through its learning programmes in key central banking areas (including Macroeconomic and Monetary Policy Management; Financial Stability and Supervision, and Payment and Settlement System; and Leadership. Governance, and Human Capital), research work, and networking and collaboration platforms for capability building in central banking knowledge.

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