INTERNATIONAL MONETARY FUND

# EXTERNAL SECTOR REPORT

## The Dynamics of External Adjustment

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# PREFACE

Produced since 2012, the IMF's annual *External Sector Report* analyzes global external developments and provides multilaterally consistent assessments of external positions, including current accounts, real exchange rates, external balance sheets, capital flows, and international reserves, of the world's largest economies, representing over 90 percent of global GDP. Chapter 1 emphasizes multilateral issues, showing how individual economies fit into the global picture and discussing policies needed to reduce global imbalances in a manner supportive of global growth. Chapter 2 analyzes the role of exchange rates in supporting the external adjustment process. Specifically, the chapter discusses how certain features of international trade—namely, dominant currency invoicing and integration into global value chains—can affect the speed and channels through which exchange rates facilitate external adjustment. Chapter 3, "Individual Economy Assessments," provides details on the different aspects of the overall external assessment and associated policy recommendations for 30 economies. This year's report and associated external assessments are based on the latest vintage of the External Balance Assessment (EBA) methodology and on data and IMF staff projections as of June 20, 2019.

Together with the *World Economic Outlook* and Article IV consultations (both with their heightened focus on spillovers), this report is part of a continuous effort to assess and address the possible effects of spillovers from members' policies on global stability and to monitor the stability of members' external positions in a comprehensive manner. This year's report complements IMF analysis on global imbalances conducted for the Group of Twenty Japanese presidency.

This report was prepared under the overall guidance of Gita Gopinath, IMF Economic Counsellor and Director of Research, and under the direction of the External Sector Coordinating Group—comprising staff from the IMF's area departments (the African Department, Asia and Pacific Department, European Department, Middle East and Central Asia Department, and Western Hemisphere Department) as well as the Fiscal Affairs Department; the Statistics Department; the Strategy, Policy, and Review Department; the Monetary and Capital Markets Department; and the Research Department—namely, Tam Bayoumi, Tim Callen, Paul Cashin, Nigel Chalk, Varapat Chensavasdijai, Mariana Colacelli, Luis Cubeddu (Chair), Alfredo Cuevas, Giovanni Dell'Ariccia, Enrica Detragiache, Gaston Gelos, Venkateswarlu Josyula, Martin Kaufman, Julie Kozack, Paolo Mauro, Jonathan D. Ostry, Catherine Pattillo, Ratna Sahay, Carlos Sánchez-Muñoz, Antonio Spilimbergo, and Zeine Zeidane.

Gustavo Adler and Pau Rabanal led the preparation of the report. The report draws on contributions from Tam Bayoumi, Diego Cerdeiro, Mitali Das, Swarnali Ahmed Hannan, Jelle Barkema, Callum Jones, Luciana Juvenal, Christina Kolerus, Huidan Lin, Sergii Meleshchuk, Carolina Osorio-Buitron, and Cyril Rebillard. Important input was provided by country teams as well as by Russell Green, Shakill Hassan, Yevgeniya Korniyenko, Yinqiu Lu, Silvia Sgherri, and Hui Tong. Excellent research and editorial assistance were provided by Rachelle Blasco, Kyun Suk Chang, Deepali Gautam, Jane Haizel, Jair Rodriguez, and Zijiao Wang.

Gemma Rose Diaz and Rumit Pancholi from the Communications Department led the editorial team for the report, with production and editorial support from Jeff Hayden, Joe Procopio, Christine Ebrahimzadeh, Linda Long, Lucy Morales, Katy Whipple/The Grauel Group, AGS, and Vector Talent Resources.

The analysis has benefited from comments and suggestions by staff members from other IMF departments, as well as by Executive Directors following their discussion of the report on July 10, 2019. However, both projections and policy considerations are those of the IMF staff and should not be attributed to Executive Directors or to their national authorities.

# EXECUTIVE SUMMARY

After narrowing sharply in the aftermath of the global financial crisis, overall current account surpluses and deficits reached 3 percent of world GDP in 2018, declining marginally while rotating toward advanced economies in recent years. The IMF's multilateral approach suggests that about 35–45 percent of overall current account surpluses and deficits were deemed excessive in 2018. Higher-than-warranted balances remained centered in the euro area as a whole (driven by Germany and the Netherlands) and in other advanced economies (Korea, Singapore), while lower-than-warranted balances remained concentrated in the United Kingdom, the United States, and some emerging market economies (Argentina, Indonesia). China's external position was assessed to be in line with fundamentals and desirable policies, as its current account surplus narrowed further, although achieving a lasting external rebalancing will require gradual reining in expansionary macroeconomic policies and adopting further structural reforms.

Meanwhile, net creditor positions have continued to increase and, at about 20 percent of global GDP, are at a historical peak—four times the level prevailing in the early 1990s, with net debtor positions reaching a similar magnitude. Short-term financing risks from the current configuration of external imbalances are generally contained, as debtor positions are concentrated in reserve-currency-issuing advanced economies. An intensification of trade tensions or a disorderly Brexit outcome—with further repercussions for global growth and risk aversion—could, however, affect other economies that are highly dependent on foreign demand and external financing. Over the medium term, in absence of corrective policies, trade tensions could become entrenched, and further divergence of external stock positions could trigger costly disruptive adjustments in key debtor economies that could spill over to the rest of the world.

With output near potential in most systemic economies, a well-calibrated macroeconomic and structural policy mix is necessary to support rebalancing. Excess deficit countries (United Kingdom, United States) need to adopt or continue with growth-friendly fiscal consolidation, while excess surplus economies should deploy available fiscal space to boost potential growth and achieve rebalancing (Germany, Korea, Netherlands), including by boosting public infrastructure investment, and avoid overreliance on monetary policy where applicable. Structural policies remain central to tackle external imbalances, but they need to be carefully sequenced and tailored. In general, excess surplus countries should adopt reforms that encourage investment and discourage excessive saving, including by supporting innovation and deregulating certain sectors (Germany, Korea), widening the coverage of social safety nets (Korea, Malaysia, Thailand), and addressing rising and high corporate saving. Excess deficit countries should increase labor market flexibility and improve competitiveness, including by strengthening the skill base of workers (Canada, Indonesia, South Africa, Spain, United Kingdom, United States). In the euro area, where accommodative monetary conditions remain necessary to support the return of area-wide inflation to its objective, higher wage growth in key creditor economies is necessary for rebalancing. Even in some economies where external positions are assessed to be broadly in line with fundamentals, actions are necessary to tackle domestic imbalances and prevent a resurgence of external imbalances through targeted structural reforms, including by reducing barriers to investment and competition in certain sectors (China, Japan).

Exchange rate flexibility remains key to facilitate external adjustment, with limited evidence of this mechanism weakening over time. As highlighted in Chapter 2, varying features of international trade, including dominant currency invoicing and global value chain integration, can alter the mechanisms of external adjustment in the short term, while conventional exchange rate effects on trade flows remain at play in the medium term. Sluggish near-term export responses in some cases—in part reflecting these features of international trade—suggest that exchange rate flexibility may need to be supported with other policies

in some cases, including to lessen capacity constraints through improved access to credit and transportation infrastructure, to facilitate external rebalancing. Other country-specific features, including reliance on foreign currency borrowing, need to be considered when designing the overall policy response.

It is imperative that all countries avoid policies that distort trade. Recent trade policy actions are weighing on global trade flows, investment and growth, including through confidence effects and the disruption of global supply chains, with no discernible impact on external imbalances thus far. Instead, surplus and deficit countries alike should work toward reviving liberalization efforts and strengthening the rules-based multilateral trading system that has served the global economy well over the past 75 years.

# IMF EXECUTIVE BOARD DISCUSSION SUMMARY

*The following remarks were made by the Chair at the conclusion of the Executive Board's discussion of the* External Sector Report *on July 10, 2019.*

Executive Directors generally agreed with the findings of the 2019 External Sector Report and its policy recommendations. They noted that, while global imbalances had declined considerably since the global financial crisis, progress has been more limited in recent years, with increased concentration in advanced economies. Directors also observed that the persistence of current account surpluses and deficits have led to a continued widening of stock imbalances, reaching record levels. Moreover, recent trade measures are weighing on global trade, with negative implications for investment and growth.

Directors shared the view that, in the near term, financial risks from the current configuration of global imbalances are generally contained. Nevertheless, an intensification of trade tensions and a disorderly Brexit, with knock-on effects on global growth and risk aversion, could adversely affect economies highly dependent on foreign demand and external financing. Over the medium term, Directors cautioned that, absent corrective policies, trade tensions could become entrenched, and further divergence of external stock positions could trigger costly disruptive adjustments in key debtor economies that could spill over to the rest of the world.

Directors agreed that carefully-calibrated macroeconomic policies, tailored to country-specific circumstances, would be necessary not only to achieve domestic objectives but also to support external rebalancing. Excess deficit economies should give priority to adopting or continuing with growth-friendly fiscal consolidation, and to deploying macroprudential policies where credit growth or foreign-currency borrowing may be excessive. Excess surplus economies should deploy available fiscal space to boost potential growth, including through public infrastructure investment, while avoiding overreliance on monetary policy, where applicable. Directors highlighted that, even in some economies where external positions are assessed to be broadly in line with fundamentals, policy actions are necessary to address domestic vulnerabilities and prevent a resurgence of external imbalances. Meanwhile, rising external debt liabilities in a number of economies require careful monitoring, especially of maturity and currency mismatches.

Directors underlined the key role of carefully-sequenced and designed structural policies to tackle persistent external imbalances. Reforms that enhance competitiveness and productivity of the tradable sector are central for rebalancing in excess deficit economies. In excess surplus economies, reforms should aim to encourage investment—including through innovation support and deregulation of certain sectors—and discourage excessive savings by households and corporations. Noting that excess surpluses tend to be associated with rising corporate saving and the resultant wealth inequality, Directors encouraged staff to conduct further analysis on its drivers, including at the country level, to arrive at more concrete policy implications.

Directors agreed that exchange rate flexibility remains key to facilitate external adjustment and welcomed the analysis on how evolving features of international trade, such as dominant currency invoicing and global value chain integration, can affect the external adjustment process. They noted that, while exchange rates may have relatively muted effects in the short term as a result of some of these features, standard exchange rate effects on trade flows remain at play in the medium term. Directors saw the benefits of policies that ease capacity constraints, through improved access to credit and transportation infrastructure, in helping strengthen exchange rate mechanisms. They looked forward to further analysis on the

mechanisms of external adjustment, including through balance sheet channels and trade in services, to distill policy lessons in an integrated framework that takes other important country-specific characteristics into account.

Directors stressed the importance of a collective effort by the international community to avoid policies that distort trade, including trade barriers and subsidies. They observed that recent trade barriers had done little thus far to address underlying external imbalances while reducing welfare. They encouraged countries to work toward reviving liberalization efforts, including in areas like e-commerce and services trade, and strengthening the rules-based multilateral trading system.

Directors highlighted the valuable public good aspect of the Fund's multilaterally-consistent external sector assessments. They appreciated ongoing efforts by staff to strengthen the analysis and transparency of the External Sector Report, especially in the use of judgment, while acknowledging inherent uncertainties in the conduct of external assessments. Directors called for continued efforts to improve the External Balance Assessment (EBA) methodologies, including to better understand the risks posed by external stock positions and their composition, as well as strengthen data collection efforts to account for the rising cross-border activities of multinational corporations. Directors reiterated that, given large unexplained residuals, caution would continue to be needed in interpreting model results and drawing policy recommendations. In this context, they encouraged staff to continue using all EBA models and complementary tools in the conduct of external assessments.

Directors stressed that rigorous and evenhanded analysis of external positions is necessary to promote growth-friendly policy actions by both surplus and deficit countries to rebalance the global economy in a durable and symmetric way. They looked forward to further integration of external sector assessments into surveillance at both the bilateral and multilateral levels.

CHAPTER 1

# EXTERNAL POSITIONS AND POLICIES

*This overview chapter presents the evolution, outlook, and risks from global external positions and summarizes the external assessments of a globally representative set of economies for 2018, which are also detailed in Chapter 3, "2018 Individual Economy Assessments." These assessments are multilaterally consistent and draw on inputs from the latest vintage of the External Balance Assessment (EBA) methodology and consider a full set of external indicators, including current accounts, exchange rates, external balance sheets, capital flows, and international reserves. The chapter's key objectives and concepts are summarized in Box 1.1.*

*The chapter is organized as follows: the first section "Recent External Developments, 2018–19" documents the recent evolution of current accounts, exchange rates, and international trade; the second section "A Longer-Term View on External Positions" discusses the evolution and drivers of external positions a decade after the global financial crisis; the third section "Normative Assessment of External Positions" presents the assessment of external positions of 29 key economies plus the euro area; the fourth section "Outlook and Risks" discusses the outlook and risks from the current configuration of imbalances; and the last section "Policy Challenges" ends by discussing macroeconomic and structural policies to address excess surpluses and deficits in a manner supportive of global growth.*

## Box 1.1. External Assessments: Key Objectives and Concepts

Current account deficits and surpluses can be desirable from an individual country and global perspective. A country's ability to run current account deficits and surpluses at different times is key for absorbing country-specific shocks and facilitating a globally efficient allocation of capital. Some countries may need to save through current account surpluses (for example, because of an aging population); others may need to borrow via current account deficits (for example, to import capital and foster growth). Similarly, countries facing temporary positive (negative) terms-of-trade changes may benefit from saving (borrowing) to smooth out those income shocks. Thus, deviating from a strict external balance is often desirable both from an individual country and a global standpoint.

Current account balances are deemed *excessive* if they depart from levels *consistent with fundamentals and desired policies.*

- **The current account *gap,*** or ***excess surplus/deficit or imbalance,*** is the difference between the actual current account (stripped of cyclical and temporary factors) and the level assessed by IMF staff to be consistent with fundamentals and desirable medium-term policies. This staff-assessed gap reflects policy distortions vis-à-vis other economies identified in the External Balance Assessment models as well as other policy and structural distortions not captured by the model. A current account balance that is *"higher"* ("*lower*") than implied by fundamentals and desired medium-term policies corresponds to a positive (negative) current account gap. Eventual elimination of such a gap is desirable over the medium term, although there may be good reasons to have a temporary gap and/or to adjust gradually. Note that these gaps can reflect **domestic** macroeconomic or structural policy distortions or similar policy distortions in the rest of the world (that is, **foreign** distortions).
- Assessments also include a view of the **real effective exchange rate (REER)**—normally consistent with the assessed current account gap. A positive (negative) **REER gap** implies an overvalued (undervalued) exchange rate. REER gaps do not predict future exchange rates and may occur in any economy, including those with floating exchange rates.

Although the overall assessment of a country's external position hinges on the current account and real exchange rate in a given year, it takes other indicators into consideration. These include the financial account balances, the international investment position, reserve adequacy, and other competitiveness measures, such as the unit-labor-cost-based REER. The overall external position is judged to be *weaker* (*stronger*) than warranted by fundamentals and desired policies when the current account balance is *low* (*high*) and/or the REER is deemed overvalued (undervalued). The external position is *broadly in line* with fundamentals and desired policies when the current account balance and the REER are at or close to their staff-assessed norms. Assessments strive to be multilaterally consistent, meaning that *negative* IMF staff–assessed current account/REER gaps in some economies are matched by *positive staff-assessed* gaps in others.

## Recent External Developments, 2018–19

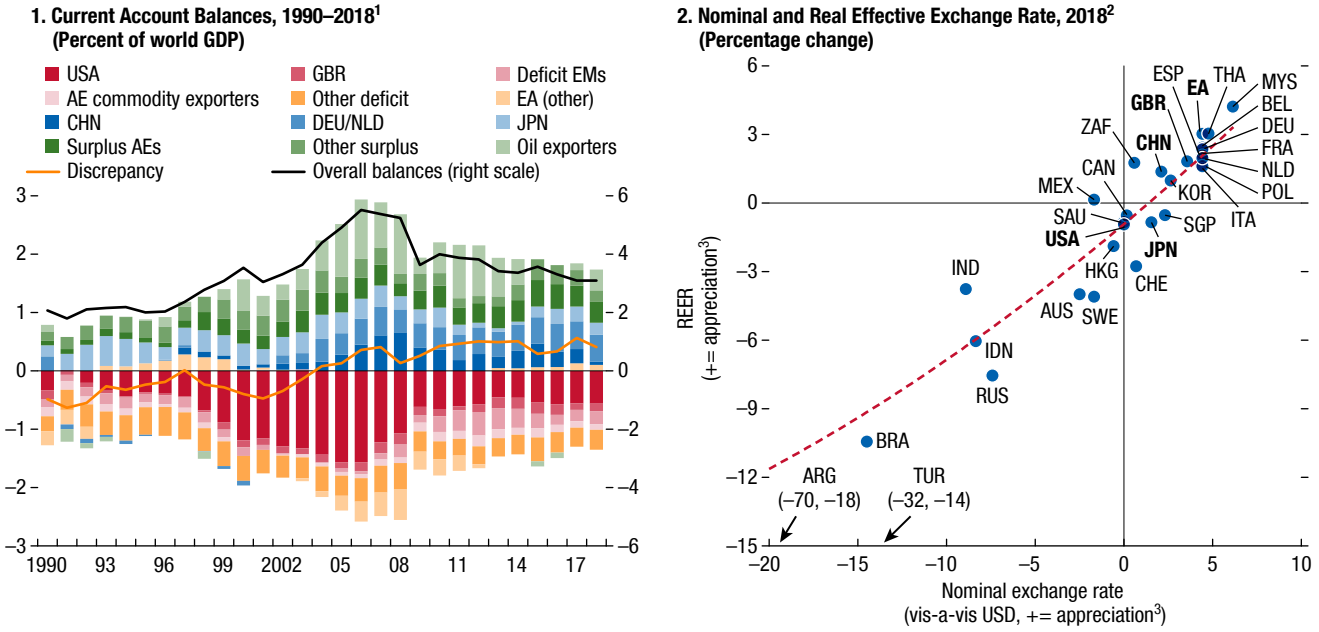
Global current account surpluses and deficits narrowed marginally in 2018, with some reconfiguration largely reflecting higher energy prices and continued external rebalancing in China (Figure 1.1 and Table 1.1). Overall, global current account balances (the absolute sum of surpluses and deficits) inched down last year to about 3 percent of global GDP. Larger current account surpluses in oil-exporting economies in 2018 were largely matched by a sharp narrowing in China's current account surplus (from 1.4 percent to 0.4 percent of GDP), with more minor reductions in current account surpluses in some advanced (euro area, Japan) and developing economies, mainly on account of higher oil prices. In the United States, despite the sizable fiscal impulse, the current account deficit was broadly unchanged at 2.3 percent of GDP in 2018, due to a smaller investment response than expected and lower oil imports.[1] Meanwhile, in more vulnerable emerging market and developing economies (Argentina, Turkey), current account deficits narrowed as financial conditions tightened, portfolio capital inflows slowed sharply, and currencies weakened.

Currency movements were generally supportive of the observed current account changes in 2018, although the implications of recent currency volatility, largely responding to shifting cyclical conditions and trade tensions, remain uncertain.

- During 2018 currency movements were generally supportive of a minor narrowing of imbalances. The euro and renminbi appreciated slightly against the US dollar, translating into moderate average annual appreciations in real effective terms (ranging between 1½ percent and 3 percent), with the yen remaining generally unchanged (Figure 1.1, panel 2). Movements were larger in key emerging market and developing economies' currencies, which came under pressure in the second half of 2018 from a combination of higher US interest rates and increased trade tensions, supporting a reduction in

[1]Kopp and others (2019) find that investment has fallen short of predictions based on the postwar relationship between tax cuts and investment. They attribute the lower sensitivity of investment to tax policy changes to increased corporate market power, although policy uncertainty may have played a small role in dampening investment growth.

### Figure 1.1. Evolution of Current Account Balances and Exchange Rates




Sources: IMF, Information Notice System; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes. AEs = advanced economies; EA = euro area; EMs = emerging markets; REER = real effective exchange rate.
[1]Overall balance is the absolute sum of global surpluses and deficits. AE commodity exporters comprise Australia, Canada, and New Zealand; Deficit EMs comprise Brazil, India, Indonesia, Mexico, South Africa, and Turkey; Oil exporters comprise WEO definition plus Norway; Surplus AEs comprise Hong Kong SAR, Korea, Singapore, Sweden, Switzerland, and Taiwan Province of China. Other deficit (surplus) comprise all other economies running current account deficits (surpluses).
[2]2018 average relative to 2017 average.
[3]Values larger than zero represent appreciation of the exchange rate.

## Table 1.1. Selected Economies: Current Account Balance, 2015–18[1]

| | In Billions of USD | | | | In Percent of World GDP | | | | In Percent of GDP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2018 | 2015 | 2016 | 2017 | 2018 | 2015 | 2016 | 2017 | 2018 |
| **Top 15 Surplus Economies in 2018** | | | | | | | | | | | | |
| Germany | 288 | 294 | 296 | 291 | 0.4 | 0.4 | 0.4 | 0.3 | 8.5 | 8.4 | 8.0 | 7.3 |
| Japan | 136 | 198 | 202 | 175 | 0.2 | 0.3 | 0.3 | 0.2 | 3.1 | 4.0 | 4.2 | 3.5 |
| Russia | 68 | 24 | 33 | 114 | 0.1 | 0.0 | 0.0 | 0.1 | 5.0 | 1.9 | 2.1 | 6.9 |
| Netherlands | 49 | 63 | 87 | 99 | 0.1 | 0.1 | 0.1 | 0.1 | 6.3 | 8.0 | 10.5 | 10.8 |
| Korea | 105 | 98 | 75 | 76 | 0.1 | 0.1 | 0.1 | 0.1 | 7.2 | 6.5 | 4.6 | 4.4 |
| Saudi Arabia | –57 | –24 | 10 | 72 | –0.1 | 0.0 | 0.0 | 0.1 | –8.7 | –3.7 | 1.5 | 9.2 |
| Switzerland | 76 | 63 | 45 | 72 | 0.1 | 0.1 | 0.1 | 0.1 | 11.2 | 9.4 | 9.8 | 10.2 |
| Taiwan Province of China | 75 | 73 | 83 | 68 | 0.1 | 0.1 | 0.1 | 0.1 | 14.2 | 13.7 | 14.4 | 11.6 |
| Singapore | 53 | 56 | 55 | 65 | 0.1 | 0.1 | 0.1 | 0.1 | 17.2 | 17.5 | 16.4 | 17.9 |
| Italy | 27 | 47 | 54 | 53 | 0.0 | 0.1 | 0.1 | 0.1 | 1.5 | 2.5 | 2.8 | 2.6 |
| China | 304 | 202 | 195 | 49 | 0.4 | 0.3 | 0.2 | 0.1 | 2.7 | 1.8 | 1.6 | 0.4 |
| Thailand | 32 | 48 | 50 | 35 | 0.0 | 0.1 | 0.1 | 0.0 | 8.0 | 11.7 | 11.0 | 7.0 |
| Norway | 31 | 15 | 23 | 35 | 0.0 | 0.0 | 0.0 | 0.0 | 7.9 | 4.0 | 5.6 | 8.1 |
| Ireland | 13 | –13 | 28 | 34 | 0.0 | 0.0 | 0.0 | 0.0 | 4.4 | –4.2 | 8.5 | 9.1 |
| United Arab Emirates | 18 | 13 | 26 | 28 | 0.0 | 0.0 | 0.0 | 0.0 | 4.9 | 3.7 | 6.9 | 6.6 |
| **Top 15 Deficit Economies in 2018** | | | | | | | | | | | | |
| United States | –408 | –433 | –449 | –478 | –0.5 | –0.6 | –0.6 | –0.6 | –2.2 | –2.3 | –2.3 | –2.3 |
| United Kingdom | –142 | –139 | –88 | –109 | –0.2 | –0.2 | –0.1 | –0.1 | –4.9 | –5.2 | –3.3 | –3.9 |
| India[2] | –22 | –14 | –49 | –68 | 0.0 | 0.0 | –0.1 | –0.1 | –1.0 | –0.6 | –1.8 | –2.5 |
| Canada | –55 | –49 | –46 | –45 | –0.1 | –0.1 | –0.1 | –0.1 | –3.5 | –3.2 | –2.8 | –2.6 |
| Indonesia | –18 | –17 | –16 | –31 | 0.0 | 0.0 | 0.0 | 0.0 | –2.0 | –1.8 | –1.6 | –3.0 |
| Australia | –57 | –42 | –35 | –29 | –0.1 | –0.1 | 0.0 | 0.0 | –4.6 | –3.3 | –2.6 | –2.0 |
| Argentina | –18 | –15 | –32 | –27 | 0.0 | 0.0 | 0.0 | 0.0 | –2.7 | –2.7 | –4.9 | –5.2 |
| Turkey | –32 | –33 | –47 | –27 | 0.0 | 0.0 | –0.1 | 0.0 | –3.7 | –3.8 | –5.6 | –3.5 |
| Mexico | –31 | –24 | –20 | –22 | 0.0 | 0.0 | 0.0 | 0.0 | –2.6 | –2.3 | –1.7 | –1.8 |
| Pakistan | –3 | –5 | –13 | –20 | 0.0 | 0.0 | 0.0 | 0.0 | –1.0 | –1.7 | –4.1 | –6.3 |
| Algeria | –27 | –26 | –22 | –16 | 0.0 | 0.0 | 0.0 | 0.0 | –16.4 | –16.5 | –13.2 | –9.1 |
| Lebanon | –10 | –12 | –14 | –15 | 0.0 | 0.0 | 0.0 | 0.0 | –19.3 | –23.1 | –25.7 | –27.0 |
| Brazil | –54 | –24 | –7 | –15 | –0.1 | 0.0 | 0.0 | 0.0 | –3.0 | –1.3 | –0.4 | –0.8 |
| Colombia | –19 | –12 | –10 | –13 | 0.0 | 0.0 | 0.0 | 0.0 | –6.3 | –4.3 | –3.3 | –3.8 |
| France | –9 | –19 | –15 | –9 | 0.0 | 0.0 | 0.0 | 0.0 | –0.4 | –0.8 | –0.6 | –0.3 |
| Memorandum item: | | | | | | | | | | | | |
| Euro Area | 313 | 370 | 410 | 395 | 0.4 | 0.5 | 0.5 | 0.5 | 2.7 | 3.1 | 3.2 | 2.9 |
| Statistical Discrepancy | 207 | 240 | 436 | 328 | 0.3 | 0.3 | 0.5 | 0.4 | . . . | . . . | . . . | . . . |
| Overall Surpluses | 1,432 | 1,373 | 1,479 | 1,475 | 1.9 | 1.8 | 1.9 | 1.7 | . . . | . . . | . . . | . . . |
| Of which: Advanced Economies | 953 | 1,025 | 1,066 | 1,052 | 1.3 | 1.4 | 1.3 | 1.2 | . . . | . . . | . . . | . . . |
| Overall Deficits | –1,224 | –1,133 | –1,042 | –1,147 | –1.6 | –1.5 | –1.3 | –1.4 | . . . | . . . | . . . | . . . |
| Of which: Advanced Economies | –689 | –710 | –649 | –704 | –0.9 | –0.9 | –0.8 | –0.8 | . . . | . . . | . . . | . . . |

Source: IMF, *World Economic Outlook*; and IMF Staff calculations.
[1]Sorted by size (in US dollars) of surplus and deficit in 2018.
[2]For India, data are presented on a fiscal year basis.

their deficits. There was considerable heterogeneity among this group, however, largely reflecting cross-country differences in external vulnerabilities and associated policy responses. For example, while the real effective exchange rate (REER) for Argentina and Turkey weakened on average by about 20 and 15 percent, respectively, these changes were more contained in other emerging market and developing economies (Brazil, India, Indonesia, Russia), ranging between 3 percent and 10 percent on average, although with significant intrayear volatility.

- During the first half of 2019 currency movements were volatile and generally less supportive of a further narrowing of imbalances. After weakening in early 2019 following the Federal Reserve's decision to pause the pace of monetary policy normalization, the US dollar has strengthened again in recent months in response to rising trade tensions and risk aversion.[2]

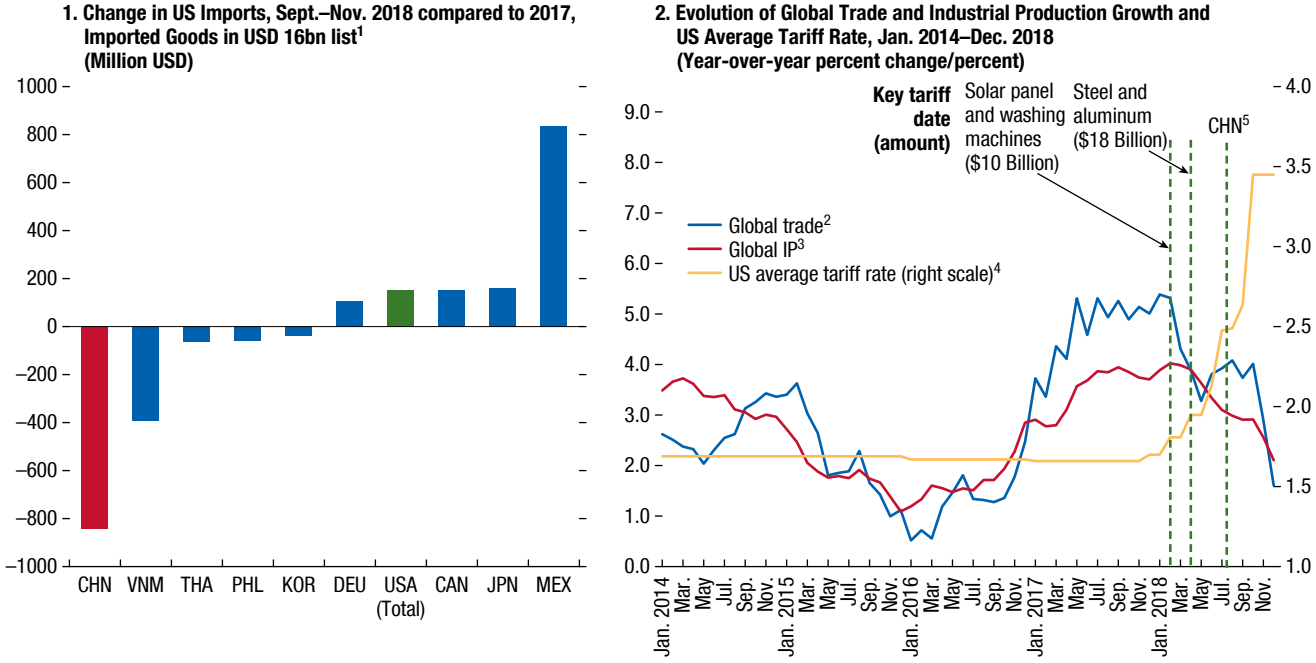
[2]The imposition of bilateral tariffs generally leads to an appreciation (depreciation) of the currency of the importing (exporting) country, as prices adjust to offset the intended effect of the tariff.

Estimates through the end of May suggest that the real appreciation of the US dollar and yen (about 3 percent relative to the average for 2018 in both cases) has been accompanied by a weakening of the euro (2½ percent) and currencies of other advanced economies (Australia, Canada, Korea, Sweden), reflecting softer domestic demand and below-target inflation. Meanwhile, emerging market and developing economies currencies and capital flows remain volatile. After rebounding in the first quarter of 2019, many emerging market and developing economies have experienced capital outflows and exchange rate depreciations since May on trade-related uncertainties, especially those with weaker fundamentals and more directly exposed to trade with China and the United States

Meanwhile, intensified trade tensions are weighing on global trade and investment, without materially affecting imbalances thus far. Over the course of 2018 the United States raised tariffs on imported aluminum and steel and on a subset (worth $250 billion) of Chinese imports. In May 2019 the United States raised tariffs on the portion of the same subset of Chinese imports, with threats of further protectionist measures weighing on financial markets. Canada, China, the European Union, and Mexico all responded by raising tariffs on US exports. Evidence from the first round of bilateral US-China tariff increases suggests that these actions had only a small impact on the overall US trade balance and imports for 2018 because of trade diversion effects through third countries (Figure 1.2, panel 1).[3] That said, these trade actions and related uncertainties have already led to a sharp slowdown in global trade and industrial production (Figure 1.2, panel 2) and are weighing on investment and business sentiment, especially in sectors

[3]See also Cerutti, Gopinath, and Mohommad (2019).

## Figure 1.2. The Impact of Recent Trade Actions and Tensions




Sources: Amiti, Redding, and Weinstein (2019); CPB World Trade Monitors; US Department of Commerce; World Integrated Trade Solution (WITS) system; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]See also Cerutti, Gopinath, and Mohommad (2019).
[2]Monthly year-over-year growth (three-month monthly average) is based on world trade in volumes, seasonally adjusted, fixed based 2010.
[3]Monthly year-over-year growth (three-month monthly average) is based on world industrial production volume (excluding construction), seasonally adjusted, fixed based 2010, production weighted.
[4]US average tariff rate is calculated using Amiti, Redding, and Weinstein (2019) and WITS. Tariff rate from December 2017 through December 2018 is spliced by applying the amount of change suggested by Amiti, Redding, and Weinstein (2019) to the annual average from WITS. Tariff implemented after the 15th of the month is counted for the subsequent month.
[5]New tariffs on China include three waves in 2018: July 6 ($34 billion), August 23 ($16 billion), September 24 ($200 billion).

integrated into global supply chains. IMF staff simulations suggest that:

- The recently announced and envisaged tariffs could reduce global GDP by an *additional* 0.3 percent in 2020 (on top of the impact of the 2018 tariffs, which have been projected to lower global GDP by 0.2 percent in 2020; see the 2019 *G-20 Surveillance Note* and Scenario Box 1 of the October 2018 *World Economic Outlook*).[4] That said, the overall impact of trade tensions on growth will depend on the associated confidence effects and offsetting policy responses.
- The impact of the trade dispute between the United States and China would be felt not only in countries directly involved, but also in other countries through cross-border investment and global supply chains, given their fairly inflexible nature (see also Box 2.4). In particular, it would lead to sizable shifts in manufacturing capacity away from China and the United States, and toward Mexico, Canada, and east Asia, as well as sizable job losses in certain sectors, particularly in China and the United States (for details, see Box 4.4 in the April 2019 *World Economic Outlook*).

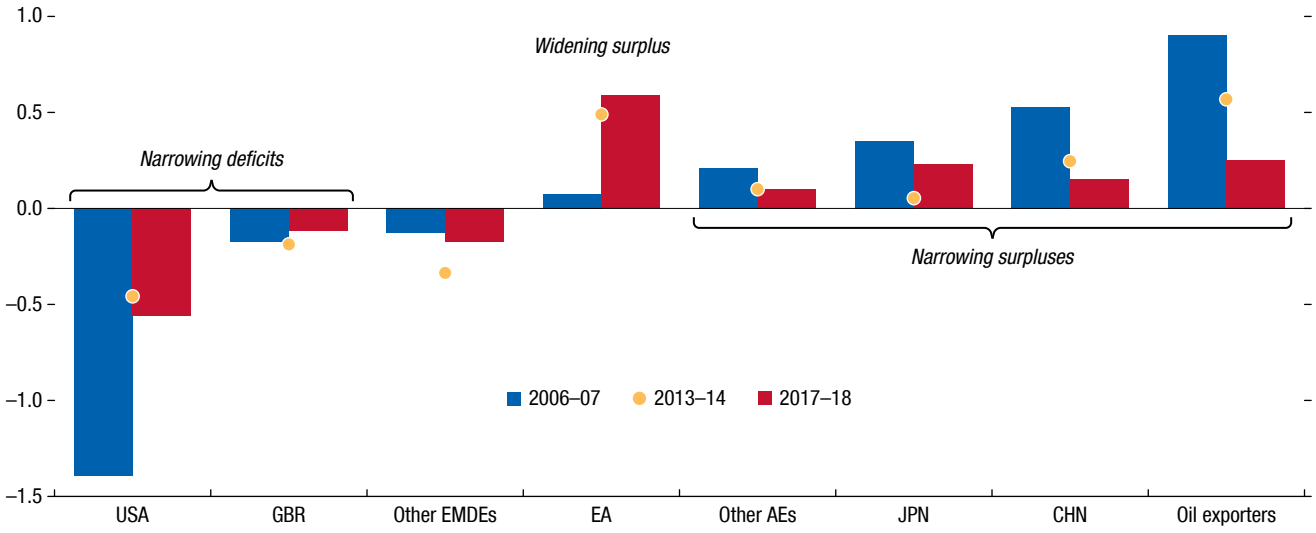
[4]*Announced* tariffs relate to the increase in tariffs from 10 percent to 25 percent on $200 billion of US imports from China as of May 8, 2019. *Envisaged* tariffs are the *possible* 25 percent tariffs on the remaining $267 billion of US imports from China. The simulations assume retaliatory actions by China.

## A Longer-Term View on External Positions

After narrowing sharply in the aftermath of the global financial crisis, global current account surpluses and deficits have declined marginally since 2013 and have become increasingly concentrated in advanced economies (Figure 1.3).

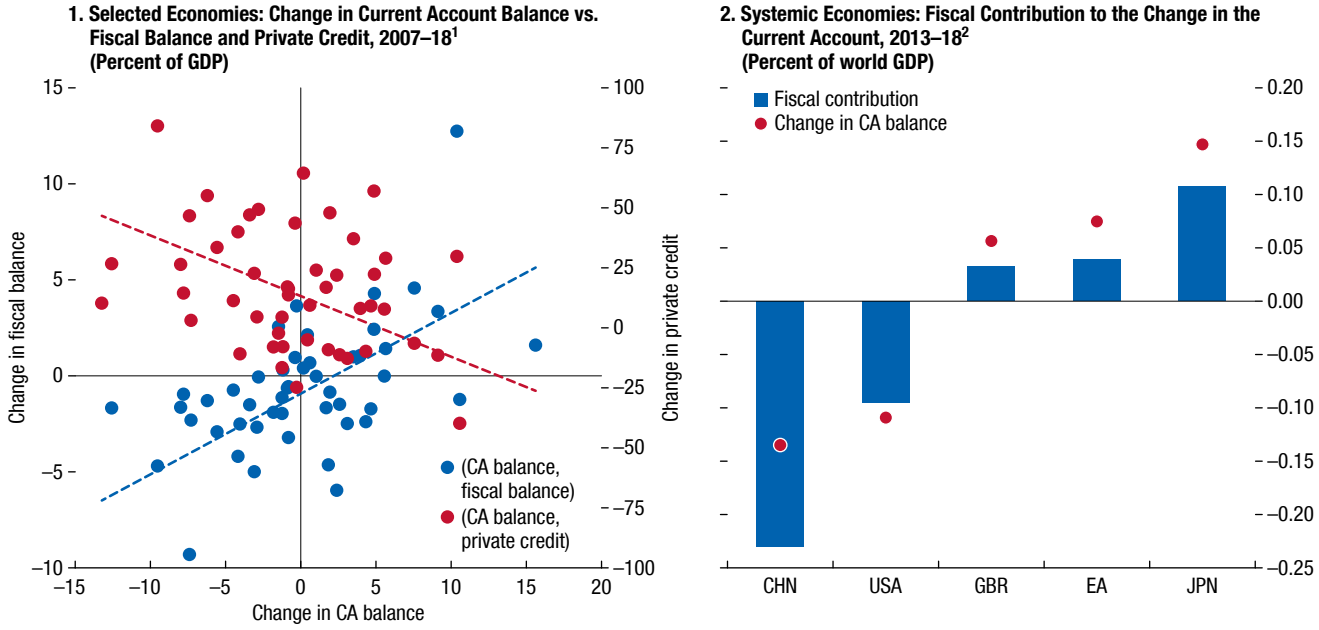
- In the aftermath of the global financial crisis, global current account balances (the absolute sum of surpluses and deficits) declined sharply from about 6 percent of global GDP in 2007 to about 3½ percent in 2013. The narrowing of aggregate current account balances was led by the United States on the deficit side and by China, Japan, and oil exporters on the surplus side. Meanwhile, the current account balance of the euro area moved from a close balance in 2007 to a surplus of about 2½ percent of GDP in 2013, driven mainly by sharp external adjustments in most euro area debtor economies, while surpluses in Germany and the Netherlands remained large. In key emerging market and developing economies, current account deficits expanded, supported by easy global financing conditions enabled by quantitative easing policies in advanced economies.

**Figure 1.3. Change in Global Current Account Imbalances, 2006–18[1]**
*(Percent of world GDP)*




Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: Each data point includes an average of the current account (as a percent of world GDP) in the two years referenced in the legend. AEs = advanced economies; EA = euro area; EMDEs = emerging market and developing economies. Data labels use International Organization for Standardization (ISO) country codes.
[1]Country groupings follow WEO definitions. Oil exporters include countries in the WEO definition plus Norway.

## Figure 1.4. Current Account Drivers: The Role of Fiscal and Credit Policy




Sources: Bank for International Settlements; IMF, *World Economic Outlook*; World Bank, Global Financial Development Database; and IMF staff calculations.
Note: Data labels use International Organization for Standardization (ISO) country codes. CA = current account; EA = euro area.
[1]Panel 1 comprises all 49 economies in the External Balance Assessment (EBA) model.
[2]The fiscal contribution is calculated by multiplying the coefficient on the fiscal balance from the EBA current account model with the change in the fiscal balance relative to world GDP between 2013–18. Fiscal balance refers to the cyclically adjusted general government balance.

- Since 2013 global current account surpluses and deficits have gradually narrowed to about 3 percent of world GDP and are now increasingly concentrated in advanced economies. Emerging market and developing economies have seen both a narrowing of current account deficits (Brazil, India, Indonesia, South Africa, Turkey) as real GDP growth recovered and monetary policy changed course in advanced economies (see also the 2016 October *World Economic Outlook*) as well as a further narrowing in the surpluses of oil exporters and China (see Box 1.2 for external developments in China). Meanwhile, advanced economies on aggregate have seen some increase in their current account deficits, led primarily by the United States, and a rise in current account surpluses, mainly in the euro area and Japan (although the latter's surplus remains below precrisis levels).

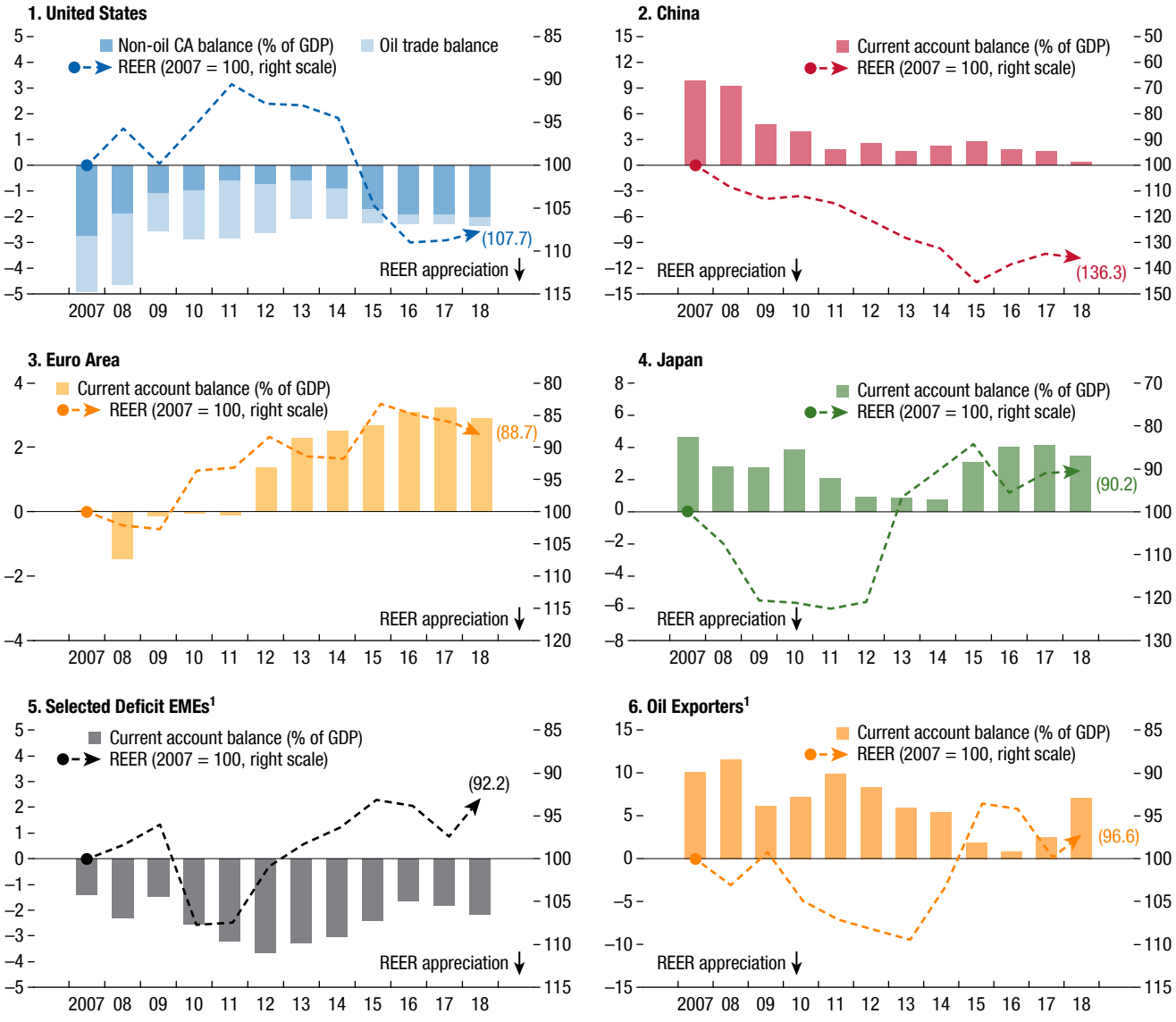
The decline and reconfiguration of current account balances over the past decade reflect a combination of macroeconomic policies and terms-of-trade effects. Fiscal policy and credit conditions have been key drivers of current account dynamics since the crisis, such that economies with tight (easy) fiscal policies and credit contractions (expansions) have generally experienced an increase (decline) in their current account balances (Figure 1.4, panel 1). However, the policy drivers have shifted, contributing to the observed reconfiguration:

- In the aftermath of the global financial crisis, the narrowing of deficits in advanced economies was driven mainly by private sector demand compression and deleveraging, and despite countercyclical fiscal policy efforts. This was mirrored by lower current account balances in surplus economies, largely reflecting a collapse in global demand and trade.
- Since 2013 divergent fiscal policy stances and credit conditions in key economies have contributed to the rotation of imbalances toward advanced economies. Advanced economies' aggregate current account surpluses (euro area, Japan) have remained large or risen further since 2013, reflecting a combination of lower energy prices, tighter fiscal policy, and continued private sector deleveraging in some cases (see Box 1.3 for external developments in the euro area). Meanwhile, aggregate current account deficits of advanced economies rose slightly, underpinned by renewed fiscal easing in the United States, with increased shale oil and gas production playing a mitigating role.

Emerging market and developing economies' aggregate current account surpluses and deficits narrowed, reflecting (1) an additional reduction of surpluses in oil exporters and China as its fiscal and credit policies were eased further; and (2) lower deficits in key emerging market and developing economies following tighter global financial conditions, starting with the 2013 taper tantrum episode and continuing with subsequent US monetary policy normalization.

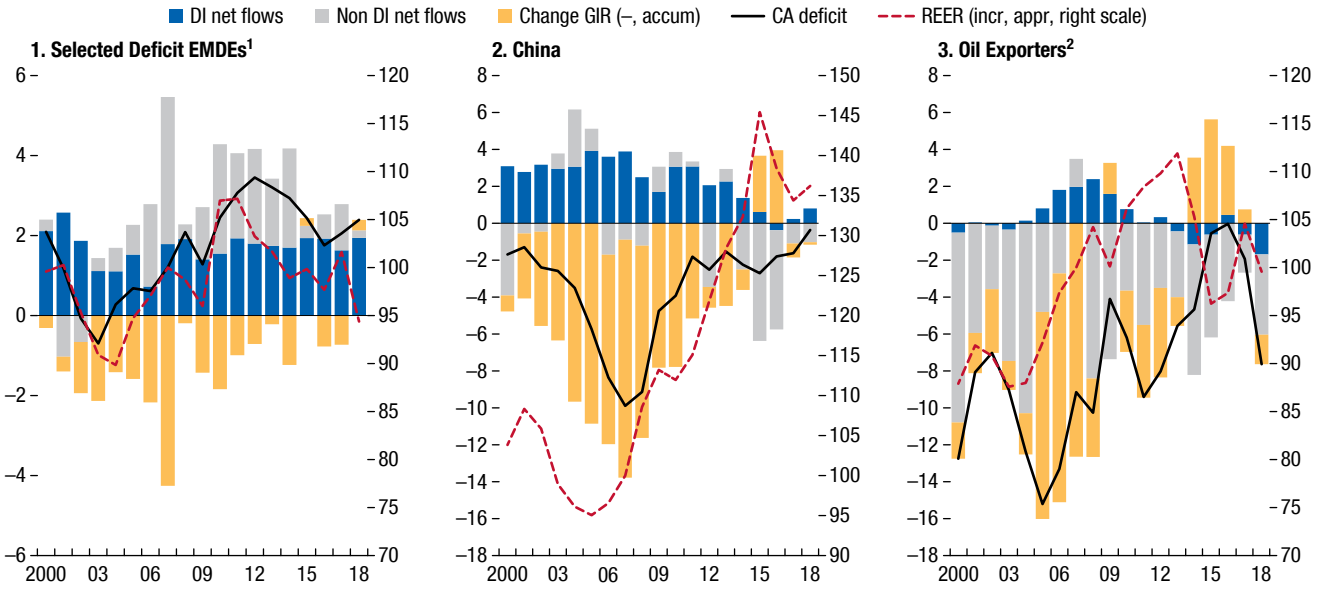
Real exchange rate movements have generally supported these current account trends over the past decade, with foreign exchange intervention playing a much more muted role in recent years. The large reduction in China's current account surplus—from more than 10 percent of GDP in 2007 to 0.4 percent in 2018—was accompanied by a cumulative 35 percent real appreciation of the renminbi over that period (Figure 1.5). Similarly, the increase in

**Figure 1.5. Current Account Balances and Real Effective Exchange Rate, 2007–18**




Sources: IMF, Information Notice System; and IMF, *World Economic Outlook*.
Note: CA = current account; EMEs = emerging market economies; REER = real effective exchange rate.
Numbers in parentheses report REER (2007 = 100) in 2018. Darker bars represent the non-oil CA balance (percent of GDP), which subtracts the oil trade balance from the current account balance; lighter bars represent the oil trade balance.
[1]GDP-weighted average of economies. Selected deficit EMEs comprise Brazil, India, Indonesia, Mexico, South Africa, and Turkey. Oil exporters comprise Malaysia, Norway, Russia, and Saudi Arabia.

**Figure 1.6. Selected Emerging Market and Developing Economies: Current and Financial Accounts, 2000–18**
*(Percent of GDP)*



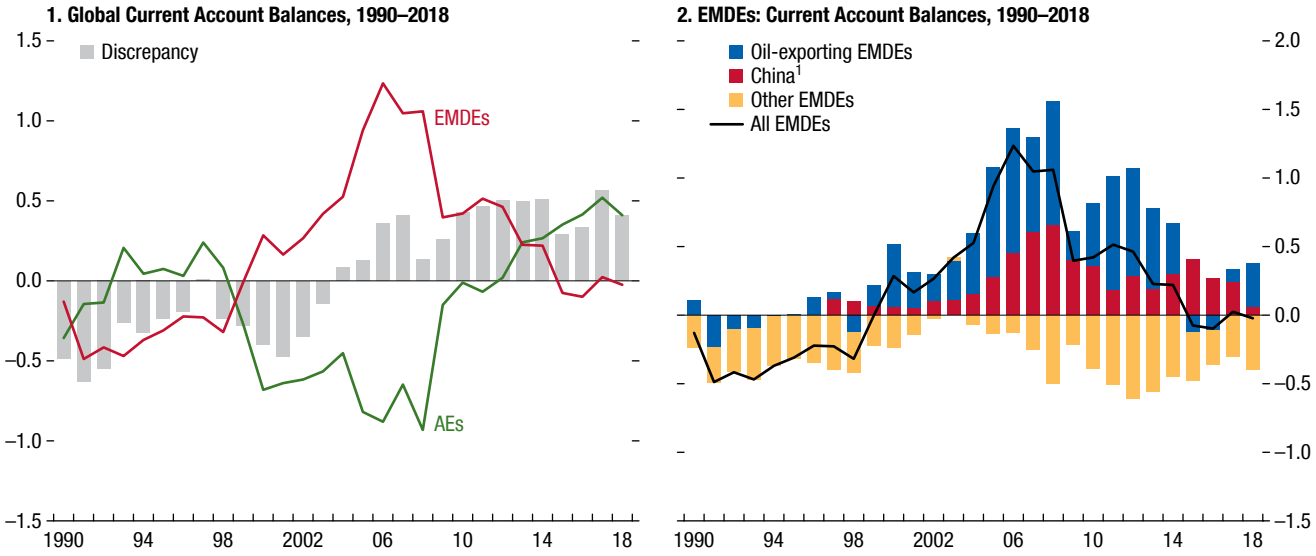

Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: CA = current account; EMDEs = emerging market and developing economies; DI = direct investment; Non-DI = portfolio and other investment; GIR = gross international reserves; REER = real effective exchange rate.
[1]Argentina, Brazil, India, Indonesia, Mexico, South Africa, and Turkey; weighted average (share of GDP and REER index).
[2]Russia and Saudi Arabia; weighted average (share of GDP and REER index).

the overall euro area current account balance—from close to zero in 2007 to a surplus exceeding 3 percent of GDP in 2018, which reflects in part the relative cyclical weakness of the currency area—was accompanied by a cumulative 10 percent real depreciation of the euro during that period. Meanwhile, international reserves accumulation has tapered off significantly since 2013, playing a limited role in driving current account dynamics in emerging market and developing economies, including China (see Table 1.3 and Figure 1.6).

Emerging market and developing economies' capital flows and their composition have shifted largely in response to changes in global financial conditions and relative growth differentials compared with advanced economies. Following quantitative easing programs in advanced economies in the aftermath of the global financial crisis, portfolio and other investment capital flows to emerging market and developing economies intensified, which, together with accommodative macroeconomic policies, contributed to currency appreciation pressures and larger current account deficits (Figure 1.6). These trends, however, started to reverse beginning with the 2013 taper tantrum episode as growth differentials between advanced and emerging market economies narrowed and the prospects of monetary policy normalization in advanced economies gathered strength (see also the October 2016 *World Economic Outlook*). Current account deficits of key emerging market and developing economies have generally narrowed since 2013, supported by currency depreciations and sharply lower portfolio and other investment capital flows (Figure 1.6, gray bars). Direct investment remained relatively stable and less sensitive to changes in global financial conditions and US dollar movements (see also Avdjiev and others 2018). Meanwhile, in China, lower current account surpluses were accompanied during 2015–16 by substantial capital outflows and a loss of international reserves that has since stabilized. Lower world oil prices have supported lower current account surpluses and reserve accumulation in oil-exporting economies since 2013, with bouts of geopolitical tensions contributing to outflows in Russia.

From a global capital allocation perspective, after flowing "uphill" from poorer to richer countries during the 2000s, capital flows started to reverse course more recently (Figure 1.7). Since 2013 advanced economies as a whole have been running

**Figure 1.7. The Global Allocation of Capital: From Uphill to Downhill Flows, 1990–2018**
*(Percent of world GDP)*



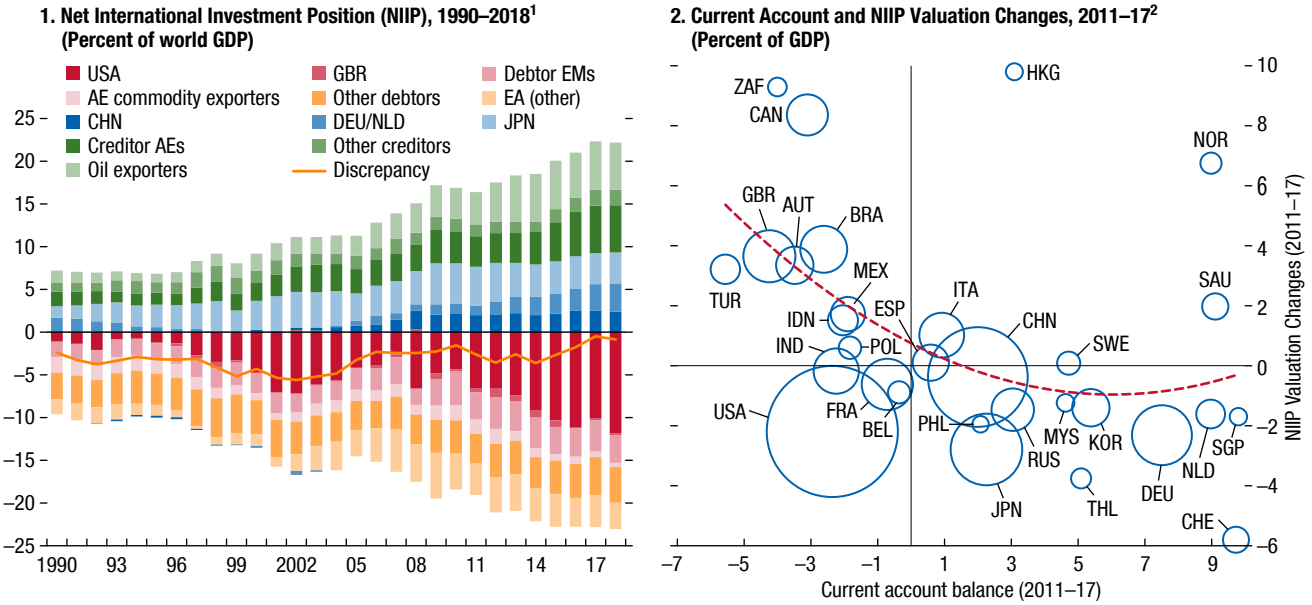

Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: AE = advanced economy; EMDEs = emerging market and developing economies.
[1]EMDEs include oil-exporting EMDEs. China's current account data are available starting in 1997.

small current account surpluses, with emerging market and developing economies on aggregate running a small current account deficit. These recent shifts reflect, on one hand, lower surpluses from China and oil-exporting emerging market and developing economies and, on the other hand, higher current account balances in most advanced economies.[5] That said, these aggregate trends hide a great deal of heterogeneity—leaving aside China and oil-exporting emerging market and developing economies, capital (especially in the form of direct investment) has been flowing downhill for the bulk of emerging market and developing economies since the 1990s, and a greater share of these economies are currently running current account deficits (85 percent) compared to the early 2000s (70 percent). Estimates for 2018 suggest that the aggregate net external asset positions of advanced economies and emerging market and developing economies are nearly balanced, with large heterogeneity within each group. While aggregate measures suggest that capital flows have done little to support income convergence over the past decades, a more detailed analysis of the impact of these aggregate flows on overall investment in emerging and developing economies is required (see Boz, Cubeddu, and Obstfeld 2017 for a preliminary analysis).

Despite the narrowing of global current account imbalances, stock imbalances have continued to widen to reach record levels. At 40 percent of world GDP, the world's net international investment position—the sum of net creditor and net debtor positions—is now at a historical peak and four times larger than in the early 1990s (Figure 1.8, panel 1). Among the top debtors (Table 1.2), the net international investment position of the United States is now close to –50 percent of GDP, down about 40 percentage points since 2007. Other large debtor economies include Australia and Spain, while the largest creditors include Japan, Germany, and China. The wider stock positions reflect, generally, the increased concentration of current account deficits (surpluses) in debtor (creditor) countries (with a few exceptions, such as most euro area debtor countries), which has been partly mitigated by valuation effects in most cases, both in the form of exchange rate and asset price movements (Figure 1.8, panel 2). A notable exception to this pattern has been the United States, with cumulative current account deficits and valuation losses over the same period, primarily linked to the cumulative US dollar appreciation and relatively higher equity prices. The recent buffer-

[5]Capital outflows from emerging and developing economies during the first decade of the 2000s were dominated by official reserve accumulation and the demand for safe assets.

## Figure 1.8. Net International Investment Position and Valuation Changes, 1990–2018




Sources: External Wealth of Nations database, IMF, *World Economic Outlook*; Updated and extended version of data set constructed by Lane and Milesi-Ferretti (2007); and IMF staff calculations.
Note: AEs = advanced economies; EA = euro area; EMs = emerging market economies; NIIP = net international investment position. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]AE commodity exporters comprise Australia, Canada, and, New Zealand; Debtor EMs comprise Brazil, India, Indonesia, Mexico, South Africa, and Turkey; Oil exporters comprise WEO definition plus Norway. Creditor AEs comprise Hong Kong SAR, Korea, Singapore, Sweden, Switzerland, and Taiwan Province of China. Other debtor (creditor) comprise all other economies with negative (positive) NIIP positions.
[2]See the methodology in Adler and Garcia-Macia (2018).

ing effect of exchange rate fluctuations on valuation changes in the net international investment position in many emerging market and developing economies reflects improvement in their net foreign currency positions (see Box 1.4). That said, gross external liability positions of emerging market and developing economies are at historic peaks (at about 30 percent of world GDP), driven by a rise in corporate and sovereign borrowing, especially from nonbank sources (BIS 2018).

## Normative Assessment of External Positions

The assessment of external positions requires a multilateral approach, where positive and negative excess external imbalances match each other. The IMF's external assessment framework combines numerical inputs from the latest vintage of the EBA methodology with a series of external indicators and country-specific judgment.[6] The latter is necessary as the model may not capture all relevant country characteristics and potential policy distortions. A brief summary of the assessment process follows, and Chapter 3 includes details of each of the 30 individual economy assessments for 2018.

- *The EBA models provide multilaterally consistent estimates for current account and real exchange rate norms,* which depend on country fundamentals and desired policies. As such, these norms vary substantially across countries (Figure 1.9). For example, advanced economies—whose populations are aging faster and whose growth prospects are weaker—have positive current account norms, as they need to invest and accumulate funds abroad that they can draw down once their workers retire. Conversely, current account norms are negative for most emerging market and developing economies, reflecting their higher growth potential, greater investment opportunities, and younger populations. Other characteristics, which lead to differentiated

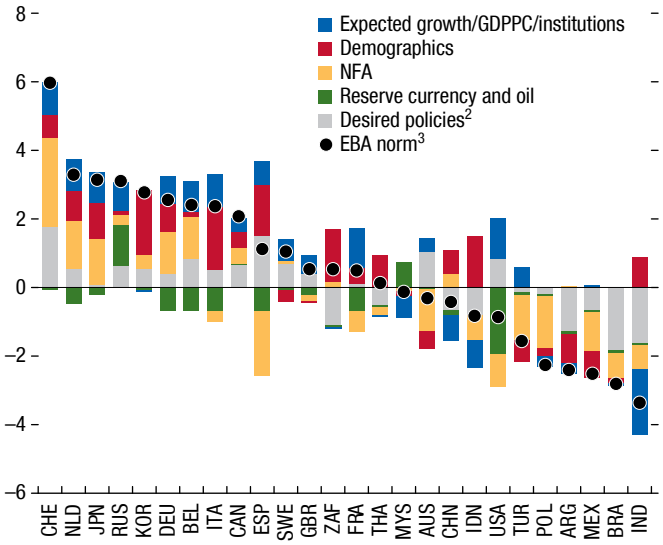
[6]See Cubeddu and others (2019). The EBA current account and REER models estimate the average historical relationship between the current account or real exchange rates and a set of country fundamentals and policy variables from a panel of 49 countries for the period 1986–2016. A detailed description of the external assessment process can also be found in Obstfeld (2017).

norms within these groups, include factors such as institutional strength, the ability to issue reserve currencies (both of which affect borrowing capacity), and the presence of nonrenewable commodity exports (which may call for higher levels of saving to address intergenerational equity objectives). For the few *External Sector Report* economies not included in the EBA model (Hong Kong SAR, Saudi Arabia, Singapore), indirect model-based approaches are used. See Chapter 3, as well as Box 1.6, which includes a discussion of external assessments of large nonrenewable commodity exporters.

- Analytically grounded IMF staff judgment is often applied evenhandedly and transparently to arrive at a more accurate picture of the so-called norm and underlying current account (Tables 1.4 and 1.5). Adjustments to the current account norm were required to address external financing risk considerations (Brazil, India, Poland, Spain) and country-specific demographic (for example, migration projection uncertainties in Germany and high mortality risk in Indonesia and South Africa) and structural features (for example, large investment needs in Australia) not fully captured by the model. Adjustments to the underlying current account were also required to tackle measurement biases (Canada, Netherlands, South Africa, Switzerland, United Kingdom)[7] and temporary factors not captured by the model (for example, effects of adverse weather conditions in Argentina and Australia on agricultural exports, a temporary surge in gold imports in Turkey) and better reflect the cyclical contribution of terms-of-trade changes (Russia, United States).
- *Arriving at a view of excessive imbalances requires comparing actual current accounts and REERs, stripped of cyclical and temporary factors, with IMF staff–assessed current account and REER norms, respectively.* These staff-assessed gaps reflect both domestic policy distortions (defined as the difference between actual and staff-assessed medium-term desired policies) and distortions that come from the rest of the world. For example, excessive fiscal deficits in the United States and other economies can help explain excess surpluses elsewhere. It is worth noting that, even in countries where there are no overall external gaps, domestic policies have a role to play, as different macroeconomic and structural policy distortions could be offsetting each other. Finally, IMF staff–assessed gaps are (1) presented in ranges to recognize the inherent uncertainties of the exercise (these ranges are generally anchored around the standard errors of the estimated EBA norms); and (2) multilaterally consistent, such that excess current account surpluses generally match excess current account deficits (see Table 1.5).[8]

[7]Adjustments for measurement biases were guided by the complementary tools introduced as part of the refinements of the EBA methodology in 2018. These tools were also relevant for Hong Kong SAR and Singapore.

**Figure 1.9. External Balance Assessment Current Account Norms, 2018[1]**
*(Percent of GDP)*



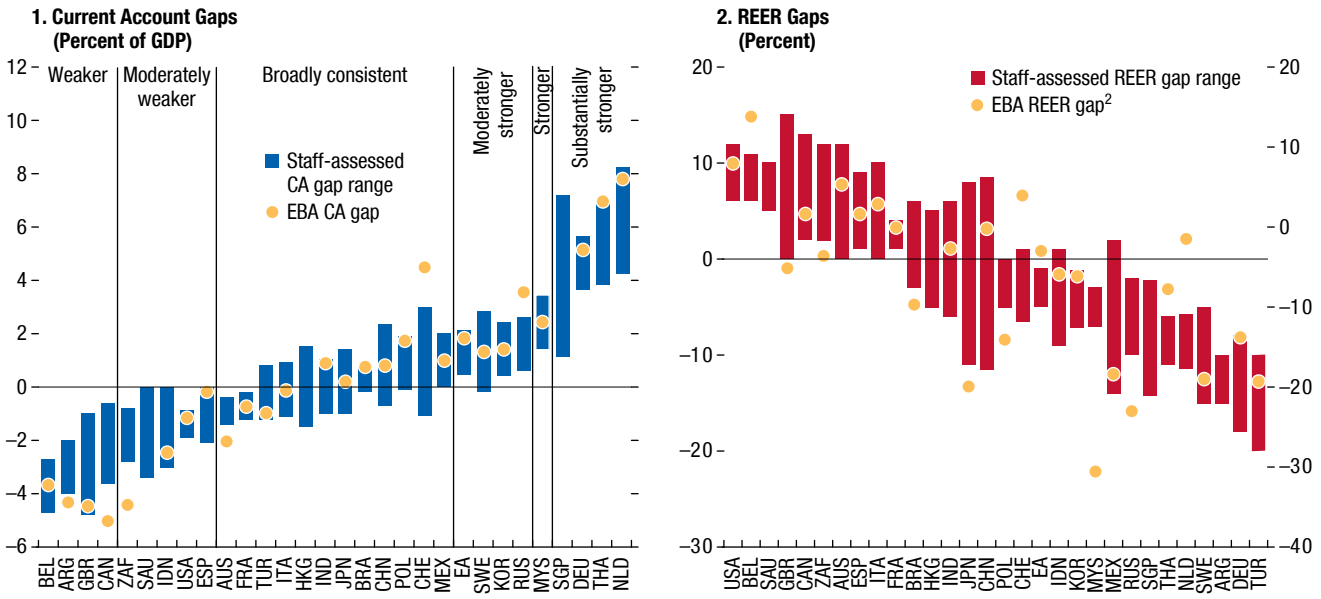

Source: External Balance Assessment (EBA) estimates.
Note: GDPPC = GDP per capita; NFA = Net Foreign Assets. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Excludes Hong Kong SAR, Saudi Arabia, and Singapore.
[2]"Desired policies" also includes intercept and multilateral consistency contribution.
[3]"Norms" are multilaterally consistent and cyclically adjusted.

Overall excess deficits and surpluses narrowed somewhat in 2018, with China's external assessment moving from "*moderately stronger*" to "*broadly in line*" (Figure 1.10; Table 1.5).

- **Stronger positions:** External positions were deemed "*substantially stronger*" than warranted by medium-term fundamentals and desirable policies (current account gaps of more than 4 percentage points of GDP) in Germany, the Netherlands, Singapore, and Thailand; "*stronger*" (2–4 percentage points of GDP) in Malaysia; and "*moderately stron-*

[8]For details on implementing multilateral consistency, see Cubeddu and others (2019).

**Figure 1.10. IMF Staff–Assessed and External Balance Assessment Estimated Current Account and Real Effective Exchange Rate Gaps in 2018[1]**




Sources: IMF External Balance Assessment (EBA) estimates and staff assessments.
Note: CA = current account; REER = real effective exchange rate. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Sorted by the midpoint of the IMF staff–assessed gap. Hong Kong SAR, Saudi Arabia, and Singapore are not in the EBA model.
[2]EBA REER gap is defined as the average gap from the REER-index, REER-level and REER-implied approach (applying estimated elasticities).

*ger*" (1–2 percentage points of GDP) in Korea, Russia, and Sweden. As was the case last year, the euro area's external position was assessed to be "*moderately stronger,*" reflecting asymmetric intra-area adjustment since the global financial crisis (see Box 1.3) and driven by large positive gaps in creditor economies and generally balanced or small negative current account gaps in debtor economies.

- **Weaker positions:** Conversely, external positions were assessed to be "*weaker*" (negative current account gaps in the range of 2–4 percent of GDP) in Argentina, Belgium, Canada, and the United Kingdom and "*moderately weaker*" (1–2 percent of GDP) in Indonesia, Saudi Arabia, South Africa, Spain, and the United States.
- **Broadly-in-line positions:** External positions were deemed to be "*broadly in line*" with medium-term fundamentals in Australia, Brazil, China, France, Hong Kong SAR, India, Italy, Japan, Mexico, Poland, Switzerland, and Turkey. That said, for many of these economies, avoiding a resurgence of external imbalances requires addressing offsetting policy distortions.
- **Changes since 2017:** The small overall reduction in excess imbalances is largely attributed, on one hand, to China's move from "*moderately stronger*" in 2017 to "*broadly in line*" in 2018 and, on the other hand, to a reduction in excess deficits in a few advanced and emerging market economies (Canada, France, Turkey, United Kingdom). The US external position was unchanged despite significant fiscal easing. Meanwhile, Indonesia's external position weakened, moving from "*broadly in line*" to "*moderately weaker.*" Difficulties in accurately estimating relative output gaps and temporary terms-of-trade changes add to uncertainties about the size and permanent nature of the observed narrowing of excess imbalances.

Current account and REER assessments were generally consistent, except in a few cases reflecting lags in the response of quantities to prices. In general, countries with current account balances higher (lower) than warranted by fundamentals and desirable policies were deemed to have an undervalued (overvalued) exchange rate (Figures 1.10 and 1.11; Tables 1.4 and 1.7).[9]

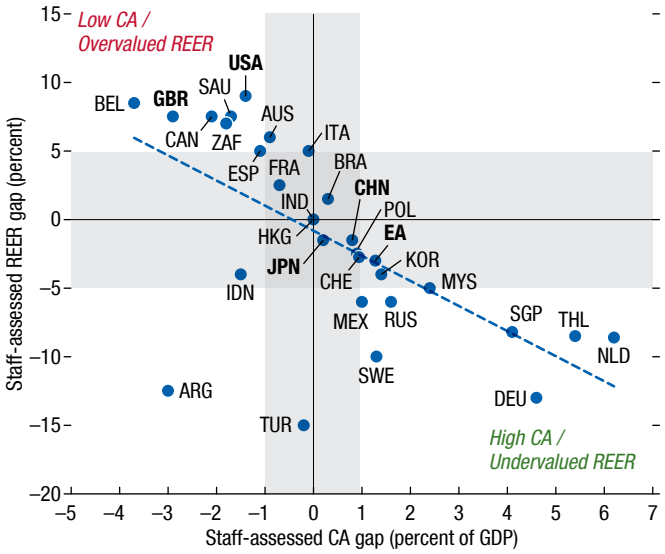
[9]REER assessments are arrived at using multiple inputs, including (1) estimates derived from the mapping of IMF staff views on the current account gap using trade elasticities; (2) estimates from EBA REER index and level models; and (3) estimates from alternative sources, including unit-labor-cost-based exchange rates. Generally, staff places more weight on the first input, since the current account

In some cases, including a few key emerging market economies, discrepancies between the current account and exchange rate assessments in 2018 reflect sharp REER depreciations that were not yet fully reflected in a reduction in current account deficits (because of lags in the transmission of exchange rates to trade volumes and prices). This is notably the case in Argentina, where the exchange rate was deemed to have overshot following the large depreciation in 2018 despite a still large negative current account gap. Similar disconnects are found for Turkey, where the earlier and continued overshooting of the lira led to a sharp correction of the current account deficit in 2018; and in Indonesia, where the sharp rupiah depreciation had yet to translate into a lower current account deficit in 2018.

Although drivers of excess surpluses and deficits vary across countries, some common patterns related to policy distortions can be identified. IMF staff–assessed gaps can be decomposed into "*identified policy gaps*" and "*other gaps*" (or residual). The former refers to the differences between actual and desired policies in the medium term, when output gaps are closed (Table 1.6), and include both domestic and foreign policy gaps. Identified policy gaps for the structural fiscal balance, public health spending, foreign exchange intervention, capital controls, and the credit cycle are captured within the EBA model. *Other gaps* tends to reflect policy distortions affecting saving and investment decisions, which are not explicitly modeled as a result of data and conceptual limitations.[10] Overall, while positive (negative) *identified policy gaps* are associated with positive (negative) current account gaps, identified policies fall significantly short of explaining external imbalances (Figure 1.12, panel 1; Table 1.6). In such cases, *structural distortions* likely play an important role, as described below.[11]

- In many countries with ***higher-than-warranted current account balances*** (Germany, Korea, Netherlands, Thailand), a tighter-than-desirable fiscal stance contributed to those external imbalances, with other identified policies, such as insufficient health care spending, also playing a role in Korea, Malaysia, Russia, and Thailand (Figure 1.12, panel 2, Table 1.6).
- On the flip side, many countries with ***lower-than-warranted current account balances*** had a looser-than-desirable fiscal policy, compared to its medium-term desirable level (Argentina, South Africa, Spain, United Kingdom, United States), with credit excesses contributing to the negative current account gaps in others (Canada).
- Meanwhile, even countries ***with external positions that are broadly in line*** need to deal with offsetting policy distortions. In China, negative contributions from undesirably easy fiscal and credit policies from a medium-term perspective were largely offset by positive contributions from weak social safety net coverage and structural distortions (that is, state-owned-enterprise subsidies) that limit rebalancing toward consumption and services. Similarly, in Japan, looser-than-warranted fiscal policy (from a medium-term perspective) have been masking structural distortions that are constraining investment. In other economies (Brazil, Italy), undesirable credit weaknesses that are holding back investment and pushing up current account balances are masking underlying competitiveness problems.

**Figure 1.11. IMF Staff–Assessed Current Account and Real Effective Exchange Rate Gaps[1]**




Source: IMF staff assessments.
Note: CA = current account; REER = real effective exchange rate. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Grey bands depict broadly-in-line ranges for the IMF staff–assessed CA and REER gaps. REER gap is based on 2018 average REER.

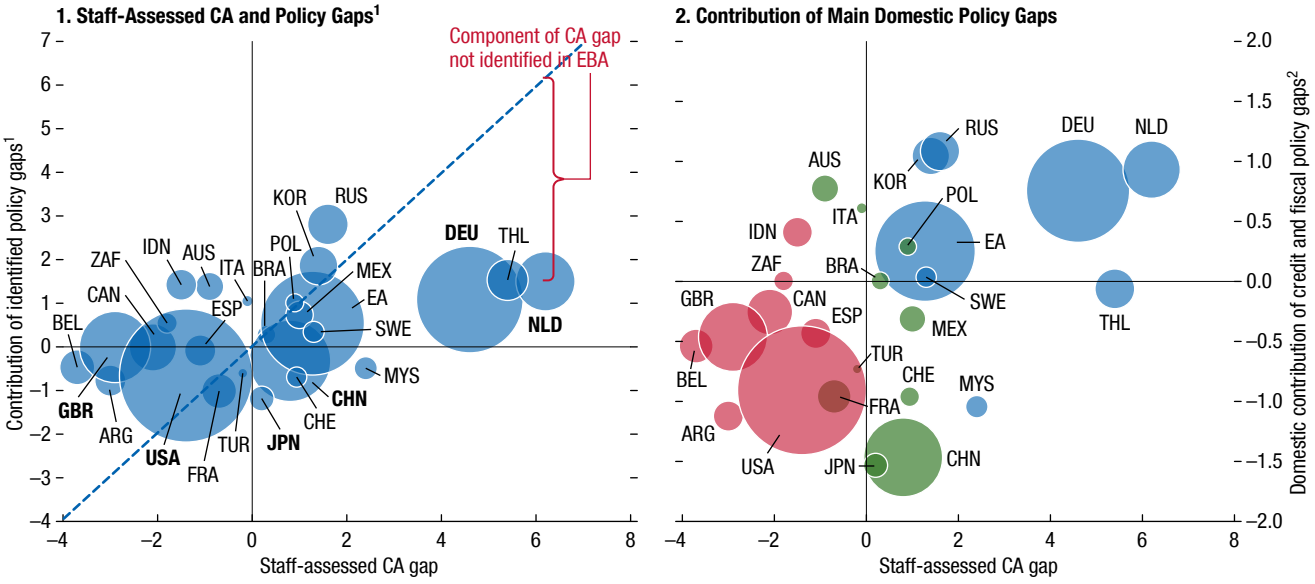
model exhibits a more stable relationship, while exchange rates are inherently more volatile and difficult to model.

[10]Given uncertainties in the identification the other policy gaps, staff-assessed gaps are presented in ranges.

[11]The latest vintage of the EBA methodology includes complementary tools to help quantify the extent to which structural distortions can explain model residuals (see also Box 3 of the 2018 *External Sector Report*). Results suggest that alleviating product market distortions—proxied by the licenses and permits system burden (from the Organisation for Economic Co-operation and Development)—can boost investment and reduce the current account balance; reforms that reduce labor market rigidities—proxied by employment protection laws (from the World Economic Forum)—would do the opposite.

## Figure 1.12. Current Account Gap Contributions, 2018

*(Percent of GDP)*




Source: IMF staff assessments and calculations.
Note: CA = current account; EBA = External Balance Assessment. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Bubble size is proportional to external imbalances in percent of world GDP. The contribution of (domestic and external components of) identified policy gaps to the current account gap is based on the estimated EBA coefficient and IMF staff–assessed desirable policies.
[2]Domestic component of identified policy gap only.

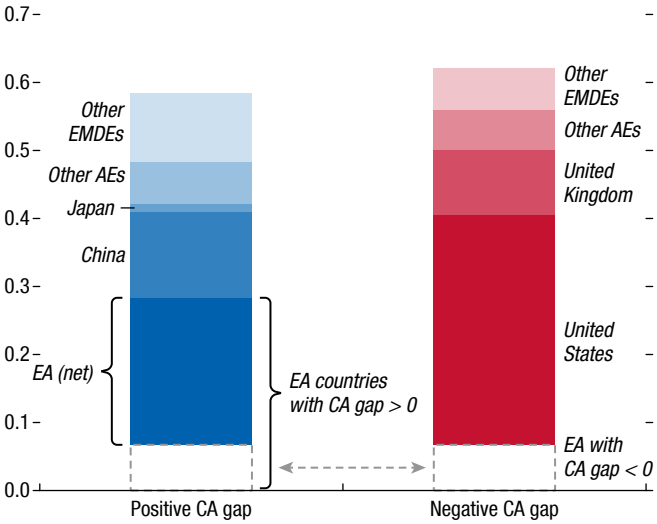
Foreign exchange intervention appears to have been limited in 2018, although some emerging markets and developing economies sold reserves in the face of market pressures (Tables 1.3 and 1.6). Capital outflow pressures in mid-2018 led to foreign exchange sales in some emerging market and developing economies (Brazil, India, Indonesia, Malaysia, Turkey) to avoid disorderly market conditions and financial risks from exchange rate overshooting. Meanwhile, foreign exchange intervention in economies with exchange-rate-based monetary policy regimes (Hong Kong SAR, Saudi Arabia, Singapore) reflected standard operations of their regimes.[12] The impact on staff-assessed current account gaps was generally limited.

Overall, excess current account imbalances narrowed moderately in 2018 to about 35–45 percent of global current account surpluses and deficits, becoming even more concentrated in a few large advanced economies (Figure 1.13). At the global level, excess current account imbalances narrowed

[12]Availability of official foreign exchange intervention data, including frequency of publication, timeliness, and granularity is uneven across economies. In the absence of data, IMF staff relies on its own estimates.

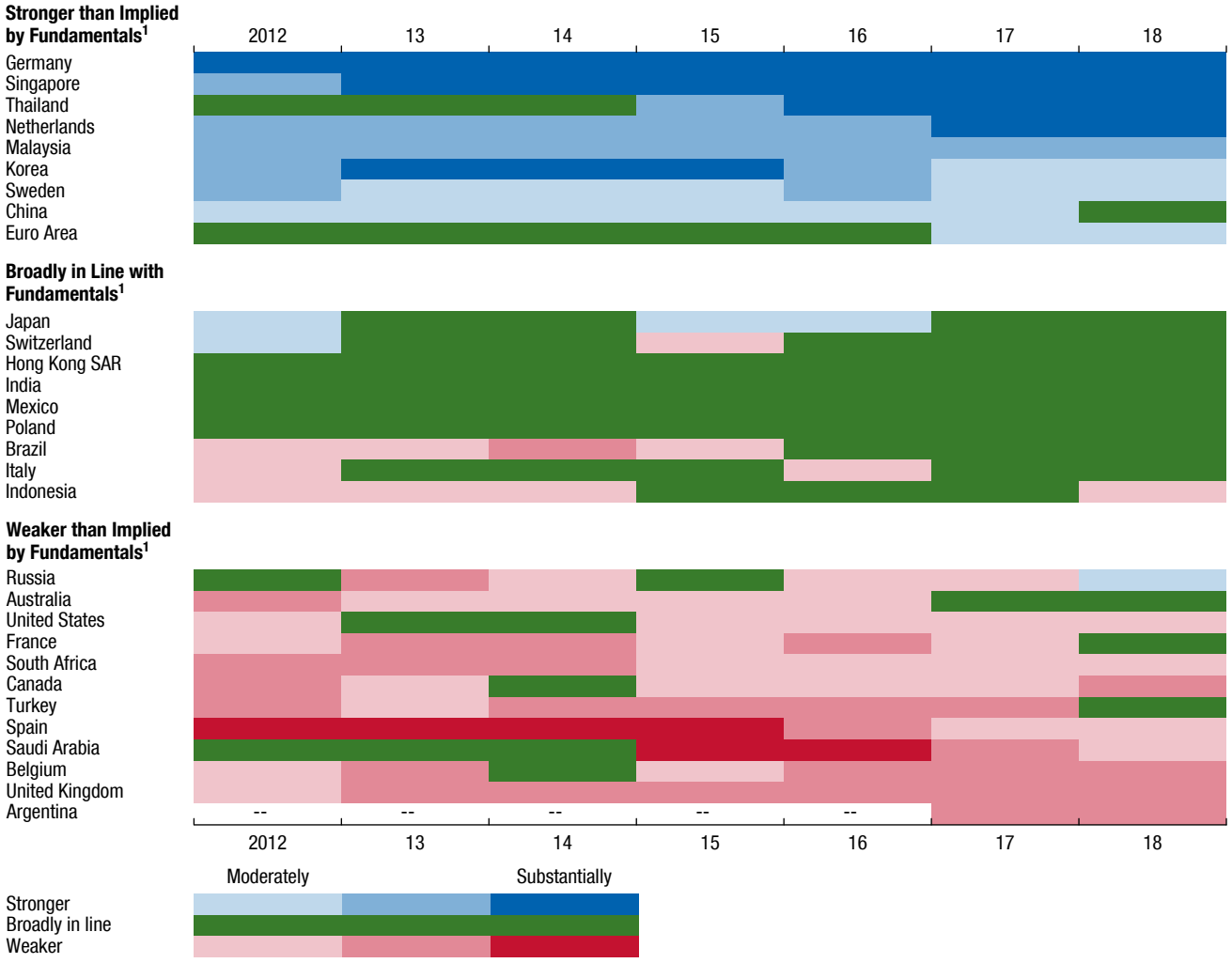
## Figure 1.13. Distribution of Excess External Surpluses and Deficits, 2018[1]

*(Percent of world GDP)*




Source: IMF staff assessments and calculations.
Note: AEs = advanced economies; CA = current account; EA = euro area; EBA = External Balance Assessment; EMDEs = emerging market and developing economies.
[1]*External Sector Report* economies only. China, the Euro Area, Japan, the United Kingdom and United States are reported individually. EA economies with positive (negative) CA gaps include Germany and the Netherlands (Belgium, France, Italy, Spain).

## Figure 1.14. The Evolution of External Sector Assessments, 2012–18



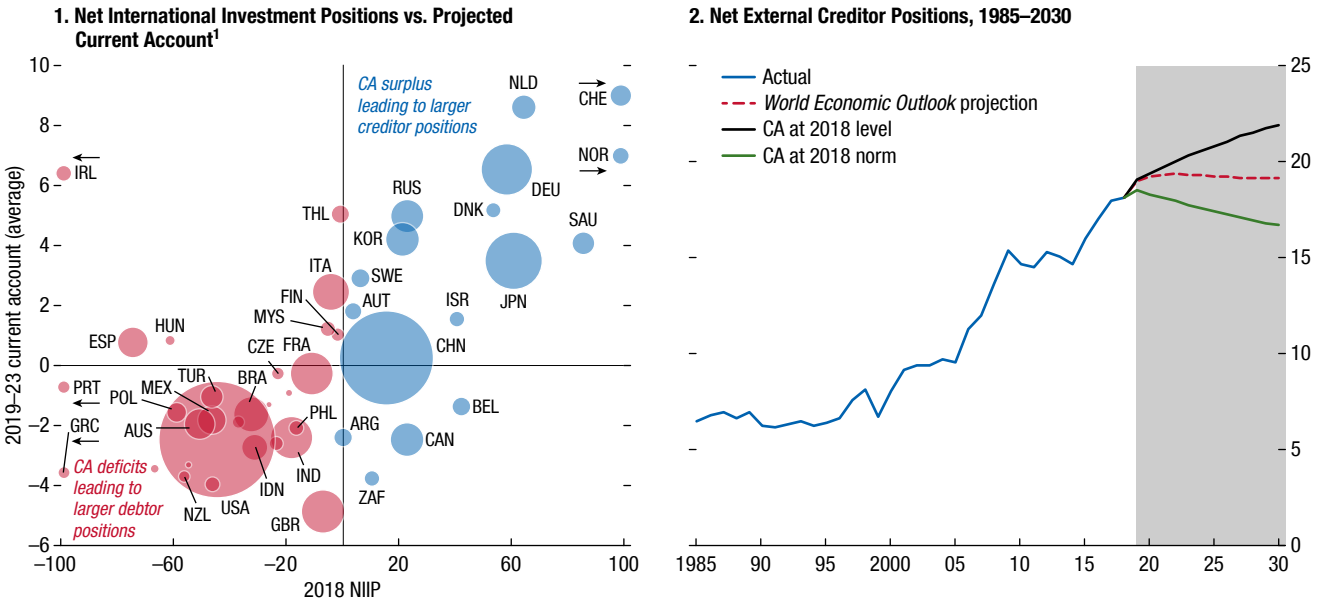

Source: IMF staff assessments.
[1]Grouping and ranking based on economies' average excess imbalance during 2016–18. Coverage of Argentina started in the 2018 *External Sector Report*.

somewhat, from about 1.4 percent of global GDP in 2017 to about 1.2 percent in 2018.[13] Smaller positive gaps in China were generally matched by smaller negative gaps in a few advanced (Canada, United Kingdom), oil-exporting (Saudi Arabia), and emerging market economies (Brazil, Turkey). These developments led to a further concentration of excess imbalances in advanced economies, with lower-than-desirable current account balances centered in the United Kingdom and the United States and higher-than-desirable balances increasingly centered in the euro area and other advanced economies (Korea, Singapore, Sweden).

Despite narrowing somewhat in recent years, excess surpluses in some key advanced economies remain large and persistent (Figure 1.14). This is especially true for northern Europe (Germany, Netherlands, Sweden) and some advanced Asian economies (Korea, Singapore), where surpluses tend to be associated with rising and high levels of corporate saving. On the deficit side, there is less persistence (except the United Kingdom and the United States); sudden changes in

[13] In the 2018 *External Sector Report*, the excess current account imbalance measure was estimated at about 1.5 percent of world GDP in 2017. Data revisions (both in current account and GDP data) are responsible for this change.

**Figure 1.15. Selected Economies: Current Account and Net International Investment Position Projections**
*(Percent of GDP)*




Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: Data labels use International Organization for Standardization (ISO) country codes. CA = current account.
[1]Bubble sizes are proportional to US dollar GDP.

capital flows and market financing conditions forced adjustments (Argentina, Brazil, Indonesia, Turkey).

## Outlook and Risks

External flow and stock imbalances could widen again, although this will much depend on the assumed policy response. Under baseline policies, the projected fiscal easing in the United States is expected to lead to a larger US current account deficit over the medium term—with a projected increase in current account balances elsewhere as a result. While current account surpluses of China, Northern Europe (Germany, Netherlands), the euro area, and Japan are all projected to narrow gradually, supported by policies to encourage domestic demand, there are risks that demand strength may prove weaker than projected. The implications for the evolution of stock imbalance will depend not only on the policy assumptions underpinning the current account projections, but also on other factors, including the growth–interest-rate differential. To illustrate this three scenarios are considered:[14]

- Under *baseline policies* consistent with the latest IMF staff forecast in the *World Economic Outlook* (Figure 1.15, panel 1), where most creditor (debtor) countries continue to run current account surpluses (deficits), stock imbalances are projected to remain generally unchanged over the medium term, despite a modest rise in the US current account deficit.
- Meanwhile, under an *unchanged current account scenario*, in which current account balances remain constant as a share of GDP at 2018 levels over the projection period, creditor and debtor positions expand by an additional 5 percentage points of world GDP by 2030.
- It is only under a *current account at the norm scenario*, in which countries' current account gaps close, that creditor and debtor positions narrow

[14]Simulations do not include valuation effects and, as such, may understate the actual impact on stock imbalances (for example, under active policies, exchange rate movements would likely support a narrowing of stock positions). In the baseline simulation, the current account is projected to be unchanged (as percent of GDP) at the 2023 level (as projected by the *World Economic Outlook*) through 2030. Under the *baseline policies* and *unchanged current account* scenarios, the creditor positions of Germany, Japan, Netherlands, and Singapore keep expanding, while China's current account position stabilizes.

over time (by about 2 percentage points of world GDP by 2030).

While near-term financial risks from the current configuration of external imbalances are generally contained, policy actions are required, especially to contain risks from a further buildup in external leverage in some cases.

- **In the short term,** while increased concentration of debtor positions in reserve currency-issuing advanced economies lowers financing risks, an intensification of trade and geopolitical tensions, or a disorderly Brexit scenario—with repercussions for global growth and global risk aversion—could adversely impact some economies, especially those highly reliant on foreign demand and external financing (to meet both net import and debt service obligations). As shown in Box 1.5, the likelihood of a sudden stop or external crisis increases not only with the size of current account deficits, but also depends on the size and composition of net and gross external liabilities.
- **In the medium term,** and in the absence of corrective policies, creditor and debtor stock positions would likely widen further from historically high levels (see Figure 1.15), raising the likelihood of a disruptive adjustment in large debtor economies—with global spillovers, including large valuation losses in creditor economies. For instance, a sudden reassessment of long-term real interest rates and growth rates prospects in large debtor economies (the "r-g" relationship, which is key to both fiscal and external debt sustainability), triggered by domestic or global macro-financial conditions, could precipitate such disruption. Meanwhile, gradually tackling high sovereign and corporate foreign currency leverage is required in some advanced and emerging market economies to stem vulnerabilities from rapid shifts in global financial conditions or faster-than-expected monetary policy normalization. This is especially important in China, where a sudden deleveraging would not only have large knock-on effects on global growth and productivity through global value chain interlinkages, but would also lead to rapidly widening global imbalances (see the April 2019 *World Economic Outlook*). In the euro area, a prolonged period of anemic growth and inflation could slow down rebalancing and lead to a rise in overall currency area surpluses.

## Policy Challenges

Against a backdrop of escalating trade tensions, greater urgency is needed in tackling persistent excess imbalances. Even though overall imbalances have come down, they still show strong persistence and little rotation between deficit and surplus economies, and the sum of creditor and debtor positions is at record levels. Faced with the risks of escalating trade tensions, stronger commitments to tailored macrostructural policies and to further trade liberalization are essential to support a more sustainable rules-based multilateral trading system.

Policies that distort trade should be avoided. Specifically, countries should refrain from using tariffs to target bilateral trade balances, as they are costly for global trade, investment, and growth, and are generally not effective in reducing external imbalances (April 2019 *World Economic Outlook*; Boz, Li, and Zhang 2019; 2018 *External Sector Report*).[15] Similarly, managed trade agreements are a very costly means to influencing bilateral trade relationships and they introduce distortions to the global trading system without necessarily addressing aggregate saving and investment imbalances. Instead, efforts should be concentrated on reviving liberalization efforts and modernizing the multilateral rules-based trading system to capture the increasing importance of e-commerce and trade in services, strengthen rules in areas such as subsidies and technology transfer, and assure continued enforceability of World Trade Organization (WTO) commitments through a well-functioning WTO dispute settlement system.

With most economies operating near potential, carefully calibrated macroeconomic policies to reduce excess external imbalances remain essential. In general, *excess surplus* economies should make use of available fiscal space to boost potential growth while reducing overreliance on accommodative monetary policies. In the euro area, where accommodative monetary conditions remain necessary to support the return of area-wide inflation to its target, fiscal policy in key creditor economies could be used to boost potential growth through infrastructure investments and greater support for innovation (Germany, Netherlands). In Germany, where the current account surplus has been

[15]For estimates of the effects of higher tariffs on trade, see Crucini and Kahn (1996); for an analysis of tariff increases in the 1930s, see Madsen (2001).

associated with rising top income inequality, further tax relief for low-income households could boost their disposable income and support domestic demand, while property and inheritance tax reform could help reduce excess saving and wealth concentration (see also Box 1.7 and IMF 2019c). Meanwhile, *excess deficit* countries should adopt gradual growth-friendly fiscal consolidation while allowing monetary policy to be guided by inflation developments and expectations (United Kingdom, United States). In some cases, macroprudential policies may need to be tightened to help slow excessive credit growth, especially in the real estate sector (Canada).

Structural reforms have a key role to play in addressing persistent external imbalances while boosting potential growth (see Table 1.8). Boosting potential growth and achieving rebalancing will require policies that incentivize higher levels of private investment, particularly in those countries where demographics are weighing on potential growth and reducing incentives for domestic investment. While, in general, removing structural policy distortions is a desirable policy goal (see Banerji and others 2017), careful sequencing of structural reforms is needed to achieve sustained global rebalancing in a growth-friendly fashion, particularly since reform payoffs are often gradual and fully materialize only in the medium term (see the technical supplement to the 2018 *External Sector Report*; and Cubeddu and others 2019).

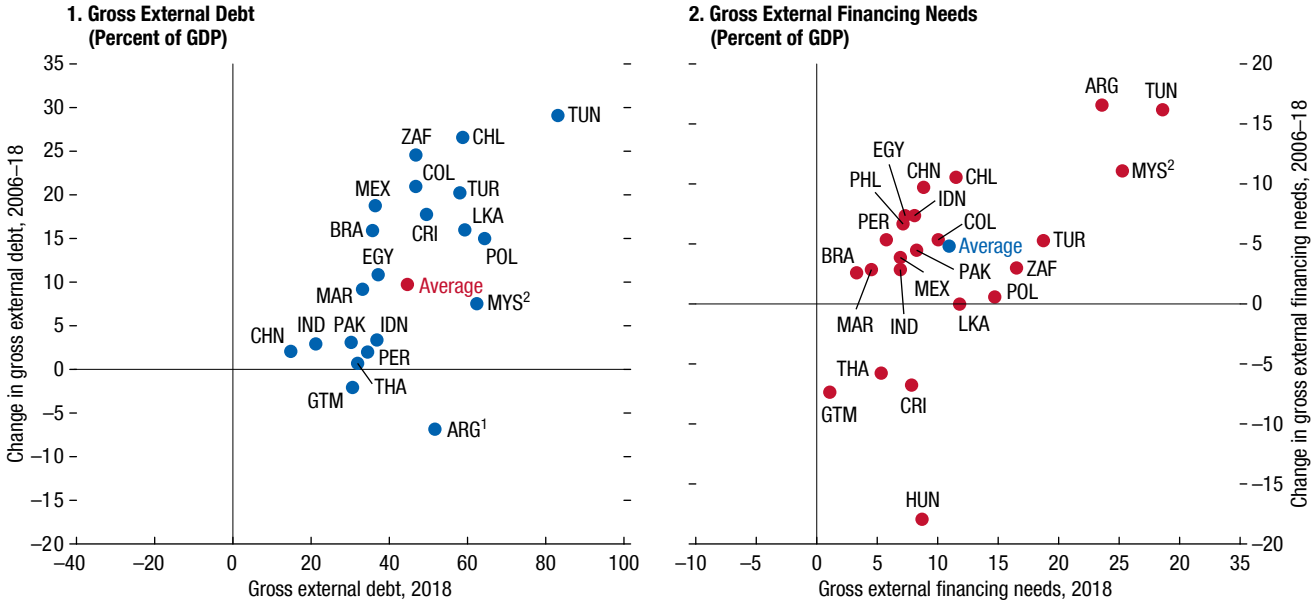
- *Excess surplus economies* should prioritize reforms that encourage investment by incentivizing research and development spending, ensuring financing for investment in innovative activities (for example, by increasing access to venture capital), and deregulating the service sector (Germany, Korea). Steps should also be taken to discourage excessive saving by expanding the social safety net (Korea, Malaysia, Thailand) and prolonging working lives (Germany). The ongoing gradual realignment of price competitiveness in euro area surplus countries could be supported by policies that incentivize stronger wage growth to facilitate an internal revaluation and rebalancing. Moreover, at the euro area level, efforts to further strengthen banking, fiscal, and capital market integration would help support investment while improving the resilience of the currency union.
- *Excess deficit economies* should focus on reforms that boost saving and competitiveness. Greater efforts are needed to strengthen the skill base of workers (Canada, Indonesia, South Africa, Spain, United Kingdom, United States). In some cases, increasing saving requires safeguarding the sustainability of public pension systems (Spain) and strengthening the depth and inclusion of financial systems (Indonesia, South Africa). Resource-rich economies should accelerate their efforts to diversify export markets and strengthen productivity in non-oil sectors (Canada, Saudi Arabia).

Even where external positions are assessed to be broadly in line with fundamentals, policies are necessary to tackle domestic imbalances and avoid a resurgence of external imbalances. Former excess surplus countries (China, Japan) should address domestic imbalances by gradually reducing vulnerabilities from high levels of public debt and/or excessive credit while engaging in reforms that ease entry barriers in certain sectors and strengthen the safety net, where relevant. Former excess deficit countries (Brazil, France, Italy) should both improve their business climate and ease impediments to credit and investment while also increasing saving and competitiveness by strengthening public finances and increasing human capital investment.

There is a growing need to better understand and address high and rising levels of corporate saving in some advanced economies. While the rise in net corporate saving has been a common phenomenon across many advanced economies, predating the global financial crisis, it has been especially noticeable in a group of surplus economies (such as Germany, Korea, Japan, Netherlands) where higher levels of corporate saving was not offset by lower household saving at the aggregate level (see Box 1.7). Research is ongoing to better understand the drivers behind these trends, with evidence suggesting that these relate to a combination of factors including (1) increased concentration of wealth and firm ownership, (2) reduced wage compensation and top income inequality (see IMF 2019c), and (3) lower domestic investment. Although further analysis is needed, especially at the country level, findings imply that tax and structural policies that encourage domestic demand, and support higher labor compensation and disposable income of lower-income households, may have a role to play.

Exchange rate flexibility remains key to supporting external adjustment, despite varying effects across

**Figure 1.16. Selected Emerging and Developing Economies: Evolution of Gross External Debt and Gross External Financing Needs, 2006–18**




Source: IMF, *World Economic Outlook.*
Note: Gross external financing needs = current account deficit plus short-term external debt.
[1]Argentina's external debt excludes holdouts from debt restructuring.
[2]Malaysia's change is calculated since 2010 given data redefinition.

countries and over time. As highlighted in Chapter 2, although evolving features of international trade—including dominant currency invoicing and global value chain integration—may alter the mechanisms of external adjustment in the short term, conventional exchange rate channels regarding trade flows remain at play in the medium term. The sluggish short-term export response to the exchange rate points to the need to support exchange rate flexibility with other macroeconomic policies in the near term. Meanwhile, structural policies could boost exchange rate mechanisms. These include measures to improve export infrastructure, expand access to export credit, and lower regulatory barriers and red tape—all of which tend to be more binding for small and medium-sized enterprises.

Vulnerabilities associated with rising external liability positions need to be addressed. While net foreign currency-denominated external debt has fallen since the early 2000s for emerging market and developing economies as a whole (Box 1.4), overall gross external debt and gross external financing needs have increased in most these economies (Figure 1.16), reaching record highs, both as a share of their own GDP and global GDP. This rapid rise of gross external indebtedness by sovereigns and corporates of emerging market and developing economies, as well as of some advanced economies, warrants careful monitoring, especially of currency and maturity mismatches (Bruno and Shin 2018; October 2018 and April 2019 *Global Financial Stability Reports*). Special attention should be given to (1) reducing foreign-currency-denominated debt through targeted macroprudential policies; (2) encouraging more inward direct investment by ensuring equal treatment of domestic and foreign investors (Argentina, India, Indonesia); (3) deepening financial markets, including aiding the development of foreign exchange hedging instruments (Indonesia); and (4) closely monitoring activities of the less regulated nonbank financial sector. In some cases, foreign exchange intervention might be necessary should disorderly exchange rate movements threaten economic and financial stability.

Finally, continued efforts are required to strengthen the analysis of global imbalances, including to account for the growth and complexity of cross-border flows and positions. The assessment of external positions will continue to evolve, drawing on the latest advances

in the literature and lessons learned in the implementation process. In this regard, a better understanding of the risks from growing stock imbalances and their shifting composition is of essence. Moreover, data collection efforts need strengthening to account for the rising cross-border activities of multinationals, as the boundaries between residents and nonresidents, and the corresponding attribution of income across countries, have become blurred (Zucman 2014). These issues are particularly relevant for financial centers (countries with large gross assets and liabilities) and tax havens (whose statistics are disproportionally affected by profit-shifting practices).[16] Rigorous, evenhanded, and multilaterally consistent analysis of external positions remains key to promote growth-friendly policy actions by both excess surplus and deficit countries to rebalance the global economy.

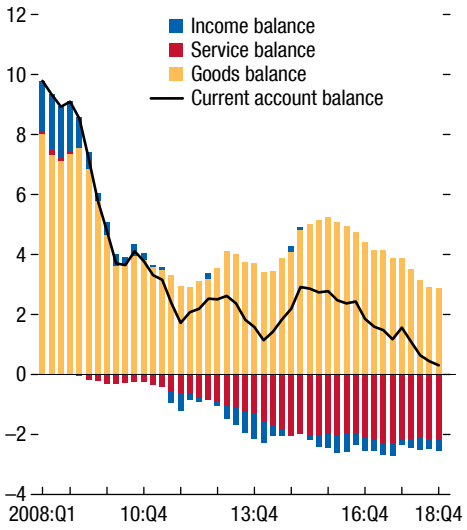
[16]The IMF Committee on Balance of Payments Statistics, led by the Organisation for Economic Co-operation and Development and the IMF's Statistics Department, is spearheading efforts to identify the role of multinational companies in current account transactions, as well as improving data availability on global value chains and on offshore centers and special purpose entities.

## Box 1.2. China: Understanding the Decline in the Current Account Surplus

The sharp decline in China's current account surplus from its pre–global financial crisis peak has been associated with significant compositional shifts (Figure 1.2.1). The *services trade balance* swung from a small surplus of 0.1 percent of GDP in 2007 to a deficit of 2.2 percent in 2018, mainly on account of a massive (fourfold) increase in outbound tourism. The *income balance* has also turned negative, despite China's net creditor position, reflecting a combination of falling global interest rates and rising returns on equity liabilities. Finally, the goods surplus has fallen, although its decline has been far more volatile, responding to changes in commodity prices as well as macroeconomic policy support. In terms of composition, while imports of raw materials have risen, the manufacturing balance, although sizable, has plateaued, consistent with the pace of trade integration. From a trading country perspective, the trend has been toward greater balance, with a reduction in

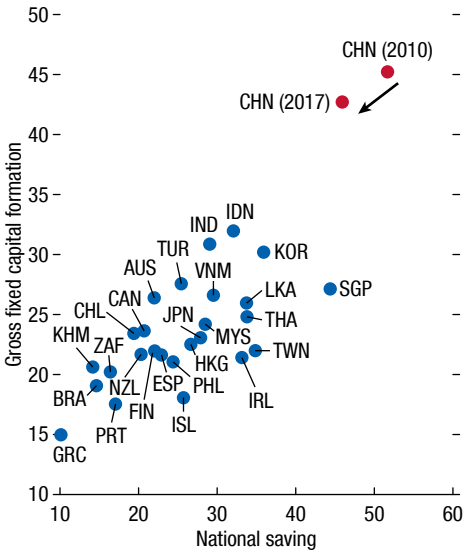
The authors of this box are Pragyan Deb and Swarnali Ahmed Hannan.

**Figure 1.2.1. China: Current Account, 2008–18**
*(Percent of GDP, four-quarter moving-average)*



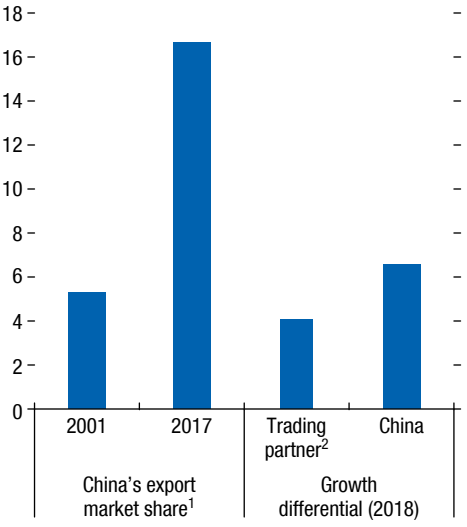

Source: CEIC.

**Figure 1.2.2. Selected Economies: Saving vs. Investment in 2017**
*(Percent of GDP)*




Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.

**Figure 1.2.3. China Export Market Saturation**




Sources: IMF, *World Economic Outlook*; and IMF staff calculations.
[1]China manufactured exports in percent of world exports.
[2]Real GDP growth of key trading partners is purchase power parity GDP weighted.

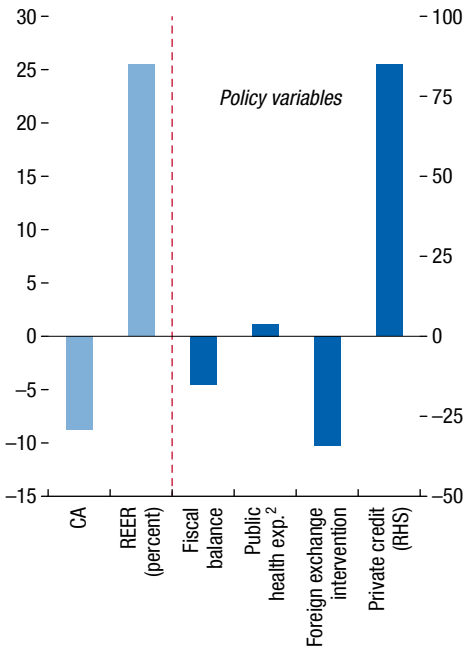
## Box 1.2 *(continued)*

goods trade surpluses with the European Union and the United States and a moderation of deficits vis-à-vis Japan and Korea.

The current account surplus decline was driven by a modest reduction in still-high levels of saving, along with market saturation. China's saving rate, driven by household saving, has declined from its peak, while rebalancing has led to a slow shift from investment to consumption (Figure 1.2.2). Looking ahead, growth differentials between China and trading partners suggest that import growth will outpace export growth, especially given difficulties in further increasing market share now that China has become the world's largest goods exporter (Figure 1.2.3).

Domestic policies have supported the current account surplus decline, but at the expense of internal imbalances (Figure 1.2.4). Relative to 2008, China's structural fiscal balance (share of GDP) has deteriorated by 4.5 percentage points, private credit (share of GDP) has expanded by 85 percentage points (which has contributed to a decline in net corporate saving), and reserves (share of GDP) have declined by 10.3 percentage points, all of which contributed to the narrowing of the current account surplus. The appreciation of the currency also supported the lowering of the surplus. However, such expansionary credit and fiscal policies contributed to the buildup of leverage and vulnerabilities. Achieving a lasting external balance would thus require that the gradual reining in of expansionary macroeconomic policies be accompanied by structural reforms (for example, improving the social safety net, undertaking state-owned-enterprise reforms, and opening markets) that place China on a sustainable path, with higher consumption and lower overall saving.

**Figure 1.2.4. China: Changes in Key Variables, 2008–18[1]**
*(Percent of GDP, unless otherwise stated)*




Sources: IMF, *World Economic Outlook*; IMF, Information Notice Systems; World Development Indicators (WDI); Bank of International Settlements (BIS); and IMF staff calculations.
Note: RHS = right-hand scale.
[1]All variables (except real effective exchange rate [REER]) are expressed as a share of GDP. Fiscal balance refers to cyclically adjusted general government balance, general government health expenditure (WDI; May 2019), foreign exchange intervention includes off-balance sheet intervention, private credit is credit to private nonfinancial sectors, excluding cross-border claims on nonbank sector (BIS).
[2]Change from 2008–16.

## Box 1.3. Euro Area External Adjustment and Intra-Area Asymmetries

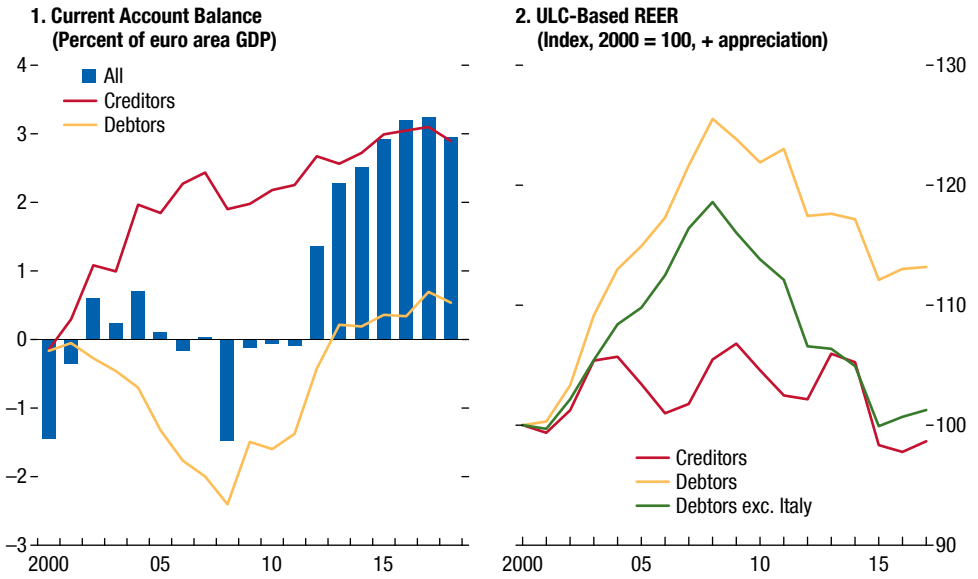
**Adjustment and intra-euro-area asymmetries.** The rise in the euro area current account surplus since the global financial crisis reflects a combination of strong deleveraging in most debtor countries and persistent large surpluses in creditor countries (Figure 1.3.1, panel 1). In the decade leading up to the crisis, the aggregate euro area current account fluctuated around a balanced position, although it masked large intra-area asymmetries, with intra-euro-area imbalances reaching about 4½ percent of euro area GDP in 2007–08. Since the crisis, however, large external adjustments by debtor countries (close to 3 percent of euro area GDP) reduced the overall asymmetries by half, even though these were associated with mildly larger surpluses in creditor countries. In fact, with declining demand from debtor euro area economies, creditor countries redirected their goods exports to countries outside the euro area, while their goods imports from debtor countries stagnated (relative to GDP). Meanwhile, debtor countries increased their exports outside the euro area, notably through an expansion of tourism (especially in Greece, Portugal, and Spain). The adjustment was supported by a large internal devaluation in most debtor countries from their precrisis peaks (Figure 1.3.1, panel 2), although the unit-labor-cost-based real effective exchange rate also fell slightly in most creditor economies, leaving their consumer price index–based real effective exchange rate below the level warranted by fundamentals and desired policies, according to the External Balance Assessment model.

**Sectoral decomposition and policies.** The rise in the euro area current account balance since the crisis has been driven mainly by an across-the-board increase in net corporate saving, with public saving also playing a role, especially in debtor economies (see Figure 1.3.2).

- *In debtor countries*, the credit boom and bust largely underpinned the buildup and subsequent reversal of external imbalances, which was also reflected in the observed leveraging and deleveraging behavior

The authors of this box are Christina Kolerus and Cyril Rebillard.

**Figure 1.3.1. Euro Area: Current Account Balance and ULC-Based REER, 2000–18[1]**



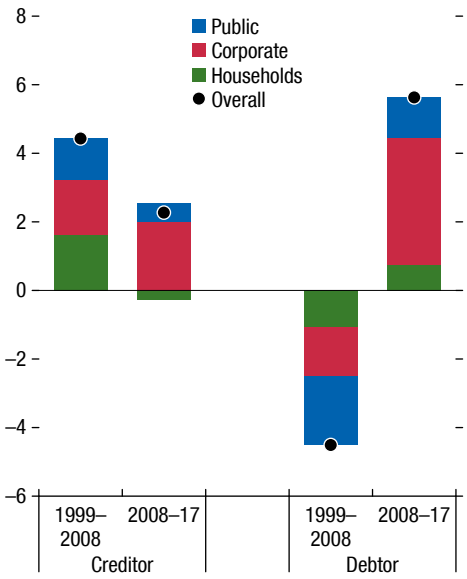

Sources: IMF, *World Economic Outlook*; and IMF staff estimations.
Note: REER = real effective exchange rate; ULC = unit labor cost.
[1]Creditor countries include Austria, Belgium, Finland, Germany, and the Netherlands. Debtors include Greece, France, Ireland, Italy, Portugal, and Spain.

## Box 1.3 *(continued)*

of households and firms before and after the crisis. Corporate deleveraging was supported by a sharp contraction in investment, and a reduction in interest payments helped by accommodative monetary conditions. Meanwhile, fiscal consolidation since 2010 supported the increase in net public saving, although these efforts have waned somewhat in recent years.

- *In creditor countries*, net saving by firms increased even further in the postcrisis period, supported by declines in investment as well as lower interest and dividend payments, which more than offset somewhat higher wage compensation. Meanwhile, public saving continued to rise, driven by continued fiscal consolidation, while households offset only a small portion of the improved corporate and public balance sheets. Private credit, which contracted in the precrisis period, has recovered only mildly since the crisis, doing little to support household and corporate investment and aggregate demand in creditor countries.

**Figure 1.3.2. Euro Area: Change in Current Account by Sector, 1999–2017[1]**
*(Percent of group GDP)*




Sources: AMECO database; OECD National Accounts dataset; IMF, *World Economic Outlook*; and IMF staff calculations.
[1]GDP-weighted averages of each country group. Creditor (debtor) Euro area countries refer to their net foreign asset position in 2017. Creditor countries include Austria, Belgium, Finland, Germany, and the Netherlands. Debtors include Greece, France, Ireland, Italy, Portugal, and Spain.

## Box 1.4. Emerging Market and Developing Economies' Growing Financial Integration: Trends in Balance Sheet and Currency Exposures

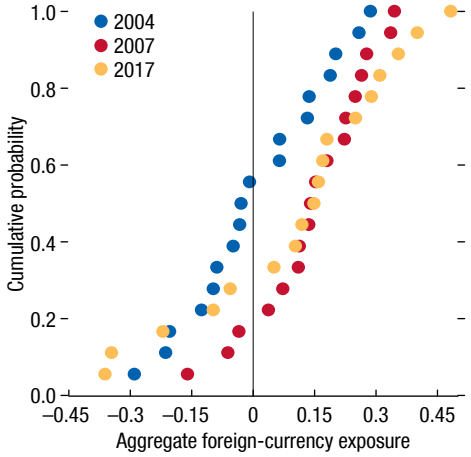
**Background.** Over the past two decades, emerging market and developing economies have become more financially integrated with the rest of the world. With a history of borrowing heavily in foreign currency (Eichengreen, Hausmann, and Panizza 2007), these trends have raised questions about emerging market and developing economies' vulnerability to external shocks, particularly those associated with sharp currency movements. To shed light on this issue, this box presents some stylized facts for a group of 18 large emerging market and developing economies (included in the *External Sector Report*) based on new estimates of international investment position currency composition that build on Lane and Shambaugh (2010a, 2010b) and Bénétrix, Lane, and Shambaugh (2015).

**Evolution of foreign exchange exposures.** Emerging market and developing economies' aggregate foreign currency exposure, defined as the net position in foreign currency (as a share of total assets and liabilities) has shifted significantly since 2004 against a backdrop of surging cross-border financial flows. Most emerging market and developing economies moved from being short on foreign currency (negative *x*-axis values in Figure 1.4.1) to being long, and significantly so, on foreign currency, as illustrated by a movement of the curve to the right, although much of this shift took place between 2004 and 2007. This pattern reflects a strong change in the currency composition of foreign liabilities away from foreign currency and toward local currency instruments (Figure 1.4.2)—both on account of greater reliance on equity financing and a shift in currency composition of debt instruments toward domestic currency—as well as a sustained accumulation of foreign currency assets.

**Valuation effects.** Stronger net foreign currency positions have helped mitigate risks associated with domestic currency depreciations, on average, with national balance sheets providing aggregate insurance (see Adler and Garcia-Macia 2018) as negative shocks associated with a weakening of domestic currencies now entail positive and economically meaningful valuation changes in the external balance sheet. For example, in 2004 a 10 percent depreciation led, all else equal, to a *median* valuation *loss* of 0.3 percent of GDP, but in 2017 this median effect was *positive* and equivalent to 1.8 percent of GDP (Figure 1.4.3). More generally, the proportion of the analyzed emerging market and developing economies with buffering valuation effects increased from 44 percent in 2004 to 72 percent in 2017.

The authors of this box are Deepali Gautam and Luciana Juvenal, in collaboration with Agustín Bénétrix (Trinity College, Dublin).

### Figure 1.4.1. Selected EMDEs: Cumulative Distribution of Aggregate Foreign-Currency Exposure[1]

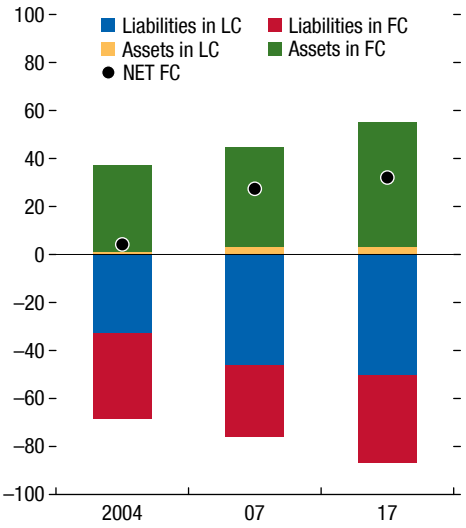



Sources: External Wealth of Nations (Lane and Milesi-Ferretti, 2007); the BIS banking and international debt issuance statistics; Arslanalp and Tsuda (2014); Coordinated Portfolio Investment Survey (CPIS); Coordinated Direct Investment Survey (CDIS); U.S. Portfolio Holdings of Foreign Securities (published by the US Treasury); World Bank International Debt Statistics, Country Authorities and IMF staff calculations.
Note: EMDEs = emerging markets and developing economies.
[1]Aggregate foreign-currency exposure is defined as net foreign assets denominated in foreign currency as a share of total assets and liabilities. It ranges from –1 (case of zero percent of foreign assets and 100 percent of foreign liabilities in foreign currency), to +1 (100 percent of foreign assets and 0 percent of foreign liabilities in foreign currency).

## Box 1.4 *(continued)*

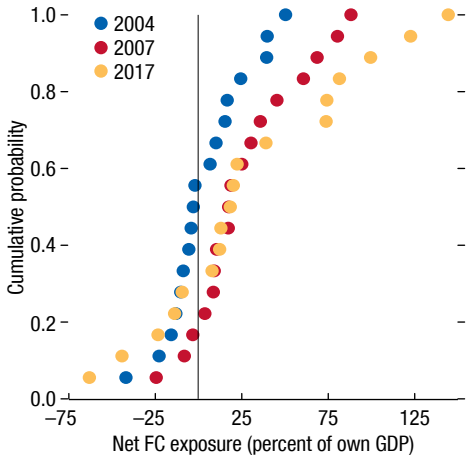
### Figure 1.4.2. Selected EMDEs: Assets and Liabilities in Local and Foreign Currency[1]

*(Percent of GDP)*




Sources: External Wealth of Nations (Lane and Milesi-Ferretti, 2007); the BIS banking and international debt issuance statistics; Arslanalp and Tsuda (2014); CPIS; CDIS; U.S. Portfolio Holdings of Foreign Securities (published by the US Treasury); World Bank International Debt Statistics, Country Authorities and IMF staff calculations.
Note: EMDEs = emerging markets and developing economies; FC = foreign currency; LC = local currency. Net FC measures size of the external balance sheet scaled by GDP.
[1]Simple cross-country average are reported.

### Figure 1.4.3. Selected EMDEs: Cumulative Distribution of Net FC Exposure[1]




Sources: External Wealth of Nations (Lane and Milesi-Ferretti, 2007); the BIS banking and international debt issuance statistics; Arslanalp and Tsuda (2014); CPIS; CDIS; U.S. Portfolio Holdings of Foreign Securities (published by the US Treasury); World Bank International Debt Statistics, Country Authorities and IMF staff calculations.
Note: EMDEs = emerging and developing economies; FC = foreign currency.
[1]Net foreign assets denominated in foreign currency as a share of GDP.

**Risks from gross positions.** The strengthening of net foreign currency positions may mask underlying vulnerabilities in cases where foreign currency liabilities as a share of GDP have grown, and foreign currency assets and liabilities pertain to different sectors or economic agents. Some economies now have substantial *gross* foreign currency liabilities making them vulnerable to external financing risks (see Box 1.5).

## Box 1.5. International Investment Position and External Financing Risks

Financial integration in emerging market and developing economies has risen substantially over the past two decades, delivering benefits but also posing new challenges. External balance sheets (sum of assets and liabilities) have increased by an average of 85 percentage points of GDP since 1996, yet this trend has varied substantially across countries and has tended to be the strongest in emerging European and Latin American economies. Although financial integration can improve risk sharing and the ability to absorb shocks, it can also pose risks, depending on the size and composition of liabilities, currency mismatches, and the depth of domestic financial markets.

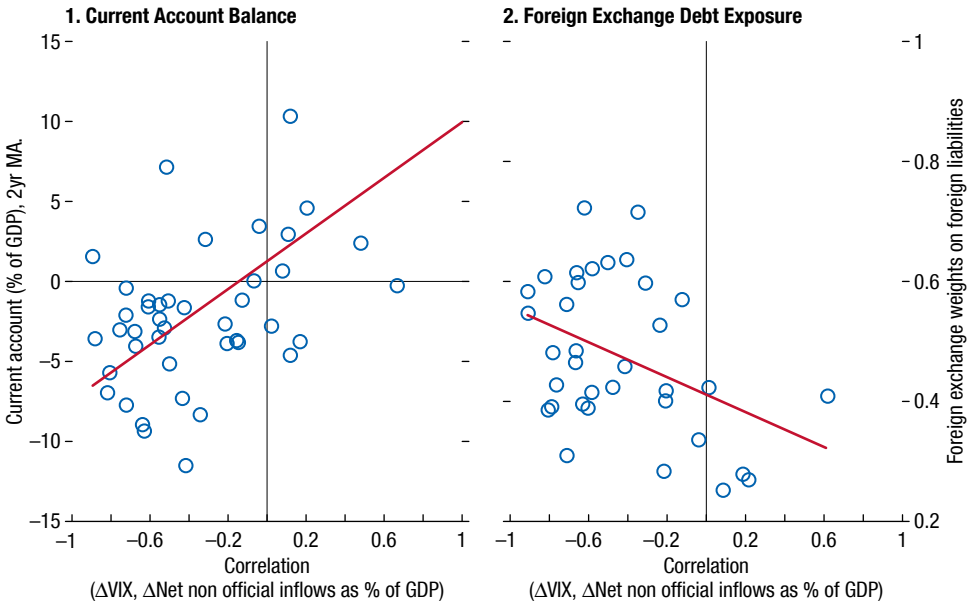
With greater financial integration, emerging market and developing economies have become more susceptible to shifts in global sentiment, although the impact depends on other external fundamentals. Specifically, across emerging market and developing economies, net private capital inflows are more sensitive to spikes in global risk aversion (*x*-axis) in countries with greater current account deficits (Figure 1.5.1, panel 1), higher levels of foreign exchange debt exposure (Figure 1.5.1, panel 2), and higher levels of net external debt (not shown). The sensitivity of capital flows to the Chicago Board Options Exchange Volatility Index appears to have grown with financial integration.

Guarding against a sudden stop or external crisis requires carefully monitoring different aspects of flow and stock imbalances. Findings based on a probit model (estimated using data for 70 advanced and emerging market economies during 1991–2016) to study the relationship between external balance sheets and episodes of sudden stops with large output declines and external crises[1] suggest that (1) interna-

The authors of this box are Swarnali Ahmed Hannan and Zijiao Wang.

[1]Sudden stops are episodes during which net private capital inflows are either (1) 1½ standard deviations below their mean and the annual decline is ¾ standard deviation from the previous year, or (2) have declined by at least 3 percentage points of GDP relative to the previous year and 2 percentage points from two years earlier. A large output decline is an episode during which real GDP growth, relative to the previous five-year average, ranks in the bottom 5th percentile of the distribution (across time and across countries). An external crisis is an episode of private or public external debt default or restructuring or an IMF-supported program. Regression also includes standard controls used in the literature (see Catão and Milesi-Ferretti 2014).

### Figure 1.5.1. Selected Emerging and Developing Economies: Sensitivity of Private Flows to Global Risk Aversions vs. Flow and Stock



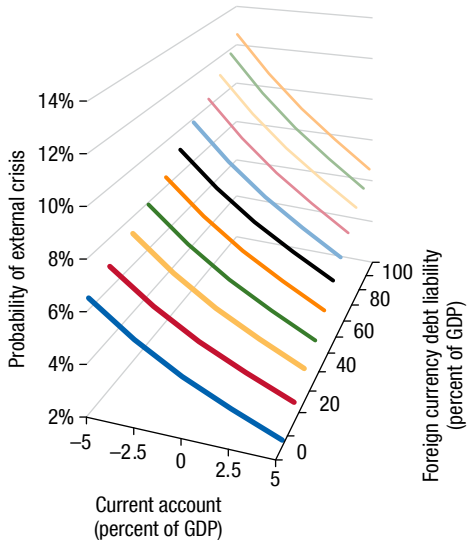

Sources: Bank for International Settlements; IMF's Financial Flows Analytics; Haver Analytics; and IMF staff calculations.

## Box 1.5 *(continued)*

tional investment position size and currency composition matter—higher levels of gross external debt increase the likelihood of external crises, and higher levels of foreign exchange external debt increase the chances of sudden stops; (2) higher levels of foreign reserve assets lower the likelihood of external crises, although with diminishing returns; and (3) larger current account deficits increase the likelihood of external crises, while overvalued currencies increase the likelihood of sudden stops. Finally, all else equal (for example, income per capita, which proxies institutions), financial deepening reduces the likelihood of both sudden stops and external crises, likely reflecting the ability to hedge against external risks.

The combination of large current account deficits and high levels of foreign currency debt can amplify such risks (Figure 1.5.2). For example, although the probability of an external crisis for a country with a median level of foreign exchange debt (42 percent of GDP) increases by about 3½ percentage points when the current account moves from a surplus to a deficit of 3 percent of GDP, this probability increases by 4½ percentage points when foreign exchange debt is in the top 90 percentile (111 percent of GDP). While these exercises are illustrative and carry no presumption that countries should achieve higher current account surpluses (if not warranted by fundamentals), they do show that, if left unchecked, external flow and stock vulnerabilities can greatly amplify external financing risks.

**Figure 1.5.2. Model-Predicted Probability Margins[1]**




Sources: Lane and Milesi-Ferretti (2007); Asonuma and Trebesch (2016); Paris Club; Bénétrix, Lane, and Shambaugh (2015); and IMF staff calculations.
[1]The vertical axis shows external crisis probability conditional on current account and foreign currency debt, with other covariates constant.

## Box 1.6. Nonregression Approaches for Assessing External Balances of Large Exporters of Exhaustible Resources

Exhaustible resources can generate potentially very large and temporary income streams. Given the exhaustible nature of these resources, countries may benefit from smoothing their domestic absorption. Reflecting this consideration, the External Balance Assessment (EBA) and EBA-Lite models include—for oil and gas exporters—a measure of oil and gas exports' temporariness, which is proportional to the stock of proven reserves. In other words, countries with large resource wealth are expected to save a higher portion of current income when resources are more temporary.

Nonregression approaches can usefully complement estimates from regression models. These nonregression approaches have recently been applied to various countries (such as Saudi Arabia and several EBA-Lite countries). They feature certain advantages, such as allowing for linkages between resource temporariness and fiscal policy and modeling the interaction between different parts of countries' balance sheets, such as below-the-ground wealth and financial asset positions. Because these approaches do not explicitly account for various other policy and nonpolicy determinants included in EBA and EBA-Lite regressions, they can only complement—not substitute for—the information provided by regression models.

Consumption allocation rules that distribute resource wealth across periods can be used to derive current account and fiscal policy gaps. Reflecting the high incidence of exporters of exhaustible resources in its sample of countries, the revised EBA-Lite methodology incorporates two models to capture the aforementioned considerations (IMF 2019d). In the consumption allocation rules framework (Bems and de Carvalho Filho 2009), countries are assumed to consume an annuity out of their resource wealth, defined as the sum of below-the-ground wealth (the present value of exports of exhaustible commodities) plus above-ground wealth (net foreign assets). This annuity yields a norm for consumption from which a saving norm can be readily derived. An extension consists in deriving fiscal saving norms by defining an annuity for fiscal expenditures that draws from the government's resource wealth, defined as the sum of the present value of resource-related revenues plus net government assets.

Models that account for investment needs can lead to lower current account norms in resource-rich developing economies. In lower-income countries where capital is scarce and investment needs high, it might be desirable to allocate part of the resource wealth to finance investment. The consumption allocation rules described above do not take these needs explicitly into account and may therefore overstate saving-investment norms. Araujo and others (2016) propose a small open economy model that explicitly incorporates the role of investment. Incorporating investment alongside capital scarcity and credit constraints naturally leads to lower current account norms. Current account gaps derived through this approach, however, depend on the calibration of inefficiencies in investment, which can be large in many resource-rich developing economies (Pritchett 2000; IMF 2012). Larger inefficiencies in investment will lead to lower levels of optimal investment, and therefore to higher current account norms.

The authors of this box are Diego Cerdeiro and Mitali Das.

## Box 1.7. What is Driving the Rise in Corporate Saving in Advanced Economies?

Although net corporate saving—the difference between corporate saving and investment—has risen across most advanced economies since the mid-1990s, the increase has been especially pronounced in a subset of advanced economies with large and persistent surpluses (for example, Austria, Denmark, Germany, Japan, Korea, Netherlands). In these surplus advanced economies, the level of public net saving has also been higher and households' offsetting role has been smaller (Figure 1.7.1), the latter suggesting that there may be impediments for households to offset corporate behavior (or "pierce the corporate veil").

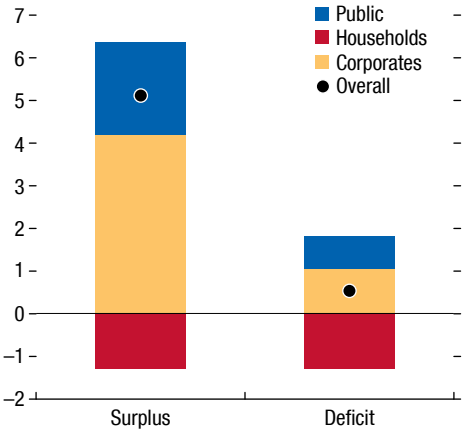
These differences in net corporate saving largely reflect differences in labor compensation, investment, and dividend payments (Figure 1.7.2). Interest payments and taxation have played a more limited *direct* role in explaining the differences in corporate behavior among advanced economies (see also Dao and Maggi 2018).

- *Labor compensation:* Although labor shares have fallen across most advanced economies, these declines have been largest in advanced economies with faster-rising corporate saving (see also Chen, Karabarbounis, and Neiman 2017). That said, the extent to which the decline in labor shares reflects technological progress (see Dao and others 2017) or labor market institutions (Redeker 2019 argues that reduced union density and worker bargaining power increase net corporate saving) is an open question.
- *Investment:* Declines in corporate investment have been strongest in economies with fast-rising net corporate saving, although it remains unclear the extent to which these trends reflect weaker growth prospects (Gruber and Kamin 2016) or more binding investment barriers (2018 *External Sector Report*) in those economies.
- *Dividends:* The rise in net corporate saving has been strongest in countries with more pronounced shifts away from dividend payouts and toward retained earnings and share buybacks (Gutiérrez and Philippon 2016). These trends may have contributed to current account dynamics, as risk-averse agents tend to choose to consume more out of actual income (dividends) than out of latent income in the form of retained earnings (see Baker, Nagel, and Wurgler 2006 on US data and Di Maggio, Kermani, and Majlesi 2018 on Swedish data).

The strong correlation between net corporate saving and net aggregate saving suggests that distributional and structural issues may be playing a role.

- *Wealth inequality:* Aspects related to the distribution of wealth and firm ownership may explain the strong link between corporate saving and the current account (Figure 1.7.3). Specifically, if the rise in corporate profits and saving accrues mainly to wealthy households with a low propensity to consume, aggregate private saving may comove strongly with corporate saving (see IMF 2019c). In recent cross-country empirical work, Behringer and van Treeck (2018) show that countries with declining labor shares have larger current account balances, as a shift in income from workers

**Figure 1.7.1. Selected Advanced Economies: Change in Current Accounts by Sector, 1995–2017[1]**
*(Percent of group GDP)*

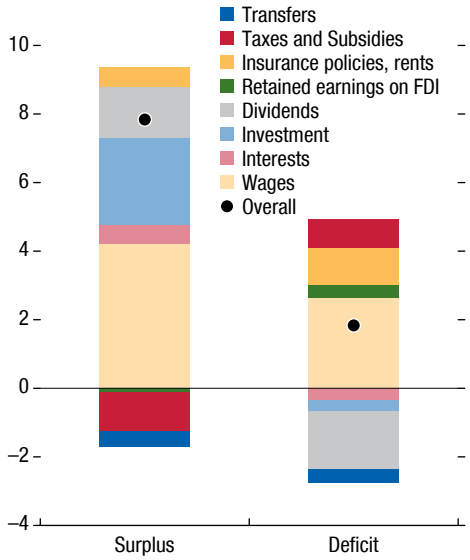



Sources: IMF, *World Economic Outlook*; AMECO database; OECD National Accounts dataset; and IMF staff calculations.
[1]Surplus (deficit) advanced economies are those that ran surpluses (deficits) in 2008. Surplus advanced economies include Austria, Denmark, Finland, Germany, Japan, Korea, Luxembourg, Netherlands, Norway, and Sweden. Deficit advanced economies include Belgium, Cyprus, Czech Republic, Estonia, France, Greece, Ireland, Italy, Latvia, Lithuania, Portugal, Slovakia, Slovenia, Spain, the United Kingdom, and the United States.

The author of this box is Cyril Rebillard, with inputs from Callum Jones, and research assistance from Deepali Gautam.

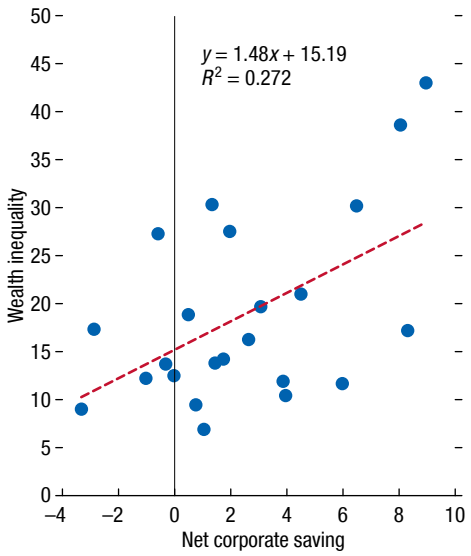
## Box 1.7 *(continued)*

**Figure 1.7.2. Selected Advanced Economies: Change in Net Corporate Saving, 1995–2017**
*(Percent of group corporate value-added)*




Sources: IMF, *World Economic Outlook*; AMECO database; Chen and others (2017) online database; OECD National Accounts dataset; and IMF staff calculations.
[1]Surplus (deficit) advanced economies are those that ran surpluses (deficits) in 2008. Surplus advanced economies include Austria, Denmark, Finland, Germany, Japan, Korea, Luxembourg, Netherlands, Norway, and Sweden. Deficit advanced economies include Belgium, Cyprus, Czech Republic, Estonia, France, Greece, Ireland, Italy, Latvia, Lithuania, Portugal, Slovakia, Slovenia, Spain, the United Kingdom, and the United States.

**Figure 1.7.3. Selected Advanced Economies: Wealth Inequality[1] vs. Net Corporate Saving, 2012–16**
*(Percent of GDP)*




Source: OECD.
[1]Wealth Inequality is the share of individuals with equivalized net wealth <50% of income poverty line.

(with a high marginal propensity to consume) to shareholders (with a low marginal propensity to consume) can depress aggregate consumption and imports.

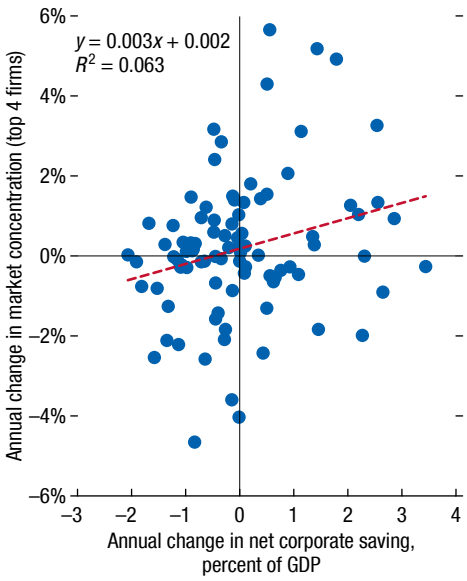
- *Corporate market power:* The rise in corporate saving across Group of Seven countries has coincided with an increase in the average concentration ratio of firms across broadly defined industries (Figure 1.7.4). While rising corporate market power seems, so far, more reflective of a "winner-takes-most" pattern by more productive and innovative firms (Chapter 2 of the April 2019 *World Economic Outlook*), the role of procompetition policies in reducing corporate net saving and current account imbalances deserves further investigation. For example, Dao and others (2019) argue that trends that make borrowing constraints less binding benefit large firms disproportionately, leading to both rising corporate saving and concentration.

**Potential policy response.** Understanding the extent to which the rise in corporate saving reflects policy distortions remains a work in progress and requires tailored analysis at the country level, including of distributional issues. That said, some additional policy aspects deserve consideration:

- *Product markets.* Countries could foster domestic business investment by relaxing certain product market regulations, including for example by reducing burdens in the license and permit system and/or procedures to start a business (see 2018 *External Sector Report*).
- *Taxation.* Consideration could be given to strengthening property and inheritance taxation, especially where increased wealth concentration is leading to excess aggregate saving (see IMF 2019c). A more

## Box 1.7 *(continued)*

**Figure 1.7.4. Selected Advanced Economies: Net Corporate Saving vs. Market Concentration, 1998–2014[1]**




Sources: Thomson Reuters World Scope; OCED National Accounts Dataset; and IMF staff calculations.
[1]Includes Germany, Japan, Canada, the UK, and US.

equal tax treatment of dividends and retained earnings could in certain circumstances discourage the retention of profits and foster consumption, although this much depends on the extent to which households consume more out of actual than latent income. Finally, it is worth clarifying that while changes in corporate taxation can affect the *composition* of the current account and the relative importance of net exports and income (Guvenen and others 2018), they tend not to impact (all else equal) the overall current account level.

## Table 1.2. Selected Economies: Net International Investment Position, 2015–18[1]

| | In Billions of USD | | | | In Percent of World GDP | | | | In Percent of GDP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2018 | 2015 | 2016 | 2017 | 2018 | 2015 | 2016 | 2017 | 2018 |
| **Top 15 Creditor Economies in 2018** | | | | | | | | | | | | |
| Japan | 2,684 | 2,902 | 2,915 | 3,034 | 3.6 | 3.8 | 3.6 | 3.6 | 61.1 | 58.9 | 60.0 | 61.0 |
| Germany | 1,537 | 1,693 | 2,110 | 2,424 | 2.1 | 2.2 | 2.6 | 2.9 | 45.4 | 48.4 | 57.0 | 60.6 |
| China | 1,673 | 1,950 | 2,101 | 2,130 | 2.2 | 2.6 | 2.6 | 2.5 | 14.9 | 17.4 | 17.4 | 15.9 |
| Hong Kong SAR | 1,003 | 1,154 | 1,421 | 1,295 | 1.3 | 1.5 | 1.8 | 1.7 | 324.2 | 359.2 | 417.0 | 356.7 |
| Taiwan Province of China | 1,081 | 1,107 | 1,181 | 1,260 | 1.4 | 1.5 | 1.5 | 1.5 | 205.6 | 208.3 | 205.4 | 213.9 |
| Switzerland | 596 | 728 | 801 | 902 | 0.8 | 1.0 | 1.0 | 1.1 | 87.7 | 108.7 | 118.0 | 128.2 |
| Norway | 706 | 740 | 873 | 819 | 0.9 | 1.0 | 1.1 | 1.0 | 182.5 | 199.3 | 218.6 | 188.4 |
| Singapore | 647 | 726 | 803 | 812 | 0.9 | 1.0 | 1.0 | 1.0 | 210.1 | 228.4 | 237.4 | 223.0 |
| Saudi Arabia | 690 | 597 | 624 | 669 | 0.9 | 0.8 | 0.8 | 0.8 | 105.4 | 92.6 | 90.6 | 85.5 |
| Netherlands | 369 | 446 | 553 | 609 | 0.5 | 0.6 | 0.7 | 0.7 | 48.2 | 56.9 | 66.4 | 66.7 |
| Korea | 204 | 281 | 262 | 413 | 0.3 | 0.4 | 0.3 | 0.5 | 13.9 | 18.7 | 16.1 | 24.0 |
| Canada | 280 | 189 | 340 | 395 | 0.4 | 0.2 | 0.4 | 0.5 | 18.0 | 12.3 | 20.6 | 23.1 |
| Russia | 332 | 211 | 273 | 371 | 0.4 | 0.3 | 0.3 | 0.4 | 24.3 | 16.5 | 17.3 | 22.4 |
| Belgium | 205 | 256 | 272 | 226 | 0.3 | 0.3 | 0.3 | 0.3 | 45.0 | 54.4 | 54.9 | 42.4 |
| Kuwait | 183 | 178 | 185 | 201 | 0.2 | 0.2 | 0.2 | 0.2 | 159.4 | 162.4 | 154.5 | 143.3 |
| **Top 15 Debtor Economies in 2018** | | | | | | | | | | | | |
| United States | –7,462 | –8,182 | –7,725 | –9,717 | –10.0 | –10.8 | –9.6 | –11.4 | –41.0 | –43.7 | –39.6 | –47.4 |
| Spain | –1,052 | –1,006 | –1,153 | –1,061 | –1.4 | –1.3 | –1.4 | –1.3 | –87.7 | –81.3 | –87.5 | –74.3 |
| Australia | –669 | –711 | –740 | –717 | –0.9 | –0.9 | –0.9 | –0.8 | –54.2 | –56.0 | –53.4 | –50.5 |
| Brazil | –375 | –567 | –642 | –600 | –0.5 | –0.7 | –0.8 | –0.7 | –20.8 | –31.6 | –31.3 | –32.1 |
| Mexico | –601 | –532 | –559 | –567 | –0.8 | –0.7 | –0.7 | –0.7 | –51.3 | –49.3 | –48.3 | –46.4 |
| Ireland | –566 | –491 | –519 | –516 | –0.8 | –0.6 | –0.6 | –0.6 | –194.7 | –162.5 | –156.5 | –137.1 |
| India | –364 | –371 | –438 | –431 | –0.5 | –0.5 | –0.5 | –0.5 | –17.3 | –16.2 | –16.5 | –15.9 |
| Turkey | –385 | –370 | –458 | –366 | –0.5 | –0.5 | –0.6 | –0.4 | –44.8 | –42.8 | –53.8 | –47.8 |
| Poland | –287 | –274 | –348 | –345 | –0.4 | –0.4 | –0.4 | –0.4 | –60.0 | –58.1 | –66.2 | –58.8 |
| Indonesia | –377 | –334 | –323 | –318 | –0.5 | –0.4 | –0.4 | –0.4 | –43.8 | –35.8 | –31.8 | –30.5 |
| France | –309 | –350 | –546 | –317 | –0.4 | –0.5 | –0.7 | –0.4 | –12.7 | –14.2 | –21.1 | –11.4 |
| Greece | –265 | –261 | –306 | –298 | –0.4 | –0.3 | –0.4 | –0.4 | –134.6 | –133.8 | –150.6 | –136.4 |
| Portugal | –226 | –218 | –230 | –240 | –0.3 | –0.3 | –0.3 | –0.3 | –113.2 | –105.5 | –104.9 | –100.8 |
| United Kingdom | –582 | –64 | –213 | –191 | –0.8 | –0.1 | –0.3 | –0.2 | –20.1 | –2.4 | –8.1 | –6.7 |
| Colombia | –120 | –135 | –148 | –154 | –0.2 | –0.2 | –0.2 | –0.2 | –40.7 | –47.8 | –47.5 | –46.2 |
| Memorandum item: | | | | | | | | | | | | |
| Euro Area | –1,327 | –832 | –940 | –520 | –1.8 | –1.1 | –1.2 | –0.6 | –11.3 | –6.9 | –7.4 | –3.8 |
| Statistical discrepancy | –2,766 | –1,811 | –793 | –882 | –3.7 | –2.4 | –1.0 | –1.0 | . . . | . . . | . . . | . . . |
| Overall Creditors | 12,775 | 13,825 | 15,435 | 16,301 | 17.1 | 18.3 | 19.3 | 19.2 | . . . | . . . | . . . | . . . |
| Of which: Advanced Economies | 9,518 | 10,555 | 11,949 | 12,618 | 12.8 | 13.9 | 14.9 | 14.9 | . . . | . . . | . . . | . . . |
| Overall Debtors | –15,541 | –15,635 | –16,228 | –17,183 | –20.8 | –20.7 | –20.3 | –20.3 | . . . | . . . | . . . | . . . |
| Of which: Advanced Economies | –11,810 | –11,766 | –11,884 | –12,832 | –15.8 | –15.5 | –14.8 | –15.1 | . . . | . . . | . . . | . . . |

Source: Bureau of Economic Analysis; IMF, *World Economic Outlook*; and IMF staff calculations.
Note: 2018 US net international investment position is sourced from US Bureau of Economic Analysis.
[1]Sorted by size (in US dollars) of creditor and debtor positions in 2018. The net international investment position data from the WEO database is calculated using assets and liabilities reported by country teams. Reserve assets include monetary gold.

## Table 1.3. Selected Economies: Foreign Reserves, 2016–18[1]

| | Gross Official Reserves[2] (in Billions of USD) | | | Gross Official Reserves[2] (Percent of GDP) | | | IMF Staff Estimated Change in Official Reserves[3] (Percent of GDP) | | | Gross Official Reserves in Percent of ARA metric (2018)[4] | FXI Data Publication |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 | | |
| **Emerging Market Economies** | | | | | | | | | | | |
| China | 3,098 | 3,236 | 3,168 | 27.6 | 26.8 | 23.6 | –4.4 | 1.1 | 0.1 | 143.0 | No |
| Saudi Arabia | 547 | 509 | 495 | 84.9 | 74.0 | 63.2 | –12.4 | –5.8 | 0.1 | 414.0 | No |
| Russia | 377 | 433 | 469 | 29.4 | 27.4 | 28.3 | 0.7 | 1.7 | 2.0 | 275.2 | Yes/Daily |
| India | 362 | 413 | 399 | 15.8 | 15.6 | 14.7 | 0.9 | 2.6 | –1.9 | 187.0 | Yes/Monthly |
| Brazil | 365 | 374 | 375 | 20.3 | 18.2 | 20.1 | 5.1 | 0.3 | –2.2 | 163.1 | Yes/Daily |
| Thailand | 172 | 203 | 206 | 41.6 | 44.5 | 40.7 | 6.5 | 8.1 | 0.8 | 206.0 | No |
| Mexico | 178 | 175 | 176 | 16.5 | 15.2 | 14.4 | 0.0 | –0.4 | 0.0 | 116.8 | Yes/Monthly |
| Indonesia | 116 | 130 | 121 | 12.5 | 12.8 | 11.8 | 1.4 | 1.7 | –1.4 | 118.0 | No |
| Poland | 114 | 113 | 117 | 24.2 | 21.5 | 20.0 | 4.8 | –1.5 | 1.1 | 114.7 | No |
| Malaysia | 94 | 102 | 101 | 31.4 | 32.1 | 28.3 | –0.3 | 0.7 | –2.5 | 107.7 | No |
| Turkey | 106 | 108 | 93 | 12.3 | 12.6 | 12.1 | 0.1 | –1.1 | –1.4 | 75.6 | Yes/Monthly |
| Argentina | 38 | 55 | 66 | 6.9 | 8.6 | 12.8 | 5.4 | 2.3 | –3.4 | 95.2 | Yes/Daily |
| South Africa | 47 | 51 | 52 | 15.9 | 14.5 | 14.0 | 1.0 | 0.4 | –0.1 | 62.7 | No |
| **Advanced Economies** | | | | | | | | | | | |
| Japan | 1,217 | 1,264 | 1,270 | 24.7 | 26.0 | 25.6 | 0.0 | 0.3 | 0.5 | . . . | Yes/Monthly |
| Euro Area | 742 | 803 | 823 | 6.2 | 6.3 | 6.0 | 0.3 | 0.1 | 0.3 | . . . | Yes/Weekly |
| Switzerland | 679 | 811 | 788 | 101.3 | 119.4 | 114.0 | 11.5 | 9.2 | –1.9 | . . . | Yes/Annual |
| United States | 406 | 451 | 450 | 2.2 | 2.3 | 2.2 | 0.0 | 0.0 | 0.1 | . . . | Yes/Quarterly |
| Hong Kong SAR | 386 | 431 | 425 | 120.4 | 126.3 | 117.0 | –2.2 | 9.3 | 0.6 | . . . | Yes/Daily |
| Korea | 370 | 389 | 403 | 24.7 | 23.9 | 23.4 | –0.4 | 0.7 | 0.1 | 106.2 | Yes/Semiannual[6] |
| Singapore | 251 | 285 | 288 | 78.9 | 84.2 | 79.0 | 1.9 | 14.7 | 5.1 | . . . | Yes/Semiannual |
| United Kingdom | 135 | 151 | 173 | 5.1 | 5.7 | 6.1 | 0.4 | 0.4 | 0.9 | . . . | Yes/Monthly |
| Canada | 83 | 87 | 84 | 5.4 | 5.3 | 4.9 | 0.4 | 0.0 | –0.1 | . . . | Yes/Monthly |
| Sweden | 59 | 62 | 61 | 11.6 | 11.6 | 11.0 | 0.8 | 0.0 | –0.4 | . . . | No |
| Australia | 54 | 67 | 54 | 4.2 | 4.8 | 3.8 | 0.0 | –0.1 | 0.1 | . . . | Yes/Daily |
| Memorandum item: | | | | | | | | | | | |
| Aggregate[5] | 9,996 | 10,703 | 10,655 | 13.2 | 13.3 | 12.6 | –0.1 | 0.6 | 0.0 | . . . | . . . |
| EMDEs | 5,615 | 5,902 | 5,837 | 7.4 | 7.4 | 6.9 | –0.3 | 0.4 | –0.1 | . . . | . . . |
| AEs | 4,381 | 4,801 | 4,818 | 5.8 | 6.0 | 5.7 | 0.2 | 0.2 | 0.1 | . . . | . . . |

Sources: IMF, Assessing Reserve Adequacy dataset; IMF, International Reserves and Foreign Currency Liquidity; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; and IMF staff calculations.

Note: ARA = assessment of reserve adequacy; FX = foreign exchange; FXI = foreign exchange intervention; AEs = advanced economies; EMDEs = emerging market developing economies.

[1]Sample includes External Sector Report economies excluding individual euro area economies. Euro area is reported as aggregate.

[2]Total reserves from IFS, includes gold reserves valued at market prices.

[3]This item is not necessarily equal to actual FXI, but it is used as an FXI proxy in EBA model estimates. Estimated change in official reserves is equivalent to the change in reserve assets in the financial account series from WEO (which excludes valuation effects, but includes interest income on official reserves) plus the change in off-balance sheet holdings (short and long FX derivative positions, and other memorandum items) from IRFCL and minus net credit and loans from the IMF.

[4]ARA metric reflects potential balance-of-payment FX liquidity needs in adverse circumstances and is used to assess the adequacy of FX reserves against potential FX liquidity drains (see IMF 2015). The ARA metric is estimated only for selected EMDEs and Korea, and includes adjustments for capital controls for China and India. Additional adjusted figures are available in the Individual Country Pages in Chapter 3.

[5]Aggregate is calculated as the sum of External Sector Report economies only. The percent of GDP is calculated relative to total world GDP.

[6]Korea will start publishing FXI data on a quarterly basis in the third quarter of 2019.

## Table 1.4. External Sector Report Economies: Summary of External Assessment Indicators, 2018

| Economy | Overall Assessment | Current Account (% GDP) | | Staff-Assessed CA Gap (% GDP) | | Staff-Assessed REER Gap (Percent) | | Int'l Investment Position (% GDP)[1] | | | CA NFA Stabilizing (% GDP)[2] | CA/REER Elasticity[3] | SE of CA Norm (%)[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Actual | Cycl Adj. | Midpoint | Range | Midpoint | Range | Net | Liabilities | Assets | | | |
| Argentina | Weaker | –5.2 | –6.8 | –3.0 | +/–1 | –12.5 | +/–2.5 | 12 | 58 | 70 | 0.1 | 0.14 | 0.9 |
| Australia | Broadly in line | –2.0 | –2.4 | –0.9 | +/–0.5 | 6.0 | +/–6 | –51 | 182 | 131 | –2.7 | 0.20 | 1.0 |
| Belgium | Weaker | –1.3 | –1.3 | –3.7 | +/–1 | 8.5 | +/–2.5 | 42 | 377 | 419 | 2.0 | 0.42 | 0.6 |
| Brazil | Broadly in line | –0.8 | –2.1 | 0.3 | +/–0.5 | 1.5 | +/–4.5 | –32 | 80 | 48 | –1.4 | 0.11 | 1.1 |
| Canada | Weaker | –2.6 | –3.0 | –2.1 | +/–1.5 | 7.5 | +/–5.5 | 23 | 212 | 235 | 0.9 | 0.27 | 1.0 |
| China | Broadly in line | 0.4 | 0.3 | 0.8 | +/–1.5 | –1.5 | +/–10 | 16 | 39 | 55 | 1.5 | 0.23 | 1.5 |
| Euro Area[5] | Moderately stronger | 2.9 | 2.9 | 1.3 | +/–0.8 | –3.0 | +/–2 | –4 | 232 | 228 | –0.4 | 0.40 | 0.8 |
| France | Broadly in line | –0.3 | –0.3 | –0.7 | +/–0.5 | 2.5 | +/–1.5 | –11 | 301 | 290 | –0.9 | 0.27 | 0.5 |
| Germany | Substantially stronger | 7.3 | 7.6 | 4.6 | +/–1 | –13.0 | +/–5 | 61 | 192 | 253 | 1.9 | 0.38 | 0.9 |
| Hong Kong SAR | Broadly in line | 4.3 | 4.5 | 0.0 | +/–1.5 | 0.0 | +/–5 | 357 | 1154 | 1510 | . . . | . . . | . . . |
| India | Broadly in line | –2.5 | –2.5 | 0.0 | +/–1 | 0.0 | +/–6 | –16 | 38 | 22 | –2.8 | 0.18 | 1.4 |
| Indonesia | Moderately weaker | –3.0 | –3.3 | –1.5 | +/–1.5 | –4.0 | +/–5 | –30 | 64 | 33 | –2.4 | 0.18 | 1.4 |
| Italy | Broadly in line | 2.6 | 2.2 | –0.1 | +/–1 | 5.0 | +/–5 | –4 | 157 | 152 | –0.3 | 0.26 | 0.8 |
| Japan | Broadly in line | 3.5 | 3.3 | 0.2 | +/–1.2 | –1.5 | +/–9.5 | 61 | 121 | 182 | 2.0 | 0.13 | 1.2 |
| Korea | Moderately stronger | 4.4 | 4.2 | 1.4 | +/–1 | –4.0 | +/–3 | 24 | 64 | 88 | 0.8 | 0.36 | 0.8 |
| Malaysia | Stronger | 2.1 | 2.3 | 2.4 | +/–1 | –5.0 | +/–2 | –5 | 119 | 114 | –0.2 | 0.46 | 0.7 |
| Mexico | Broadly in line | –1.8 | –1.6 | 1.0 | +/–1 | –6.0 | +/–8 | –46 | 93 | 47 | –2.5 | 0.16 | 1.2 |
| Netherlands | Substantially stronger | 10.8 | 11.0 | 6.2 | +/–2 | –8.6 | +/–2.8 | 67 | 995 | 1062 | 2.2 | 0.72 | 0.9 |
| Poland | Broadly in line | –0.7 | –0.6 | 0.9 | +/–1 | –2.5 | +/–2.5 | –59 | 107 | 48 | –3.1 | 0.44 | 0.6 |
| Russia | Moderately stronger | 6.9 | 6.6 | 1.6 | +/–1 | –6.0 | +/–4 | 22 | 58 | 81 | 0.6 | 0.27 | 1.6 |
| Saudi Arabia | Moderately weaker | 9.2 | 8.9 | –1.7 | +/–1.7 | 7.5 | +/–2.5 | 86 | . . . | . . . | . . . | . . . | . . . |
| Singapore | Substantially stronger | 17.9 | 18.4 | 4.1 | +/–3 | –8.2 | +/–6 | 223 | 830 | 1053 | . . . | . . . | . . . |
| South Africa | Moderately weaker | –3.5 | –3.9 | –1.8 | +/–1 | 7.0 | +/–5 | 10 | 122 | 132 | –1.4 | 0.27 | 1.2 |
| Spain | Moderately weaker | 0.9 | 0.9 | –1.1 | +/–1 | 5.0 | +/–4 | –74 | 231 | 156 | –1.8 | 0.22 | 0.7 |
| Sweden | Moderately stronger | 2.0 | 2.3 | 1.3 | +/–1.5 | –10.0 | +/–5 | 7 | 243 | 250 | 0.2 | 0.35 | 1.1 |
| Switzerland | Broadly in line | 10.2 | 10.4 | 0.9 | +/–2 | –2.8 | +/–3.75 | 128 | 565 | 694 | 10.9 | 0.52 | 1.3 |
| Thailand | Substantially stronger | 7.0 | 7.0 | 5.4 | +/–1.6 | –8.5 | +/–2.5 | 0 | 97 | 96 | –0.6 | 0.64 | 1.6 |
| Turkey | Broadly in line | –3.5 | –2.5 | –0.2 | +/–1 | –15.0 | +/–5 | –48 | 78 | 30 | –2.8 | 0.22 | 1.9 |
| United Kingdom | Weaker | –3.9 | –3.9 | –2.9 | +/–1.9 | 7.5 | +/–7.5 | –7 | 528 | 522 | –0.3 | 0.24 | 0.7 |
| United States | Moderately weaker | –2.3 | –2.1 | –1.4 | +/–0.5 | 9.0 | +/–3 | –47 | 171 | 124 | –0.9 | 0.12 | 1.0 |

Sources: US, Bureau of Economic Analysis; IMF, *World Economic Outlook*; IMF, *International Financial Statistics*; and IMF Staff assessments.
Note: CA = current account; NFA = net foreign assets; REER = real effective exchange rate; NIIP = net international investment position. 2018 US net international investment position is sourced from US Bureau of Economic Analysis.
[1]The NIIP estimates come from World Economic Outlook. Country team estimates (reported in External Sector Report pages) could differ.
[2]The current account balance that would stabilize the ratio of NFA to GDP at the benchmark NFA/GDP level.
[3]Assumed elasticity linking a change in the current account (as percent of GDP) to a change in the REER (percent).
[4]The standard error of the 2018 estimated current account norms.
[5]The staff-assessed euro area CA and REER gaps are calculated as the GDP-weighted averages of staff-assessed CA and REER gaps for the 11 largest euro area economies.

## Table 1.5. External Sector Report Economies: Summary of Staff-Assessed Current Account Gaps and Staff Adjustments, 2018

*(Percent of GDP)*

| Economy | Assessment 2018 | Actual CA Balance [A] | Cycl Adj. CA Balance [B] | EBA CA Norm [C] | EBA CA Gap[1] [D=B-C] | Staff-Assessed CA Gap[2] [E] | Staff Adjustments[3] Total [F=G-H] | Staff Adjustments[3] Other [G] | Staff Adjustments[3] Norm [H] | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | Weaker | –5.2 | –6.8 | –2.5 | –4.3 | –3.0 | 1.3 | 1.3 | . . . | Impact of the draught on agricultural exports |
| Australia | Broadly in line | –2.0 | –2.4 | –0.4 | –2.0 | –0.9 | 1.1 | 0.1 | –1.0 | Impact of adverse weather conditions on exports; large investment needs |
| Belgium | Weaker | –1.3 | –1.3 | 2.4 | –3.7 | –3.7 | 0.0 | . . . | . . . | . . . |
| Brazil | Broadly in line | –0.8 | –2.1 | –2.9 | 0.8 | 0.3 | –0.5 | . . . | 0.5 | NIIP/financing risks considerations |
| Canada | Weaker | –2.6 | –3.0 | 2.0 | –5.0 | –2.1 | 2.9 | 2.6 | –0.3 | Measurement biases and terms-of-trade; demographics |
| China | Broadly in line | 0.4 | 0.3 | –0.4 | 0.8 | 0.8 | 0.0 | . . . | . . . | . . . |
| Euro Area[4] | Moderately stronger | 2.9 | 2.9 | 1.1 | 1.8 | 1.3 | –0.5 | –0.1 | 0.4 | Country-specific adjustments |
| France | Broadly in line | –0.3 | –0.3 | 0.5 | –0.7 | –0.7 | 0.0 | . . . | . . . | . . . |
| Germany | Substantially stronger | 7.3 | 7.6 | 2.5 | 5.1 | 4.6 | –0.5 | . . . | 0.5 | Demographics (uncertainty related to large/sudden immigration) |
| India | Broadly in line | –2.5 | –2.5 | –3.4 | 0.9 | 0.0 | –0.9 | . . . | 0.9 | NIIP/financing risks considerations |
| Indonesia | Moderately weaker | –3.0 | –3.3 | –0.9 | –2.4 | –1.5 | 0.9 | . . . | –0.9 | Demographics (high mortality risk) |
| Italy | Broadly in line | 2.6 | 2.2 | 2.3 | –0.1 | –0.1 | 0.0 | . . . | . . . | . . . |
| Japan | Broadly in line | 3.5 | 3.3 | 3.1 | 0.2 | 0.2 | 0.0 | . . . | . . . | . . . |
| Korea | Moderately stronger | 4.4 | 4.2 | 2.7 | 1.4 | 1.4 | 0.0 | . . . | . . . | . . . |
| Malaysia | Stronger | 2.1 | 2.3 | –0.2 | 2.4 | 2.4 | 0.0 | . . . | . . . | . . . |
| Mexico | Broadly in line | –1.8 | –1.6 | –2.6 | 1.0 | 1.0 | 0.0 | . . . | . . . | . . . |
| Netherlands | Substantially stronger | 10.8 | 11.0 | 3.3 | 7.7 | 6.2 | –1.5 | –1.5 | . . . | Measurement biases (new) |
| Poland | Broadly in line | –0.7 | –0.6 | –2.3 | 1.7 | 0.9 | –0.8 | . . . | 0.8 | NIIP/financing risks considerations |
| Russia | Moderately stronger | 6.9 | 6.6 | 3.1 | 3.5 | 1.6 | –1.9 | –1.9 | . . . | Adjustment to terms-of-trade to better capture full impact of oil price increase |
| South Africa | Moderately weaker | –3.5 | –3.9 | 0.5 | –4.4 | –1.8 | 2.6 | 1.5 | –1.1 | Measurement biases; demographics (high mortality risk) |
| Spain | Moderately weaker | 0.9 | 0.9 | 1.1 | –0.2 | –1.1 | –0.9 | . . . | 0.9 | NIIP/financing risks considerations |
| Sweden | Moderately stronger | 2.0 | 2.3 | 1.0 | 1.3 | 1.3 | 0.0 | . . . | . . . | . . . |
| Switzerland | Broadly in line | 10.2 | 10.4 | 5.9 | 4.5 | 0.9 | –3.5 | –3.5 | . . . | Measurement biases |
| Thailand | Substantially stronger | 7.0 | 7.0 | 0.1 | 6.9 | 5.4 | –1.5 | –1.5 | . . . | Adjustment to terms-of-trade weights; political uncertainty |
| Turkey | Broadly in line | –3.5 | –2.5 | –1.6 | –0.9 | –0.2 | 0.7 | 0.7 | . . . | Temporary surge in gold imports |
| United Kingdom | Weaker | –3.9 | –3.9 | 0.5 | –4.4 | –2.9 | 1.5 | 1.5 | . . . | Measurement biases |
| United States | Moderately weaker | –2.3 | –2.1 | –0.9 | –1.2 | –1.4 | –0.2 | –0.2 | . . . | Adjustment to terms-of-trade weights to capture changes in US oil production |
| Hong Kong SAR | Broadly in line | 4.3 | 4.5 | . . . | . . . | 0.0 | . . . | . . . | . . . | Measurement biases |
| Singapore | Substantially stronger | 17.9 | 18.4 | . . . | . . . | 4.1 | . . . | . . . | . . . | . . . |
| Saudi Arabia | Moderately weaker | 9.2 | 8.9 | . . . | . . . | –1.7 | . . . | . . . | . . . | . . . |
| Discrepancy[5] | . . . | . . . | . . . | . . . | . . . | . . . | **–0.05** | . . . | . . . | . . . | . . . |

Source: IMF staff estimates.

Note: EBA = external balance assessment; CA = current account.

[1]Figures may not add up due to rounding effects.

[2]Refers to the mid-point of the staff-assessed CA Gap.

[3]Total staff adjustments include rounding in some cases. Breakdown between norm and other factors (which affect the underlying CA) are tentative.

[4]The EBA euro area current account norm is calculated as the GDP-weighted average of norms for the 11 largest Euro area economies, adjusted for reporting discrepancies in intra-area transactions (which were equivalent to 0.6 percent of GDP in 2018). The staff-assessed CA gap is calculated as the GDP-weighted average of staff-assessed gaps for the 11 largest euro area economies.

[5]GDP-weighted average sum of staff-assessed CA gaps.

## Table 1.6. Selected External Sector Report Economies: EBA Current Account Regression Policy Gap Contributions, 2018

*(Percent of GDP)*

| | EBA Gap | | | | Fiscal Gap | | | | | Public Health Expenditures Gap | | | | | Private Credit Gap | | | | | Foreign Exchange Intervention Gap | | | | | Other (K-Controls) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Domestic | | | | | Domestic | | | | | Domestic | | | | | Domestic | | | | | |
| Economy | Total[1] | Identified | Dom[2] | Residual | Total[1] | Dom[3] | Coeff | P | P* | Total[1] | Dom[3] | Coeff | P | P* | Total[1] | Dom[3] | Coeff | P | P* | Total[1] | Dom[3] | Coeff | P | P* | Total[1] | Dom[3] |
| Argentina | –4.3 | –0.8 | –1.1 | –3.5 | –0.1 | –0.8 | 0.3 | –3.7 | –1.2 | –0.1 | 0.0 | –0.4 | 6.5 | 6.5 | –0.4 | –0.3 | –0.1 | 2.9 | 0.0 | 0.0 | 0.0 | 0.8 | –3.4 | 0.0 | –0.1 | 0.0 |
| Australia | –2.0 | 1.4 | 1.0 | –3.4 | 0.5 | –0.2 | 0.3 | –0.6 | 0.0 | 0.2 | 0.3 | –0.4 | 6.3 | 6.9 | 0.8 | 1.0 | –0.1 | –9.3 | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | –0.1 | 0.0 |
| Belgium | –3.7 | –0.5 | –0.8 | –3.2 | 0.4 | –0.3 | 0.3 | –0.9 | 0.0 | –0.4 | –0.3 | –0.4 | 7.9 | 7.2 | –0.4 | –0.3 | –0.1 | 2.5 | 0.0 | 0.0 | 0.0 | 0.8 | –0.1 | 0.0 | –0.1 | 0.0 |
| Brazil | 0.8 | 0.3 | –0.1 | 0.5 | 0.1 | –0.6 | 0.3 | –6.2 | –4.5 | 0.1 | 0.2 | –0.4 | 3.9 | 4.4 | 0.4 | 0.6 | –0.1 | –5.4 | 0.0 | –0.4 | –0.4 | 0.8 | –2.2 | 0.0 | 0.0 | 0.1 |
| Canada | –5.0 | 0.0 | –0.4 | –5.0 | 0.8 | 0.2 | 0.3 | –0.2 | –0.7 | –0.2 | –0.1 | –0.4 | 7.3 | 7.0 | –0.5 | –0.4 | –0.1 | 4.0 | 0.0 | 0.0 | 0.0 | 0.8 | –0.1 | 0.0 | –0.1 | 0.0 |
| China | 0.8 | –0.3 | –0.7 | 1.1 | –0.4 | –1.1 | 0.3 | –4.8 | –1.5 | 0.2 | 0.2 | –0.4 | 3.4 | 4.0 | –0.5 | –0.4 | –0.1 | 3.6 | 0.0 | 0.1 | 0.1 | 0.8 | 0.1 | 0.0 | 0.4 | 0.5 |
| Euro Area[4] | 1.8 | 0.5 | 0.2 | 1.3 | 0.5 | –0.2 | 0.3 | –0.7 | –0.2 | –0.1 | –0.1 | –0.4 | 8.2 | 8.0 | 0.3 | 0.4 | –0.1 | –7.1 | –3.1 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 | –0.1 | 0.0 |
| France | –0.7 | –1.0 | –1.4 | 0.3 | –0.1 | –0.7 | 0.3 | –2.7 | –0.4 | –0.5 | –0.4 | –0.4 | 9.5 | 8.5 | –0.4 | –0.2 | –0.1 | 2.1 | 0.0 | 0.0 | 0.0 | 0.8 | 0.4 | 0.0 | –0.1 | 0.0 |
| Germany | 5.1 | 1.1 | 0.7 | 4.0 | 1.2 | 0.5 | 0.3 | 1.1 | –0.5 | –0.1 | 0.0 | –0.4 | 9.6 | 9.5 | 0.1 | 0.2 | –0.1 | –6.2 | –4.0 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 | –0.1 | 0.0 |
| India | 0.9 | 0.7 | 0.3 | 0.2 | 0.3 | –0.4 | 0.3 | –6.9 | –5.8 | 0.0 | 0.1 | –0.4 | 1.4 | 1.6 | 0.5 | 0.6 | –0.1 | –5.8 | 0.0 | –0.7 | –0.7 | 0.8 | –1.9 | 0.0 | 0.6 | 0.7 |
| Indonesia | –2.4 | 1.4 | 1.1 | –3.9 | 0.9 | 0.3 | 0.3 | –1.7 | –2.5 | 0.6 | 0.7 | –0.4 | 1.3 | 3.0 | 0.0 | 0.1 | –0.1 | –1.4 | 0.0 | –0.4 | –0.4 | 0.8 | –1.4 | 0.0 | 0.2 | 0.4 |
| Italy | –0.1 | 1.0 | 0.7 | –1.2 | –0.1 | –0.7 | 0.3 | –1.7 | 0.5 | 0.0 | 0.1 | –0.4 | 6.6 | 6.8 | 1.2 | 1.3 | –0.1 | –12.9 | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | –0.1 | 0.0 |
| Japan | 0.2 | –1.2 | –1.5 | 1.4 | –0.4 | –1.1 | 0.3 | –3.1 | 0.1 | –0.1 | 0.0 | –0.4 | 9.0 | 9.0 | –0.6 | –0.5 | –0.1 | 4.6 | 0.0 | 0.0 | 0.0 | 0.8 | 0.5 | 0.0 | –0.1 | 0.0 |
| Korea | 1.4 | 1.9 | 1.5 | –0.5 | 1.6 | 0.9 | 0.3 | 2.7 | 0.0 | 0.4 | 0.5 | –0.4 | 4.4 | 5.6 | 0.0 | 0.2 | –0.1 | –1.5 | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | –0.1 | 0.0 |
| Malaysia | 2.4 | –0.5 | -0.8 | 2.9 | –0.1 | –0.8 | 0.3 | –4.5 | –2.0 | 0.7 | 0.8 | –0.4 | 2.1 | 4.1 | –0.4 | –0.2 | –0.1 | 2.2 | 0.0 | –0.7 | –0.7 | 0.8 | –2.5 | 0.0 | 0.0 | 0.1 |
| Mexico | 1.0 | 0.7 | 0.4 | 0.2 | 0.7 | 0.0 | 0.3 | –2.4 | –2.5 | 0.4 | 0.4 | –0.4 | 2.8 | 3.9 | –0.5 | –0.3 | –0.1 | 3.3 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.1 | 0.2 |
| Netherlands | 7.7 | 1.5 | 1.2 | 6.2 | 1.1 | 0.4 | 0.3 | 0.8 | –0.5 | 0.1 | 0.2 | –0.4 | 8.2 | 8.8 | 0.4 | 0.5 | –0.1 | –4.8 | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | –0.1 | 0.0 |
| Poland | 1.7 | 1.0 | 0.7 | 0.7 | 0.5 | –0.1 | 0.3 | –1.5 | –1.0 | 0.0 | 0.1 | –0.4 | 5.1 | 5.4 | 0.3 | 0.4 | –0.1 | –4.2 | 0.0 | 0.2 | 0.2 | 0.8 | 1.1 | 0.0 | –0.1 | 0.0 |
| Russia | 3.5 | 2.8 | 2.5 | 0.7 | 1.0 | 0.3 | 0.3 | 2.9 | 1.9 | 0.9 | 0.9 | –0.4 | 3.1 | 5.4 | 0.6 | 0.8 | –0.1 | –7.4 | 0.0 | 0.4 | 0.4 | 0.8 | 2.0 | 0.0 | –0.1 | 0.1 |
| South Africa | –4.4 | 0.5 | 0.2 | –4.9 | 0.2 | –0.5 | 0.3 | –3.8 | –2.4 | 0.0 | 0.1 | –0.4 | 4.0 | 4.1 | 0.3 | 0.5 | –0.1 | –4.6 | 0.0 | 0.0 | 0.0 | 0.8 | –0.1 | 0.0 | 0.0 | 0.2 |
| Spain | –0.2 | –0.1 | –0.4 | –0.1 | –0.2 | –0.8 | 0.3 | –2.6 | 0.0 | –0.1 | 0.0 | –0.4 | 6.3 | 6.3 | 0.3 | 0.4 | –0.1 | –14.0 | –10.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | –0.1 | 0.0 |
| Sweden | 1.3 | 0.3 | 0.0 | 1.0 | 0.7 | 0.0 | 0.3 | 0.4 | 0.3 | –0.1 | 0.0 | –0.4 | 9.1 | 9.0 | –0.1 | 0.0 | –0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | –0.4 | 0.0 | –0.1 | 0.0 |
| Switzerland | 4.5 | –0.7 | –1.0 | 5.1 | 1.0 | 0.4 | 0.3 | 1.1 | 0.0 | –0.2 | –0.1 | –0.4 | 7.7 | 7.5 | –1.5 | –1.3 | –0.1 | 12.7 | 0.0 | 0.0 | 0.0 | 0.8 | –1.9 | 0.0 | –0.1 | 0.0 |
| Thailand | 6.9 | 1.5 | 1.2 | 5.4 | 1.0 | 0.3 | 0.3 | –0.2 | –1.2 | 0.4 | 0.5 | –0.4 | 2.9 | 4.1 | –0.5 | –0.4 | –0.1 | 3.8 | 0.0 | 0.3 | 0.3 | 0.8 | 0.8 | 0.0 | 0.3 | 0.5 |
| Turkey | –0.9 | –0.6 | –1.0 | –0.3 | 0.2 | –0.5 | 0.3 | –4.4 | –3.0 | 0.0 | 0.1 | –0.4 | 3.3 | 3.6 | –0.4 | –0.3 | –0.1 | 2.7 | 0.0 | –0.4 | –0.4 | 0.8 | –1.4 | 1.0 | –0.1 | 0.1 |
| United Kingdom | –4.4 | 0.0 | –0.4 | –4.4 | 0.2 | –0.5 | 0.3 | –1.4 | 0.0 | 0.0 | 0.1 | –0.4 | 7.6 | 7.9 | –0.1 | 0.0 | –0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.9 | 0.0 | –0.1 | 0.0 |
| United States | –1.2 | –0.7 | –1.0 | –0.5 | –0.6 | –1.3 | 0.3 | –5.4 | –1.5 | –0.2 | –0.1 | –0.4 | 8.5 | 8.2 | 0.2 | 0.4 | –0.1 | –3.5 | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | –0.1 | 0.0 |

Source: IMF staff estimates.

Note: EBA = external balance assessment; K-Controls = capital control; Dom = domestic; Coeff = coefficient.

[1] Total contribution after adjusting for multilateral consistency.

[2] Includes contribution of domestic policy gaps to the identified gap. The total foreign policy gap contribution is constant and equal to 0.3 percent for all countries.

[3] Total domestic contribution is equivalent to coefficient*(P-P*).

[4] The euro area EBA CA gap and policy gap contributions are calculated as the GDP-weighted averages of EBA CA gaps and policy gap contributions for the 11 largest euro area economies.

[5] Foreign contributions are estimated as follows: overall = 0.3 percent of GDP; fiscal = 0.7 percent of GDP; public health = –0.1 percent of GDP; private credit = –0.1 percent of GDP; foreign exchange intervention = 0.03 percent of GDP.

## Table 1.7. External Sector Report Economies: Summary of Staff-Assessed REER and EBA Model Gaps, 2018

| Economy | Staff-Assessed REER Gap[1] | REER Gap Implied from Staff-Assessed CA Gap[2] | EBA REER-Level Gap | EBA REER-Index Gap | CA/REER Elasticity[3] | REER (Percent change) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Avg-18/Avg-17 | May-19/Avg-18 |
| Argentina | –12.5 | 21.2 | . . . | –5.9 | 0.14 | –18.2 | –5.3 |
| Australia | 6.0 | 4.4 | 11.3 | 1.7 | 0.20 | –4.0 | –4.5 |
| Belgium | 8.5 | 8.8 | 22.2 | 13.2 | 0.42 | 2.4 | –1.2 |
| Brazil | 1.5 | –2.7 | 2.1 | –9.4 | 0.11 | –10.4 | –3.2 |
| Canada | 7.5 | 7.7 | –6.9 | 2.1 | 0.27 | –0.5 | –2.3 |
| China | –1.5 | –3.5 | 12.6 | 0.0 | 0.23 | 1.4 | –0.2 |
| Euro Area[4] | –3.0 | –3.3 | 0.8 | 6.0 | 0.40 | 3.0 | –3.1 |
| France | 2.5 | 2.5 | 7.1 | –0.4 | 0.27 | 2.2 | –1.6 |
| Germany | –13.0 | –12.2 | –16.1 | 4.9 | 0.38 | 2.4 | –1.2 |
| India | 0.0 | 0.0 | 2.5 | 5.4 | 0.18 | –3.8 | 7.7 |
| Indonesia | –4.0 | 8.3 | –15.5 | –3.2 | 0.18 | –6.0 | 5.0 |
| Italy | 5.0 | 0.4 | 6.9 | 9.7 | 0.26 | 1.6 | –1.9 |
| Japan | –1.5 | –1.5 | –17.1 | –21.8 | 0.13 | –0.8 | 2.9 |
| Korea | –4.0 | –3.9 | –5.4 | 3.8 | 0.36 | 1.0 | –5.1 |
| Malaysia | –5.0 | –5.2 | –36.5 | –25.0 | 0.46 | 4.2 | –2.0 |
| Mexico | –6.0 | –6.3 | –9.5 | –21.0 | 0.16 | 0.1 | 4.3 |
| Netherlands | –8.6 | –8.6 | 2.2 | 14.5 | 0.72 | 2.0 | 0.1 |
| Poland | –2.5 | –2.0 | –18.9 | –2.7 | 0.44 | 1.7 | –0.4 |
| Russia | –6.0 | –6.0 | –20.4 | –14.5 | 0.27 | –7.6 | 3.4 |
| South Africa | 7.0 | 6.7 | –1.8 | –13.9 | 0.27 | 1.8 | –3.7 |
| Spain | 5.0 | 5.0 | 6.0 | 6.8 | 0.22 | 2.1 | –1.3 |
| Sweden | –10.0 | –3.7 | –17.7 | –16.7 | 0.35 | –4.1 | –5.2 |
| Switzerland | –2.8 | –1.8 | 16.7 | 11.4 | 0.52 | –2.8 | –0.1 |
| Thailand | –8.5 | –8.4 | –6.1 | 7.3 | 0.64 | 3.0 | 4.1 |
| Turkey | –15.0 | 0.9 | –20.5 | –22.5 | 0.22 | –14.4 | –10.3 |
| United Kingdom | 7.5 | 12.1 | –8.5 | –13.2 | 0.24 | 1.8 | 0.4 |
| United States | 9.0 | 11.7 | 11.9 | 8.0 | 0.12 | –0.9 | 3.4 |
| Hong Kong SAR | 0.0 | . . . | . . . | . . . | . . . | –1.9 | 4.3 |
| Singapore | –8.2 | . . . | . . . | . . . | . . . | –0.5 | 0.6 |
| Saudi Arabia | 7.5 | . . . | . . . | . . . | . . . | –0.8 | –0.7 |
| Discrepancy[5] | 1.4 | . . . | . . . | . . . | | | |

Source: IMF, Information Notice System; and IMF staff estimates.
Note: EBA = external balance assessment; REER = real effective exchange rate; CA = current account.
[1]Refers to the mid-point of staff-assessed REER gap.
[2]Implied REER gap = -(staff-assessed CA gap/CA-to-REER elasticity).
[3]CA-to-REER semi-elasticity used by IMF country teams.
[4]The euro area REER gap is calculated as the trade-weighted average of REER gaps of its 11 largest member countries.
[5]GDP-weighted average sum of staff-assessed REER gaps.

## Table 1.8. 2018 Individual Country Assessments: Summary of Policy Recommendations

| Economy | Overall 2018 Assessment | Policy Recommendations[1] | | |
|---|---|---|---|---|
| | | Fiscal | Monetary I Exchange Rate I Financial | Structural |
| **Argentina** | Weaker | Implement consolidation plan | Strengthen monetary and exchange policy frameworks | Eliminate trade restrictions and barriers to entry to increase productivity and competitiveness and attract FDI |
| **Australia** | Broadly in line | Provide near-term support for internal rebalancing and transition to gradual medium-term consolidation | Continue monetary accommodation to close output gap and accompany rebalancing | Structural reforms to boost non-mining productivity |
| **Belgium** | Weaker | Steady consolidation to reach balanced budget in the medium term, supported by efficieny-oriented spending reforms | – | Support labor force participation and improve business environment by simplifying regulation and strengthening competition in services and regulated professions |
| **Brazil** | Broadly in line | Consolidation, including from federal spending cap and social security reform | Remain accommodative to support fiscal consolidation; FX interventions can be appropriate to alleviate disorderly market conditions | Reduce cost of doing business to improve overall competitiveness and trade openness |
| **Canada** | Weaker | Medium-term consolidation, while increasing public infrastructure investment | Maintain tight macroprudential policies to contain credit growth and ensure financial stability | Improve labor productivity, including by investing in R&D and physical capital, promoting FDI; diversify export markets, especially into services |
| **China** | Broadly in line | Support rebalancing by gradually consolidating to reach debt-stabilizing fiscal balances in the medium term | Gradually move toward more transparent, market-based MP framework and ER flexibility while strengthening domestic financial stability | Improve social safety nets; increase competition through SOE reform and opening up markets; ensure equal treatment between foreign and domestic investors to attract more FDI |
| **Euro Area** | Moderately stronger | Strengthen centralized investment schemes and fiscal capacity for macroeconomic stabilization at regional level; address imbalances at national level by using fiscal space where available and consolidation where necessary | Remain accommodative until inflation converges to ECB's medium-term price stability objective; facilitate relative price adjustments at the national level by enabling greater inflation differentials across euro area members | Make currency union more resilient and finalize banking and capital markets union; address imbalances at the national level by raising potential growth and competitiveness |
| **France** | Broadly in line | Steady medium-term consolidation | – | Improve competitiveness by reducing corporate administrative burdens, promoting innovation, and strengthening competition in services |
| **Germany** | Substantially stronger | Growth-oriented fiscal policy using substantial fiscal space to invest in human and physical capital | – | Implement reforms to foster entrepreneurship and address aging costs by prolonging working life |
| **Hong Kong SAR** | Broadly in line | Continue prudent fiscal management | – | Continue robust and proactive financial supervision; maintain flexible wages and prices. |
| **India** | Broadly in line | Medium-term consolidation to lower public debt levels by increasing compliance and reforming income tax and fuel and food subsidies | ER should remain the main shock absorber, with FX intervention limited to addressing disorderly market concerns | Ease domestic supply bottlenecks and revamp business climate, improve competitiveness and investment prospects, to attract FDI and boost exports; gradual liberalization of portfolio flows |
| **Indonesia** | Moderately weaker | Strengthen fiscal position by mobilizing revenues while allowing for higher infrastructure and social spending | Continue ER flexibility with limited FX interventions in response to disorderly market conditions | Bolster global value chain participation; ease non-tariff trade barriers and FDI restrictions; strengthen labor markets and skills; deepen financial markets |
| **Italy** | Broadly in line | Credible, growth-friendly, and inclusive consolidation to maintain investor confidence and reduce external vulnerabilities | – | Implement reforms to better align wages with productivity at the firm level and to strengthen banks balance sheet to unlock investment potential |
| **Japan** | Broadly in line | Gradual, medium-term fiscal consolidation anchored by a credible fiscal framework | Continue accommodative stance to achieve inflation objectives | Adopt measures to boost wages and labor supply, reduce labor market duality, reduce barriers to entry in some industries, and accelerate agriculture and services sector deregulation |
| **Korea** | Moderately stronger | More expansionary fiscal policy to boost domestic demand using substantial fiscal space | Continue ER flexibility with limited intervention to address disorderly market conditions | Strengthen the social safety net to lessen incentives for precautionary savings. Address bottlenecks to investment |

(*Continued*)

**Table 1.8. (*continued*)**

| Economy | Overall 2018 Assessment | Policy Recommendations[1] | | |
|---|---|---|---|---|
| | | Fiscal | Monetary I Exchange Rate I Financial | Structural |
| **Malaysia** | Stronger | Gradual medium-term consolidation through tax revenue mobilization, while continuing to protect social and growth-enhancing spending | Continue ER flexibility with limited intervention to respond to disorderly conditions | Strengthen social protection, public healthcare spending; address structural bottlenecks (labor market skills mismatch; low female participation; weak education quality; physical infrastructure) |
| **Mexico** | Broadly in line | Increase tax revenues to make space for infrastructure investment while adhering to fiscal targets | Floating ER should continue to serve as main shock absorber with FX interventions to prevent disorderly market conditions | Structural reforms to improve competitiveness and investment climate |
| **Netherlands** | Substantially stronger | Implement envisaged expansionary fiscal policy and use additional fiscal space in the medium term | – | Structural reforms to raise the productivity of small domestic firms, encourage household and SME rebalancing, and support digitalization and lifelong learning, including through public investment |
| **Poland** | Broadly in line | Gradual fiscal consolidation to meet medium-term objective; restrain current spending while making room for priority spending such as health care and investment | Ensure monetary policy actions remain data dependent | Boost structurally low private investment and productivity: remove existing barriers to private investment through better access to skilled labor, predictability of policies affecting firms, and a level playing field for investors |
| **Russia** | Moderately stronger | Maintain discipline under the fiscal rule; rebalance expenditures towards health, education, and infrastructure in the medium term | Monitor risks from fast-growing household credit | Structural reforms to invigorate private investment and improve competitiveness, expecially in the nonoil sector |
| **Saudi Arabia** | Moderately weaker | Further consolidation to ensure savings for future generations | – | Structural reforms to diversify the economy and boost the non-oil tradeable sector over the medium term |
| **Singapore** | Substantially stronger | Use substantial fiscal space for higher public investment in physical infrastructure and human capital | FX intervention should remain targeted toward achieving inflation and output objectives | Structural reforms to improve productivity and domestic investment incentives |
| **South Africa** | Moderately weaker | Gradual consolidation while providing space for infrastructure investment and education spending | Seize opportunities to build up reserves to deal with FX liquidity shocks | Strengthen education/skills; increase financial inclusion; foster entry into key product markets; accelerate labor and product market reforms |
| **Spain** | Moderately weaker | Reduce the still-sizable structural fiscal deficit | – | Additional reforms to address labor market duality; accelerate implementation of product and service market reforms; enhance education outcomes, training for workers and firms' innovation capacity |
| **Sweden** | Moderately stronger | Adopt a mildly expansionary fiscal stance consistent with the medium-term surplus target | Defer further monetary tightening pending an inflation outlook consistent with durably meeting the inflation target | Facilitate migrant integration into the labor market to raise potential output |
| **Switzerland** | Broadly in line | Moderately loosen to reach a structurally neutral fiscal stance to address longer-term challenges | FX intervention should be reserved for addressing large exchange market pressures | Reform corporate income tax to encourage SME investment, thereby reducing net saving |
| **Thailand** | Substantially stronger | Boost public infrastructure within available fiscal space; reform and expand social safety nets | ER should move flexibly as key shock absorber, with limited intervention to avoid disorderly market conditions | Strengthen social safety nets, and reduce barriers to investment, especially in the services sector |
| **Turkey** | Broadly in line | Allow automatic stabilizers to operate while aiming at comprehensive policy package to strengthen external resilience and support rebalancing | Tighter monetary policy should aim at reanchoring inflation expectations; increase net international reserves | Structural reforms to enhance productivity and ensure more stable domestic funding, including reducing labor market rigidities and improving business climate |
| **United Kingdom** | Weaker | Fiscal consolidation with investment in public infrastructure | Maintain financial stability through macroprudential policies | Broaden skill base; improve public infrastructure |
| **United States** | Moderately weaker | Consolidate over the medium term while upgrading public infrastructure | Continue data-dependent monetary policy normalization | Enhance schooling, training and mobility of workers; promote labor force participation and roll back recently imposed tariffs |

Source: 2019 Individual External Assessments.
Note: FDI = foreign direct investment; FX = foreign exchange; MP = monetary policy; ER = exchange rate; SOE = state-owned enterprises; MP = monetary policy; ECB = european central bank; R&D = research and development; SME = small and medium-sized enterprises.
[1]This nonexhaustive list focuses on key recommendations for closing external imbalances in the medium term.

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CHAPTER 2

# EXCHANGE RATES AND EXTERNAL ADJUSTMENT

*There is an ongoing debate about the role of exchange rates in facilitating external adjustment. This chapter explores how certain aspects of international trade, namely dominant currency pricing and international integration through global value chains, shape the working of exchange rates to induce external adjustment. The analysis suggests that the widespread use of the US dollar in trade pricing alters the short-term response of trade flows to exchange rate movements, with export volumes responding timidly to an exchange rate depreciation, while most of the adjustment takes place through import volumes. A more balanced adjustment process, through both export and import volumes, reemerges over the medium term. Meanwhile, greater integration into global value chains reduces the exchange rate elasticity of gross trade volumes, both in the short and medium term, but the associated increase in gross trade flows largely offsets this effect in most cases. Overall, the results suggest that while these features of international trade affect the composition and timing of the external adjustment process, for most countries, there remain benefits of exchange rate flexibility, especially in the medium term. With more muted effects of exchange rates on trade flows in the short term, complementary policies may be needed in some cases to support exchange rate flexibility and facilitate external rebalancing.*

## Introduction

The notion that exchange rates play a key role in external adjustment has been at the core of modern conventional wisdom. Since the collapse of the Bretton Woods system, academic and policy analysis has been guided by the Mundell-Fleming framework, whereby exchange rate movements cause changes in relative prices, affecting demand and supply of tradable goods, thus inducing adjustment of export and import volumes. Through expenditure-switching effects, whereby export and import volumes respond to changes in prices of tradable goods relative to nontradable goods, the exchange rate provides a key adjustment mechanism for external rebalancing.

There is an ongoing debate, however, about whether increased complexities of international trade and finance have affected how exchange rates operate. Particular attention has been given to two features of international trade:

- *The dominant role of certain currencies in the invoicing of trade*, which challenges the Mundell-Fleming paradigm, at least in the short term, as the response of domestic prices of internationally traded goods and trade volumes to exchange rate movements depend on the currency in which trade is invoiced.[1] Movements of the exchange rate have different effects if prices are set and sticky in the currency of the producer, as assumed in the Mundell-Fleming framework, or in other currencies.[2]
- *The growing importance of global value chains*, whereby countries' cross-border transactions increasingly entail importing intermediate goods, adding some value, and reexporting them. Greater foreign-value-added content may also entail lower sensitivity of gross trade flows to exchange rate movements in part because trade prices and marginal costs move in tandem.[3,4] Integration into international supply chains also means that upstream and downstream third-party exchange rate movements can affect a country's gross trade flows.

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[1]The terms "pricing" and "invoicing" are used interchangeably throughout the discussion. The key notion underlying both terms relates to prices being sticky in the currency in which they are priced and generally invoiced.

[2]See a fuller discussion in Gopinath (2015); Casas and others (2017); Boz, Gopinath, and Plagborg-Møller (2018); and Gopinath and others (2018).

[3]See related work in, among others, Amiti, Itskhoki, and Konings (2014); Bems (2014); Borin and Mancini (2019); Chapter 3 of the IMF's October 2015 *World Economic Outlook*; Cheng and others (2015); Bems and Johnson (2017); Leigh and others (2017); Bayoumi and others (2018); and De Soyres and others (2018).

[4]Low substitutability between domestic and foreign intermediate goods—due, for example, to difficulties in rearranging production—may also play a role in reducing overall gross trade elasticities.

This chapter sheds light on the empirical importance of the mechanisms whereby invoicing of trade in a dominant currency and integration into global value chains affect the external adjustment process. The relevance of these features, and how they shape the adjustment process, is assessed by studying the response of trade prices and quantities to exchange rate movements, in a panel setting encompassing bilateral *manufacturing trade* among 37 advanced and emerging market economies. The analysis uses newly constructed data on bilateral prices and quantities (from Boz and others (forthcoming) and novel measures of value-chain-related exchange rate shocks. Because these features relate to nominal and real rigidities that may play different roles at different time horizons, special attention is given to their importance in the short versus medium term. Some caveats are worth highlighting. While this work sheds light on the relevance of these specific features in shaping manufacturing trade elasticities, other relevant aspects and country-specific factors, like the role of services trade and balance sheet vulnerabilities, are not considered. In addition, the analysis takes as given the invoicing of trade and global value chain integration, recognizing that these two features are dependent on each other, as well as on other country-specific factors.[5] The rest of the discussion is organized as follows: the second section, "Currency of Trade Invoicing," presents empirical evidence and discusses the implications of the dominant role of the US dollar in trade invoicing. The third section, "Global Value Chains," studies the role of global value chains in shaping trade elasticities. The last two sections, "Conclusions and Policy Implications" and "Future Considerations," conclude with policy implications and considerations for future research. Further details on the empirical analysis can be found in Online Annex 2.1.

## Currency of Trade Invoicing

The currency of trade invoicing has bearing on the external adjustment process. With stickiness in nominal prices, the currency of invoicing plays a key role in determining the degree of exchange rate pass-through (that is, how exchange rate changes translate into changes of prices in domestic currency) and the associated response of trade volumes. Trade flows between two countries will respond to changes in their bilateral exchange rate if transactions between them are priced in the currency of either trading partner. If trade is priced in third-country currencies, however, movements of exchange rates vis-à-vis those third-country currencies become relevant, and possibly more important than bilateral exchange rates. Therefore, how exchange rates facilitate external adjustment much depends on the price setting mechanism of internationally traded goods:

- *When prices are set in the currency of the producer*—as the Mundell-Fleming framework assumes—exchange rate depreciation entails an increase in country *a*'s import prices, measured in domestic currency, inducing lower import demand (Table 2.1). The depreciation also entails a fall in the prices faced by its trading partners in their respective domestic currencies, inducing higher demand for country *a*'s exports. Overall, there is a balanced response, involving import and export volumes, to the exchange rate.
- *When prices are set in a third country's ("dominant") currency*, country *a*'s depreciation entails a similar increase in import prices in domestic currency and thus lower import demand. However, local currency prices faced by trading partners are unchanged as their exchange rates vis-à-vis the dominant do not change. Thus, trading partners' demand for country *a*'s exports and, correspondingly, country *a*'s export volumes do not respond to the currency depreciation.[6] The result is an *unbalanced response* in trade volumes.

Major currencies, and the US dollar in particular, play a dominant role in pricing of international trade. For most countries, the share of exports and imports

**Table 2.1. Short-Term Effect on (*a*–*b*) Country Pair Trade Flow of Country *a*'s Depreciation (Vis-à-Vis All Currencies)—An Example[1]**

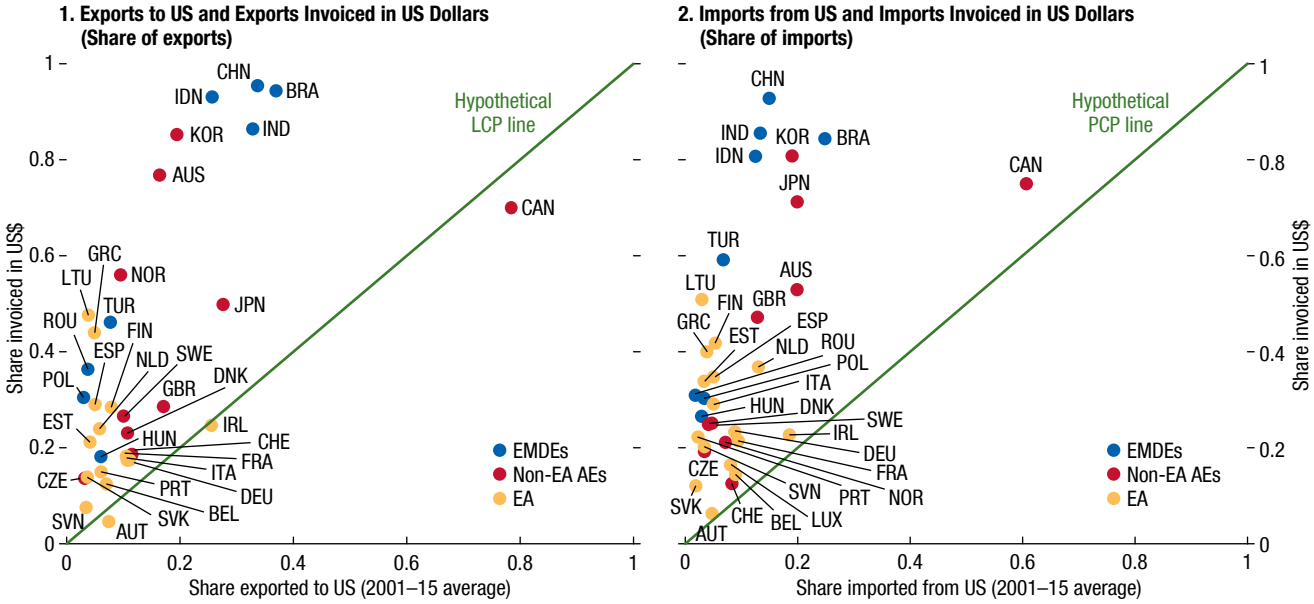
| | Destination Price | Producer Currency Pricing | Dominant Currency Pricing |
|---|---|---|---|
| Exports ($a \rightarrow b$) | $P^b$ | $P^b\downarrow$; $Q_{a\rightarrow b}\uparrow$ | $\overline{P^b}$ ; $\overline{Q_{a\rightarrow b}}$ |
| Imports ($a \leftarrow b$) | $P^a$ | $P^a\uparrow$; $Q_{a\leftarrow b}\downarrow$ | $P^a\uparrow$; $Q_{a\leftarrow b}\downarrow$ |

Source: IMF staff calculations.
[1]Under local currency pricing—not illustrated in the table—destination prices do not vary with exchange rate movements.

[5]The existence of global value chains and trade in intermediate inputs is one reason for exporters to invoice in a dominant currency. Determinants of invoicing currencies may also include market structure features and capacity constraints. See related discussion in Casas and others (2017) and Boz, Gopinath, and Plagborg-Møller (2018).

[6]In this example, and because prices are sticky in the currency in which trade is invoiced, trade volumes are demand-determined.

## Figure 2.1. Trade with United States and US Dollar Invoicing




Sources: Gopinath (2015); World Input-Output Database 2016; and IMF staff calculations.
Note: AEs = advanced economies; EA = euro area; EMDEs = emerging market and developing economies; LCP = local currency pricing; PCP = producer currency pricing. Data labels use International Organization for Standardization (ISO) country codes.

invoiced in US dollars is significantly greater than the corresponding share of exports to and imports from the United States, respectively. This indicates that the US dollar plays a dominant role in trade invoicing—that is, it is used in the pricing of trade between country pairs that do not include the United States (Figure 2.1). This pattern is particularly marked in emerging market and developing economies, although it is also visible in key advanced economies (for example, Australia, Japan, Korea). The euro is also used significantly in international trade, although its role is considerably narrower than that of the US dollar.[7] Similarly, partial data indicate that invoicing in other major currencies (for example, British pounds, yen, swiss francs, and renminbi) is significant only in cross-border transactions involving the economies that issue those currencies.

The empirical relevance of invoicing currencies and their implications for external adjustment are explored in an econometric specification that models bilateral trade flows. Building on Gopinath (2015) and Boz, Gopinath, and Plagborg-Møller (2018), the role of the US dollar in trade pricing is studied in a panel setting that models prices and quantities of bilateral manufacturing trade among 37 advanced and emerging market economies during 1990–14.[8] The framework is extended to disentangle price and quantity responses to bilateral and US dollar exchange rates, from both the exporter's and importer's perspective, which allows for computation of the trade balance response.[9] A depreciation vis-à-vis the US dollar implies that the currencies of both the country of interest and its trading partners depreciate vis-à-vis the US dollar (the exchange rate between the country of interest and non-US trading partners remains unchanged). A bilateral depreciation implies a movement vis-à-vis a trading partner only (the exchange rates between the country of interest and other trading partners remain unchanged). The case of a country's depreciation vis-à-vis all (US dollar and other) currencies is analyzed separately below. Contemporaneous and lagged effects (up to three years)

[7]Boz, Gopinath, and Plagborg-Møller (2018) documents that the US dollar dominates over the euro as an invoicing currency, as the former has greater explanatory power in estimations of exchange rate pass-through and trade volume elasticities.

[8]The sample is smaller than the one used in Boz, Gopinath, and Plagborg-Møller (2018) primarily because it is restricted to countries with data on global-value-chain-related trade, an aspect explored later in the chapter. The country sample is still representative of the global economy, accounting for about 85 percent of world GDP.

[9]On the exporter (importer) side, the focus is on depreciations of the exporter's (importer's) currency and their effects on trade volumes and prices expressed in the exporter's (importer's) domestic currency.

are explored to shed light on short- and medium-term dynamics. See Online Annex 2.1 for further details.[10]

The empirical evidence on exchange rate pass-through confirms the importance of the US dollar, especially in the short term. Specifically:[11]

- *In the short term (same year as the shock)*, the exchange rate vis-à-vis the US dollar is a statistically and economically important driver of trade prices in domestic currency (that is, exchange rate pass-through) even after controlling for the bilateral exchange rate (Figure 2.2, panel 1). This reflects the fact that the US dollar is used for trade pricing in a significant number of bilateral transactions that do not involve the United States. Moreover, the average effect of the US dollar exchange rate is higher than that of the bilateral exchange rate for trade prices expressed in both the exporter's and importer's currency, suggesting also that the US dollar is used more than the individual currencies of the respective trading partners (that is, it plays a dominant role). Specifically, while a 1 percent change in the bilateral exchange rate leads to only a 0.2 percent change in trade prices in the exporter's currency, on average, a 1 percent variation in the exchange rate vis-à-vis the US dollar is associated with a 0.45 percent change in those prices. Results from an importer perspective are also consistent with a dominant role of the US dollar.[12] Moreover, results on the dominance of the US dollar are starker in unweighted regressions (shown in Online Annex 2.1), which give equal weights to large and small economies and, thus, represent more closely the prevailing patterns in the latter group, where US dollar invoicing is more pervasive.
- *In the medium term (three years after the shock)*, when US dollar prices are more flexible, the relative importance of the exchange rate vis-à-vis the US dollar diminishes, whereas the bilateral exchange rate plays a relatively greater role in affecting trade prices in domestic currency. For example, the average US dollar pass-through to export prices falls from 0.45 in the short term (same year) to 0.25 in the medium term (three-year horizon), whereas the pass-through from the bilateral exchange rate rises slightly from 0.2 to 0.25. The reduced importance of the US dollar exchange rate over the medium term is also visible from an importer's perspective.[13]
- Direct evidence examining the link between exchange rate pass-through and the observed degree of trade invoiced in US dollars for a subset of countries corroborates the dominance of the US dollar in the short term (Figure 2.2, panel 2). For example, in countries with high US dollar invoicing, pass-through from bilateral exchange rates to export-currency prices averages 0.1 compared with 0.7 from the US dollar exchange rate. The order of magnitude of these estimates changes to 0.3 and 0.2, respectively, for countries with low US dollar invoicing. Over the medium term, the effects of US dollar invoicing are visible, but less pronounced.

The dominant role of the US dollar affects the response of export and import volumes to exchange rate movements (Figure 2.3). For countries other than the United States:[14]

- *In the short term*, bilateral export volumes respond positively to a bilateral exchange rate depreciation (that is, an appreciation of the trading partners' currency alone). However, bilateral exports respond negatively to a depreciation only vis-à-vis the US

[10]The econometric approach aims at identifying average effects of exchange rate variations on prices and quantities without attempting to identify specific sources of shocks, as done in other studies. With prices being sticky in US dollars, the effect of exchange rate changes on domestic currency prices is well identified. For quantities, omitted variable bias is a greater source of concern, although a rich set of controls, and robustness checks—including various measures of import demand and unit labor costs, among others—lend support to the baseline results. See Online Annex 2.1 for further details.

[11]Estimates differ somewhat in magnitude from those reported in Gopinath and others (2018) due to the smaller country sample, although results are qualitatively consistent.

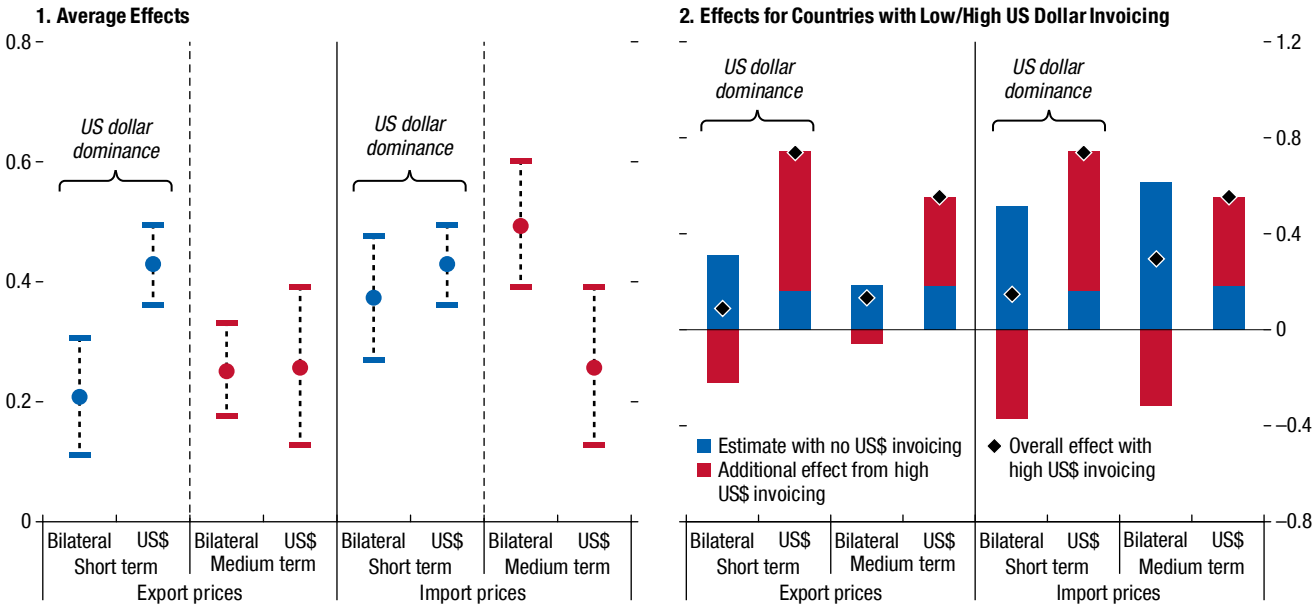
[12]Pass-through from a depreciation vis-à-vis the US dollar is broadly the same for prices in the exporter's and the importer's currency. In contrast, depreciations vis-à-vis the trading partner only—captured by changes in the bilateral exchange rate—have a lower pass-through into exporter-currency prices (when the exporter's currency depreciates) than the pass-through into importer-currency prices (when the importer's currency depreciates). These results are consistent with the prevalence of producer currency pricing over local currency pricing in trade that is not invoiced in US dollars.

[13]As before, while the pass-through from changes in the exchange rate vis-à-vis the US dollar are symmetric for prices in the currency of the exporter and the importer, the pass-through from changes in bilateral exchange rates is higher for prices in the importer's currency than for prices in the exporter's currency (consistent with the prevalence of producer currency pricing in trade not invoiced in US dollars). A possible explanation is that prices adjust more quickly than wages. As prices become flexible over the medium term while wages continue to be sticky, price and quantity outcomes resemble the case of producer currency pricing.

[14]For the United States, a depreciation of the US dollar entails limited effects through imports as prices in US dollars remain largely unchanged, while exports increase on account of higher demand from the rest of the world (as their prices in local currency of trading partners fall).

## Figure 2.2. Exchange Rate Pass-Through from Bilateral and US Dollar Exchange Rates[1]

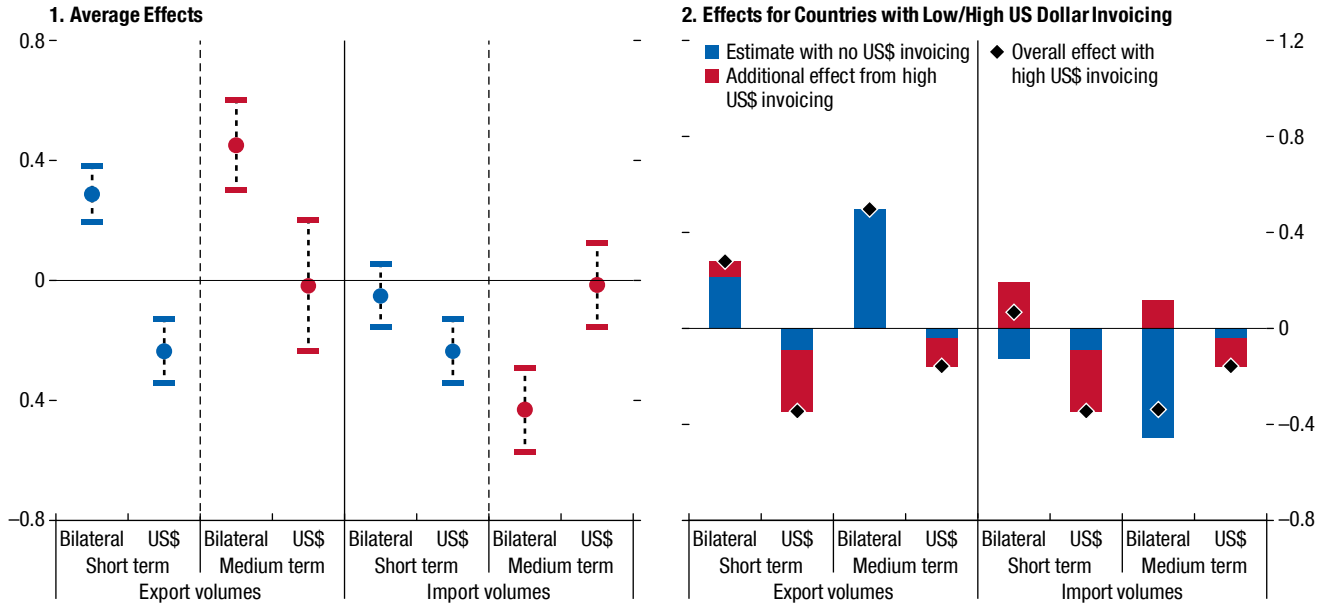
*(Weighted regressions)*




Sources: IMF staff estimates based on data sets from Gopinath and others (2018) and Boz and others (forthcoming).
[1]An increase in either exchange rate implies a depreciation of the domestic currency of the exporter, for export prices (trade prices in the exporter's currency), and a depreciation of the domestic currency of the importer for import prices (trade prices in the importer's currency). Panel 1 reports point estimates and 95 percent confidence bands. See Online Annex 2.1 for details on methodology and country sample.

## Figure 2.3. Estimated Trade Volume Elasticities to Bilateral and US Dollar Exchange Rates[1]

*(Weighted regressions)*




Sources: IMF staff estimates based on data sets from Gopinath and others (2018) and Boz and others (forthcoming).
[1]An increase in either exchange rate implies a depreciation of the domestic currency of the exporter, for export volumes, and a depreciation of the domestic currency of the importer, for import volumes. Panel 1 reports point estimates and 95 percent confidence bands. See Online Annex 2.1 for details on methodology and country sample.

**Table 2.2. Short-Term Effects of a 10 Percent Depreciation vis-à-vis All Other Currencies[1]**

| | Prices (Percent) | | Volumes (Percent) | | Trade Balance (Percent of GDP)[2] |
|---|---|---|---|---|---|
| | Exports | Imports | Exports | Imports | |
| Indirect Estimation (Average effect) | 6.31*** | 7.95*** | 0.516 | –2.88*** | 0.322*** |
| Direct Estimation[3] | | | | | |
| Low US Dollar Invoicing | 4.81*** | 6.84*** | 1.26*** | –2.16*** | 0.256 |
| High US Dollar Invoicing | 8.28*** | 8.96*** | –0.59 | –2.77*** | 0.276* |

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1.
[1] Combined effects of bilateral and US dollar exchange rates are reported.
[2] Trade balance response refers to overall effect through prices and quantities, expressed in percent of GDP (for the median trade openness ratio).
[3] Estimation taking into account observed US dollar invoicing shares. Low (high) US dollar invoicing corresponds to 0 and the 99th percentile of the distribution.

dollar (that is, when trading partners also depreciate vis-à-vis the US dollar), as the latter implies that the (non-US) trading partner faces higher trade prices in domestic currency and, thus, lowers its demand for imports. This result is also consistent with studies linking shifts in global trade volumes to global shift in the US dollar vis-à-vis all currencies (see further discussion in Box 2.1). Import volumes, in contrast, respond limitedly to a bilateral depreciation (that is, an appreciation of the trading partner alone), as import prices remain largely unchanged, while more pronouncedly to a depreciation vis-à-vis the US dollar, as the latter entails an increase in import prices in the importer's currency.

- *In the medium term*, as prices in the currency of invoicing adjust, both export and import volumes display greater sensitivity to bilateral exchange rate movements, while the effect of the US dollar exchange rate becomes economically and statistically insignificant.
- Direct evidence of the influence of US dollar invoicing on trade volume elasticities corroborates the results on the dominant role of the US dollar in the short term (Figure 2.3, panel 2).

Overall, the composition of the external adjustment process is influenced by the dominance of the US dollar, in the near term. The empirical evidence (Table 2.2) indicates that the response of the trade balance to a depreciation of a country's currency vis-à-vis all others is limited in the near term, mostly reflecting subdued responses from trade volumes, especially exports. US dollar invoicing contributes to the latter, altering the export/import and price/quantity composition of the adjustment process. Specifically, US dollar invoicing is associated with:

- *Unbalanced volume responses.* While import volumes fall in response to the depreciation, irrespective of the extent of US dollar invoicing, export volumes react less with greater US dollar invoicing. As discussed above, the latter reflects that local currency prices faced by trading partners are unchanged—as their exchange rates vis-à-vis the US dollar do not vary—and so are their demand for imports.
- *Greater (and more symmetric) price responses.* Prices in the exporter's and importer's currency react similarly under high US dollar invoicing, in comparison with a more asymmetric response under low US dollar invoicing (the latter being consistent with producer currency pricing).
- *Taking these results on prices and quantities together*, in the short term, US dollar invoicing alters the price/quantity composition of external adjustment, with higher US dollar invoicing levels leading to

**Table 2.3. Medium-Term Effects of a 10 Percent Depreciation vis-à-vis All Other Currencies[1]**

| | Prices (Percent) | | Volumes (Percent) | | Trade Balance (Percent of GDP)[2] |
|---|---|---|---|---|---|
| | Exports | Imports | Exports | Imports | |
| Indirect Estimation (Average effect) | 5.07*** | 7.50*** | 4.32*** | –4.50*** | 1.177*** |
| Direct Estimation[3] | | | | | |
| Low US Dollar Invoicing | 3.81*** | 8.09*** | 4.56*** | –4.97*** | 0.963*** |
| High US Dollar Invoicing | 6.95*** | 8.62*** | 3.38*** | –4.96*** | 1.228*** |

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1.
[1] Combined effects of bilateral and US dollar exchange rates are reported.
[2] Trade balance response refers to overall effect through prices and quantities, expressed in percent of GDP (for the median trade openness ratio).
[3] Estimation taking into account observed US dollar invoicing shares. Low (high) US dollar invoicing corresponds to 0 and the 99th percentile of the distribution.

less adjustment through export quantities and more adjustment through prices (and, thus, markups).

Over the medium term, the influence of the dominant currency is more muted. Consistent with greater price flexibility at longer horizons, the evidence points to less influence of US dollar invoicing over the medium term, with more symmetric export and import volume responses and greater asymmetry between export and import prices (Table 2.3). That is, the conventional expenditure-switching mechanism through both exports and imports reemerges in the medium term.

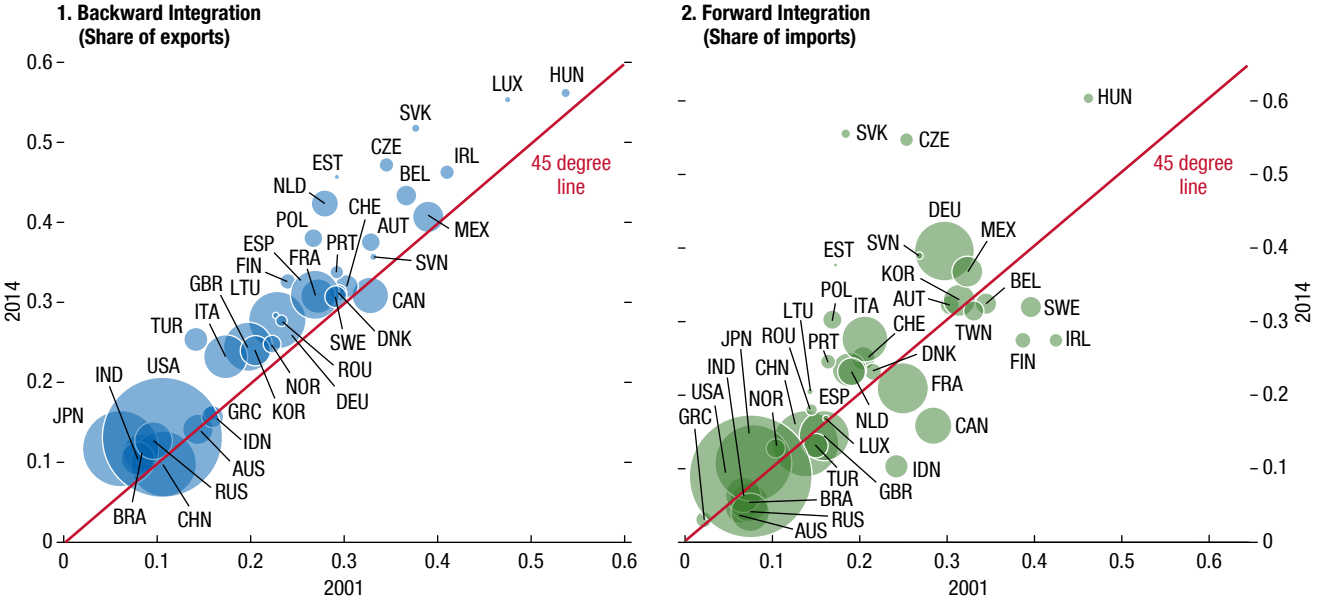
## Global Value Chains

This section explores how integration into international supply chains can influence the workings of exchange rates.

- A country's degree of integration into global value chains affects how gross trade flows respond to different exchange rates. Greater integration into value chains entails a larger extent of trade in intermediate goods that are reexported (after adding some domestic value). This has two direct implications (see a fuller discussion on the economics of global supply chains in Box 2.2).
- Exchange rates beyond those of the immediate trading partners become relevant, as currency shifts of upstream suppliers (backward integration) and downstream buyers (forward integration) affect the whole supply chain.
- Shifts in the value of a country's currency may have more muted effects on its gross trade flows. A depreciation of a country's currency, for example, would have more muted effects on its exports volumes as the latter include imported intermediate goods (backward participation) and, thus, the depreciation would raise export prices (in local currency) but also production costs. In addition, demand for intermediate goods from foreign downstream buyers (forward integration) may respond less to the exchange rate depreciation if demand for intermediate goods is inelastic due to adjustment costs in production.

Most economies have become increasingly integrated into global value chains, although differences across countries are large. This process of integration started before the sample period considered in the analysis (see, for example, Johnson and Noguera 2014, 2017; and Duval and others 2014, 2016) and continued through the 2000s, although at a slower pace, leading to sizable differences across countries (Figure 2.4). While

**Figure 2.4. Integration into Global Value Chains, 2001–14**
*(Manufacturing, trade-weighted average across trading partners)*




Sources: World Input-Output Database; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.

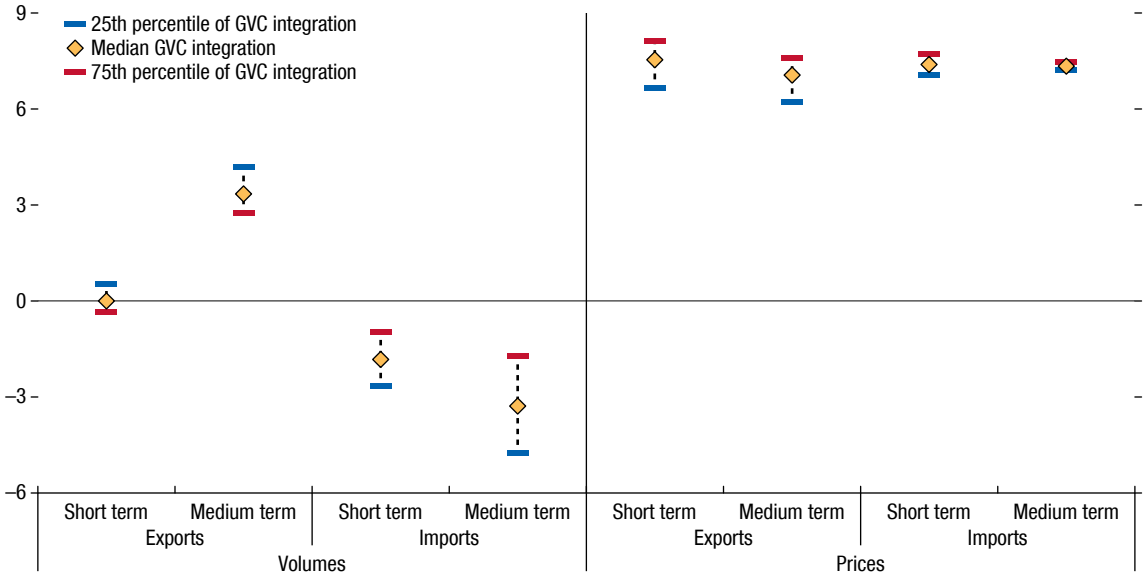
a considerable share of today's global trade remains non-value-chain-related, the degree of integration through value chains is significant in some cases, especially in small economies where, for example, the import content of exports (backward integration) can reach one-third to one-half.[15] This is the case, for example, in economies such as Belgium, the Czech Republic, Hungary, and the Slovak Republic, which are heavily integrated into European value chains. In contrast, for large systemic economies (for example, China, Japan, United States) traditional trade still dominates.

The influence of global value chain integration on the external adjustment process can be explored by extending the empirical framework used to study the role of dominant currencies. Specifically, the framework is modified to study how traditional trade elasticities are affected by the impact of third-country exchange rates on both marginal costs (backward integration) and the demand for intermediate inputs (forward integration). Data on domestic and imported intermediate inputs from the 2016 World Input-Output Database, available for 2001–14, are matched with the bilateral trade data from Boz and others (forthcoming) to measure the importance of global value chain linkages among country-pairs, decomposing corresponding prices and quantities. The extended framework takes into account the role of dominant currency invoicing in intermediate goods trade by building measures of global value chain integration with bilateral and US dollar exchange rates (see Box 2.3). While integration into global value chains is one of the determinants of US dollar invoicing, the framework allows for these effects to operate independently.

Greater global value chain integration dampens gross trade volume elasticities. Consistent with the theory and previous country-specific studies, results indicate that, for a given degree of trade openness (that is, exports- or imports-to-GDP ratio), greater global value chain integration dampens the exchange

[15]Measures of global-value-chain-related trade considered in this analysis focus on manufacturing goods that cross international borders (as an intermediate good or embedded in a final good) at least twice and, thus, form an international value chain. Other, less stringent definitions (for example, Organisation for Economic Co-operation and Development 2018) focus on all cross-border transactions in intermediate goods and services and, thus, imply higher levels of value-chain-related trade.

**Figure 2.5. Trade Flow Responses and Global Value Chain Integration[1]**
*(Response to a 10 percent depreciation vis-à-vis all currencies, weighted regression)*



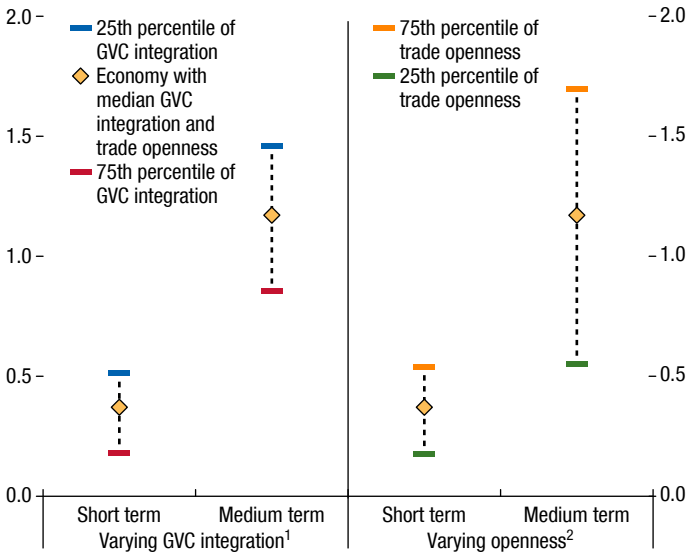

Sources: Boz and Cerutti (forthcoming); Gopinath (2015); World Input-Output Database 2016; and IMF staff estimates.
Note: GVC = global value chain.
[1]Openness for the median economy.

rate elasticity of gross trade volumes, lowering the response of both exports and imports through backward and forward linkages (see Figure 2.5 and Box 2.2). This dampening effect is not only relevant in the short term but also in the medium term, pointing to, among other things, persistent rigidities in production due to international value chain integration (see Box 2.4 for further analysis on the importance of production rigidities). For example, while the medium-term exchange rate elasticity of export volumes for a country with a low degree of integration into global value chains (25th percentile of the distribution, both backward and forward) is about 0.45, this elasticity drops to 0.3 for a country in the 75th percentile. Similarly, import volume elasticities are considerably different between the two cases, at –0.5 and –0.25 for countries with a low and high degree of integration, respectively. Meanwhile, greater global value chain integration leads to somewhat higher exchange rate pass-through to both export and import prices reflecting, respectively, the greater sensitivity of marginal costs and input demand to exchange rate changes, although the effects are small in general. The results indicate that the dominant role of the US dollar is partly related to exporters' use of imported intermediate goods (that is, linked to global-value-chain trade) but also goes beyond, as the patterns of exchange rate pass-through and effects on volumes remain significant even after including global value chain measures in the framework.[16]

The sensitivity of the trade balance to exchange rates falls with greater global value chain integration. Combining the estimated impact on prices and quantities, the results indicate that, for a given level of trade openness, greater global value chain participation entails a more muted response of the trade balance to the exchange rate both in the short and medium term (Figure 2.6). Conversely, for a given level of global value chain integration, greater trade openness increases the overall responsiveness of the trade balance in terms of percentage points of GDP.

Greater integration into global value chains is associated with higher trade openness. While disentangling the share of trade that is created by participating in global value chains is empirically challenging, greater integration into value chains is generally associated with larger trade flows, as moving toward the use of

**Figure 2.6. Influence of Global Value Chain and Trade Openness on Trade Balance Response to Exchange Rate**
*(Response to a 10 percent depreciation vis-à-vis all currencies)*




Source: IMF staff estimates.
Note: GVC = global value chain.
[1]Openness fixed at the level of the median economy.
[2]Backward and forward GVC integration fixed at the level of the median economy.

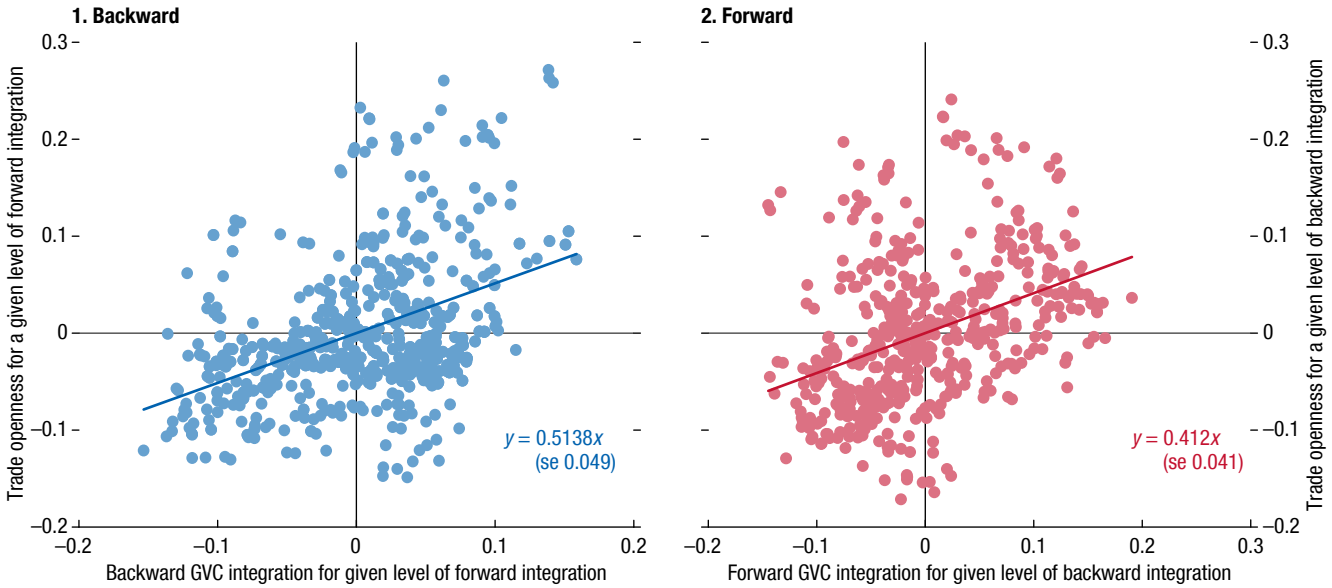
imported intermediate inputs frees domestic factors of production, which can be used to produce and export other goods and services. Such positive relationship between global value chain integration and trade openness is strong in the data (Figure 2.7).

Taking into account the degree of both global value chain integration and trade openness, trade balance elasticities appear to be different across countries but broadly stable over time. The distribution of medium-term trade balance elasticities resulting from the analysis displays significant variance, indicating considerable heterogeneity across countries although, for most cases, estimated responses are economically meaningful (Figure 2.8, panel 1). For the average country (in terms of global value chain integration and trade openness), a 10 percent depreciation is estimated to lead to an increase in the trade balance of about 1 percentage point of GDP.[17] Moreover, such estimates do not appear to have changed much since early 2001, mainly as the effect of increasing global value chain integration has been largely offset by the

[16]See further discussion in the Online Annex 2.1.

[17]This magnitude is broadly consistent with previous estimates in the literature (although considerably lower than estimates of tariff elasticities. See, for example, Head and Mayer (2014).

**Figure 2.7. Partial Correlation between Trade Openness and Backward/Forward Global Value Chain Integration**




Sources: World Input-Output Database; and IMF staff calculations.
Note: GVC = global value chain; se = standard error.

accompanying increase in trade openness (Figure 2.8, panel 2).[18]

## Conclusions and Policy Implications

The increasing complexity of international trade requires a granular analysis of cross-country linkages and exchange rates to understand the dynamics of external adjustment. As countries price their trade in currencies other than those of immediate trading partners or become more integrated into global value chains, the set of exchange rates that can impact a country's external position becomes more difficult to identify and the composition and dynamics of external adjustment change. Where dominant currency invoicing is pervasive, traditional metrics of effective exchange rates—which focus on currencies of trading partners rather than invoicing currencies—may be less informative to understand *short-term* adjustment dynamics, although they remain relevant to shed light on *medium-term* dynamics. Thus, competitiveness metrics that take invoicing currencies into account would complement traditional metrics well. Similarly, with high integration into global value chains, exchange rates vis-à-vis immediate trading partners become less relevant, while other downstream and upstream exchange rates become more relevant. In addition, the traditional view that a country competes with trading partners may not fully reflect value chain complementarities, especially if supply chains are rigid as suggested by the data. Thus, taking into account input linkages would be a valuable refinement to existing effective exchange rates measures, particularly for some small economies that are highly integrated into global value chains.[19] Given that data limitations remain an obstacle in many cases, improved data collection efforts are essential.[20]

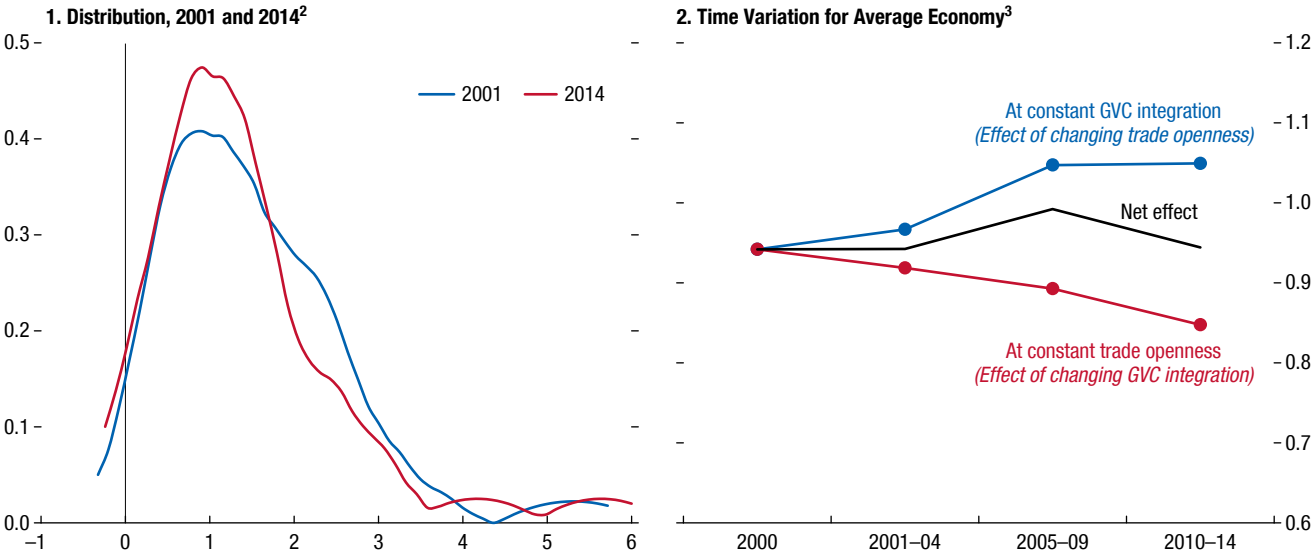
Exchange rate flexibility may need to be supported with other policies. The findings suggest that exchange rate changes have muted effects on the trade balance in the short term, including because of the limited response of export volumes. Thus, where external

[18]Although trade openness has increased over time, the calculations of the trade-balance effect assume constant GDP, as the impact of exchange rate changes through trade flows should be of second order importance for most countries. Modeling how trade flows changes affect GDP is beyond the scope of the analysis.

[19]See Bems and Johnson (2017) for details on constructing value-added real effective exchange rate measures.

[20]A Working Group on Balance of Payments Statistics Relevant for Global Value Chain Analysis was formed in 2017 to advance the collection and compilation of related statistics.

**Figure 2.8. Trade Balance Response—Distribution and Variation over Time, 2000–14[1]**
*(Response to a 10 percent depreciation vis-à-vis all currencies, percent of GDP)*




Source: IMF staff estimations.
Notes: GVC = global value chain.
[1]Cross-section and time series differences are based on varying degrees of global value chain integration and trade openness.
[2]Density of estimated medium-term trade balance responses to a 10 percent depreciation vis-à-vis all currencies across all countries in the sample.
[3]Estimated trade balance elasticity for the average economy in the sample, allowing for changes in GVC integration or trade openness, one at a time, or both (net effect).

deficits are excessive, achieving meaningful near-term external adjustment may require larger exchange rate movements—which may have adverse balance sheet effects and feed into inflation—and/or tighter macroeconomic policies. Even in cases with no evident external imbalances, weak near-term buffering effects of exchange rates suggest that other policy tools may be needed to achieve full employment in the event of a negative shock.

Exchange rate mechanisms can be strengthened with structural policies. Price stickiness in dominant currencies partly reflects frictions that limit exporters' responses to exchange rate movements, including capacity constraints. For example, firms may choose to price trade and maintain those prices in US dollars despite exchange rate movements when capacity constraints prevent them from reaping the benefits of expanding sales by lowering US dollar prices.[21] Thus, the benefits of exchange rate flexibility could be bolstered by macroeconomic and structural policies that alleviate such capacity constraints, including through improved access to credit and transportation infrastructure.

Overall, exchange rate flexibility remains key to facilitating external adjustment. While the analysis indicates that the features of international trade studied in this chapter may affect the composition and strength of exchange rate effects in the short term, it also indicates that the conventional exchange rate mechanisms are present in the medium term. Thus, while other temporary policies may be needed to support exchange rate flexibility in the near term, these should not be thought of as substitutes for exchange rate flexibility, which remains a key mechanism to facilitate durable external adjustment.

## Future Considerations

Understanding the choice of invoicing currencies and the associated price stickiness, as well as the intrinsic rigidities of global value chains, is key to the design of policy responses. The analysis in this chapter considered currency of invoicing and global value chain

[21]See, for example, Casas and others (2017). In some cases, the weak export response may reflect exchange rate uncertainties and associated adjustment costs from irreversibility.

participation as exogenous features of international trade. Pricing strategies likely depend on the extent of integration into global value chains, and both these features of international trade reflect multilayered decisions shaped by numerous country features, including expectations about exchange rate policies. A deeper analysis of the factors that shape these decisions is necessary for a fuller view on optimal policy design.

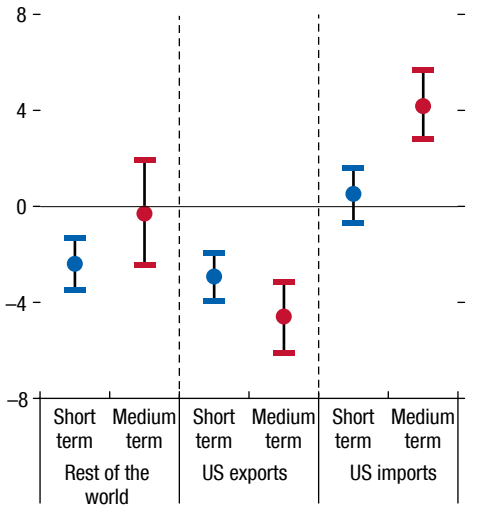
Other country characteristics and fundamentals can have bearing on how exchange rates affect the external adjustment process. Understanding whether the chapter's findings on manufacturing trade apply to services trade (such as tourism)—which relies more on nontradable inputs—is essential to a fuller picture of the process of external adjustment for some countries. In addition, external balance sheet vulnerabilities mentioned earlier can also play a role in shaping the workings of exchange rates in the adjustment process. Further efforts are necessary to integrate empirically these additional trade and financial features.

## Box 2.1. US Dollar Shifts and Global Trade

The widespread use of the US dollar in trade invoicing implies that *global* movements in the value of US dollar (vis-à-vis all other currencies) may have short-term implications for global trade.[1] This box discusses the estimated short-term effects of a strengthening of the US dollar on global trade implied by the empirical results presented in the main text (see Figure 2.1.1).[2]

- *United States:* Because a large share of exports and imports are priced in US dollars, an appreciation of the US dollar vis-à-vis other currencies can affect export and import volumes asymmetrically, in the short term. Since the price of imports US consumers face is largely unchanged, so will be import demand. Export volumes, on the other hand, tend to contract in response to the appreciation of the US dollar as the rest of world faces higher domestic prices of tradable goods and thus demands fewer imports.
- *Other countries:* With the US dollar's dominant role in global trade invoicing, a depreciation of other currencies vis-à-vis the US dollar increases local currency prices of goods traded between country pairs excluding the United States. As a result, import demand contracts and, thus, trade volumes among countries in the rest of the world contract.

**Figure 2.1.1. Trade Volume Responses to a 10 Percent Appreciation of the US Dollar[1]**
*(Weighted regression)*




Sources: Data sets from Gopinath and others (2018) and Boz and others (forthcoming); and IMF staff estimates.
[1]Point estimates and 95 percent confidence bands are reported. See online Technical Appendix for details.

Over time, the adjustment in the United States becomes more balanced (with both export and import volumes reacting to exchange rate movements) and the effects on the rest of the world fade away, consistent with greater flexibility in trade prices.

The authors of this box are Gustavo Adler, Carolina Osorio Buitron, and Sergii Meleshchuk.

[1]See also Boz, Gopinath, and Plagborg-Møller (2018).

[2]This exercise sheds light on, among other things, the spillovers of US monetary policy through trade.

## Box 2.2. The Economics of Global Value Chains: A Simple Example

*Traditional trade:* Historically, international trade has been dominated by the exchange of final goods or intermediate goods used for producing final goods consumed domestically. In this context, the most relevant exchange rate for trade flows between two countries, *a* and *b*—if priced in the currency of either country—was their bilateral exchange rate ($e^{ab}$).[1] Thus, bilateral exports and imports could be characterized simply as $T_{a\to b} = f[e^{ab}]$ and $T_{b\to a} = f[e^{ab}]$, respectively (Figure 2.2.1).

*Global value chains:* Over time, international trade has become more complex, with integration into global value chains entailing more trade in intermediate goods that are reexported, thus increasing the relevance of exchange rate movements vis-à-vis third-party countries. As shown in Figure 2.2.2, these third-country exchange rates can influence trade either through upstream suppliers (backward integration) or downstream buyers (forward integration):

- *Backward integration (BWD):* If exports from country *a* to country *b* ($T^a_{a\to b}$) contain intermediate goods imported from country *c*, the former bilateral trade flow would be affected not only by movements in the corresponding bilateral exchange rate ($e_{ab}$) but also by movements in *a*'s exchange rate vis-à-vis suppliers *c* ($e_{ac}$), as the latter would act as a supply shock by affecting country *a*'s marginal costs, $MC^a \equiv MC^a(e_{ac})$. That is: $T^a_{a\to b} \equiv T^a_{a\to b}(e_{ab}; e_{ac})$. If substitutability between domestic and foreign intermediate inputs is low, changes in $e_{ac}$ would affect marginal costs in proportion to the imported intermediate input content. The higher the substitutability, however, the lower the impact of $e_{ac}$ movements on marginal costs, as producers would substitute away from or toward imported intermediate goods. All else equal, backward global value chain integration implies that a depreciation of currency *a* vis-à-vis all other currencies would increase marginal costs and dampen the effect on export quantities relative to the traditional ("stand-alone") effect.
- *Forward integration (FWD):* If intermediate good exports from country *a* to *b* are reexported to third countries (*d*), trade flows from *a* to *b* will also be affected by movements in the exchange rate of country *b* vis-à-vis third countries ($e_{bd}$) as the latter will determine the demand for country *b*'s exports and, consequently, for intermediate goods from country *a*. This can be interpreted as a demand shock, $D \equiv D(e_{bd})$. Hence, $T^a_{a\to b} \equiv T^a_{a\to b}(e_{ab}; e_{ac}; e_{bd})$. The relevance of $e_{bd}$ depends on the elasticity of substitution of final demand, the share of intermediate inputs in trade flows from *a* to *b*, and the share of output in *b* that is exported to *d* rather than consumed domestically.

Considering both backward and forward linkages, trade flows (prices and volumes) can be generically characterized as:

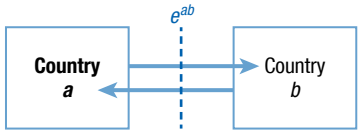
$$T^a_{a\to b} \equiv f^a_{a\to b}\left[\underbrace{e_{ab}}_{stand\text{-}alone}, \underbrace{MC^a_{a\to b}(e_{ac})}_{BWD}, \underbrace{D(e_{bd})}_{FWD}\right]$$

These backward and forward integration terms can also be thought of as supply and demand shifters

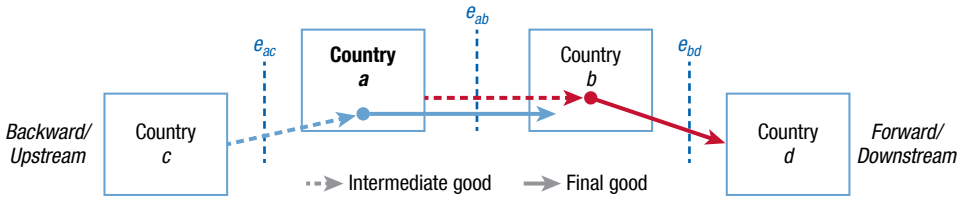
The authors of this box are Gustavo Adler, Carolina Osorio Buitron, and Sergii Meleshchuk.

[1]This example starts with local/producer currency pricing for simplicity. Below, it is extended to the case of a dominant currency (for example, US dollar) in trade invoicing.

### Figure 2.2.1. Traditional Trade




### Figure 2.2.2. Example of Backward and Forward Linkages



## Box 2.2 *(continued)*

### Table 2.2.1. Effects of a Depreciation vis-à-vis All Other Currencies under Global Value Chain Integration

| | Prices (in country *a*'s currency) | | Quantities | |
|---|---|---|---|---|
| | Stand-alone | BWD/FWD Linkages | Stand-alone | BWD/FWD Linkages |
| Exports ($a \rightarrow b$) | + | + (BWD) | + | – (BWD) |
| Imports ($b \rightarrow a$) | + | + (FWD) | – | + (FWD) |

Source: IMF staff.

Note: BWD = backward integration; FWD = forward integration. Stand-alone denotes effects on prices for a combination of producer and consumer currency pricing.

associated with upstream and downstream third-country exchange rate changes, respectively. The inclusion of these shifters in the empirical framework is key to disentangling the effect of different exchange rates, as bilateral and third-country exchange rates can be correlated.

*Global value chain and exchange rate effects:* In the presence of global value chains, a depreciation of country *a*'s exchange rate vis-à-vis all other currencies ($de_{aj} = de \text{ for all } j$) would operate on *a*'s exports directly and through backward linkages as follows:

$$\frac{dT^a_{a\rightarrow b}}{de} = \underbrace{\frac{\partial f^a_{a\rightarrow b}(.)}{\partial e_{ab}}}_{\substack{stand-alone\\ bilateral}} + \underbrace{\frac{\partial f^a_{a\rightarrow b}(.)}{\partial MC^a_{a\rightarrow b}}\frac{\partial MC^a_{a\rightarrow b}(.)}{\partial e_{ac}}}_{\substack{BWD\\ bilateral}}$$

and it would affect imports directly and through forward linkages as follows:

$$\frac{dT^a_{b\rightarrow a}}{de} = \underbrace{\frac{\partial f^a_{b\rightarrow a}(.)}{\partial e_{ab}}}_{\substack{stand-alone\\ bilateral}} + \underbrace{\frac{\partial f^a_{b\rightarrow a}(.)}{\partial D_{b\rightarrow a}}\frac{\partial D_{b\rightarrow a}(.)}{\partial e_{ac}}}_{\substack{FWD\\ bilateral}}$$

The expected effects of an exchange rate depreciation vis-à-vis all other currencies are described in Table 2.2.1.

*Combining global value chain and dominant currency pricing:* In the more general case that allows for bilateral trade between two countries to be priced in third-country currencies (for example, US dollars), the *export equation* for $T^a_{a\rightarrow b}$ can be written as follows:

$$T^a_{a\rightarrow b} = f^a_{a\rightarrow b}\left[e_{ab}, e_{a\$}, MC^a_{a\rightarrow b}(e_{ac}, e_{a\$}), D_{a\rightarrow b}(e_{bd}, e_{b\$})\right]$$

while imports from *b* to *a* can be characterized, similarly, as:

$$T^a_{b\rightarrow a} = f^a_{b\rightarrow a}\left[e_{ab}, e_{a\$}, MC^b_{b\rightarrow a}(e_{bd}, e_{b\$}), D_{b\rightarrow a}(e_{ac}, e_{a\$})\right]$$

Thus, exchange rate changes would operate on *a*'s exports both directly and through backward linkages as follows:

$$\frac{dT^a_{a\rightarrow b}}{de} = \underbrace{\frac{\partial f^a_{a\rightarrow b}(\cdot)}{\partial e_{ab}}}_{\substack{stand-alone\\ bilateral}} + \underbrace{\frac{\partial f^a_{a\rightarrow b}(\cdot)}{\partial e_{a\$}}}_{\substack{stand-alone\\ vis-à-vis\ USD}} +$$

$$\underbrace{\frac{\partial f^a_{a\rightarrow b}(.)}{\partial MC^a_{a\rightarrow b}}\frac{\partial MC^a_{a\rightarrow b}(.)}{\partial e_{ac}}}_{\substack{BWD\\ bilateral}} + \underbrace{\frac{\partial f^a_{a\rightarrow b}(.)}{\partial MC^a_{a\rightarrow b}}\frac{\partial MC^a_{a\rightarrow b}(.)}{\partial e_{a\$}}}_{\substack{BWD\\ vis-à-vis\ USD}}$$

and affect *a*'s imports directly and through forward linkages as shown below.

$$\frac{dT^a_{b\rightarrow a}}{de} = \underbrace{\frac{\partial f^a_{a\rightarrow b}(\cdot)}{\partial e_{ab}}}_{\substack{stand-alone\\ bilateral}} + \underbrace{\frac{\partial f^a_{b\rightarrow a}(\cdot)}{\partial e_{a\$}}}_{\substack{stand-alone\\ vis-à-vis\ USD}} +$$

$$\underbrace{\frac{\partial f^a_{b\rightarrow a}(.)}{\partial D_{b\rightarrow a}}\frac{\partial D_{b\rightarrow a}(.)}{\partial e_{ac}}}_{\substack{FWD\\ bilateral}} + \underbrace{\frac{\partial f^a_{b\rightarrow a}(.)}{\partial D_{b\rightarrow a}}\frac{\partial D_{b\rightarrow a}(.)}{\partial e_{a\$}}}_{\substack{FWD\\ vis-à-vis\ USD}}$$

These equations take into account stand-alone as well as backward and forward exchange rate effects, both for movements vis-à-vis the bilateral currency and the US dollar.

## Box 2.3. Measuring Global-Value-Chain-Related Exchange Rate Shocks at the Bilateral Level

The chapter's analysis is based on novel measures of exchange-rate-driven supply and demand shocks (or "shifters") that arise from upstream and downstream exchange rate movements, respectively. These capture how upstream and downstream changes in exchange rates affect marginal costs and demand, respectively. This box explains how these bilateral country pair ($a \rightarrow b$) exchange rate measures are constructed.

- *A backward (supply) shifter* can be constructed as the weighted sum of exchange rate movements of exporter $a$ vis-à-vis its upstream suppliers. The weight for each upstream supplier $c$, denoted by $\omega^{B}_{a\rightarrow b,c}$, corresponds to the import content from $c$ in exports from $a$ to $b$:

$$\Delta \ln MC_{a\rightarrow b} = \sum_{c} \omega^{B}_{a\rightarrow b,c} \cdot \Delta \ln e_{ac}.$$

- *A forward (demand) shifter* is the weighted sum of exchange rate movements of importer $b$ vis-à-vis its downstream buyers. The weight for each downstream buyer $d$, denoted by $\omega^{F}_{a\rightarrow b,d}$, corresponds to the exports from $a$ to $b$, that are reexported to $d$:

$$\Delta \ln D_{a\rightarrow b} = \sum_{d} \omega^{F}_{a\rightarrow b,d} \cdot \Delta \ln e_{bd}.$$

The sums of the backward and forward weights, $\sum_{c} \omega^{B}_{a\rightarrow b,c}$ and $\sum_{d} \omega^{F}_{a\rightarrow b,d}$, reflect the import content of exports and the reexported content of exports from $a$ to $b$, respectively.

Each measure has a *direct component* that measures production inputs directly imported, as well as an *indirect component* that captures the import content of intermediate inputs supplied by the domestic economy.

The analysis focuses on the period 2001–14 and 37 countries for which data from both sources are available. Data on domestic and imported intermediate inputs come from the 2016 World Input-Output Database.[1] Bilateral price and quantity indices come from Boz and Cerutti (forthcoming).

The authors of this box are Gustavo Adler, Carolina Osorio Buitron, and Sergii Meleshchuk.

[1]See a detailed description of the data set in Timmer and others (2015).

## Box 2.4. How Inflexible Are Global Supply Chains?

The rise of global value chains has been one of the most notable changes in the world economy over the past few decades, bringing myriad transformations and complicating macroeconomic analysis. An important aspect for assessing the impact of such supply chains is how easily they can reconfigure in response to changes in prices. The impact of trade barriers is more destructive if supply chains are inflexible, as inflexibility makes it more difficult to reconfigure them. This box reports estimates of the degree of flexibility using annual data on trade in goods and services for 59 countries over a period of 21 years (Bayoumi, Barkema, and Cerdeiro, forthcoming).

*An illustration:* How changes in competitiveness translate into changes in the demand for domestic goods (and thus into output) depends on the relative responsiveness of production and consumption to real exchange rates (Bems and Johnson 2017). Consider, for example, the case of a Korean firm that produces flat screens that a Chinese firm adds to computers exported to the United States. How much does a depreciation in the won (vis-à-vis all currencies) matter for the Korean firm's exports of flat screens? Two polar cases can be considered:

- *Inflexible supply chains:* Assume that the response of the Chinese firm to changes in the price of the flat screen is small relative to the equivalent response of US buyers to changes in the price of the computer. In this case, it is the demand for Chinese computers in the United States that determines the demand for Korean flat screens given that Chinese producers will use similar amounts of Korean flat screens in each computer irrespective of the price. Indeed, if production is fully inflexible (the "Leontief" production function case) all that matters is the price of the entire Chinese computer in the US market, and *the fact that the won is now cheaper will matter only in proportion to the Korean flat screen's contribution to the total value of the final good*. This is often dubbed "trade in goods" given that it is the cost of the entire good (the computer) that matters.
- *Flexible supply chains:* If the Chinese producer responds as much to changes in the price of the flat screen as US consumers do to changes in computer prices, the intermediate production process is simply an illusion. As shown more generally in Bems and Johnson (2017), the flat screens discussed above can be thought of as being directly exported from Korea to the United States. This is often termed "trade in tasks," on the logic that a good can be seen as an amalgam of components ("tasks"). Crucially for the purpose of the analysis here, because the Korean flat screens are treated as a direct export from Korea to the United States, the value of the won is in fact all that matters for the demand for flat screens, implying also that the value of the renminbi is entirely inconsequential. Note that while the existence of global value chains mutes the impact on gross trade, the impact on output rose through the 2008 financial crisis before falling modestly afterward (in line with the path of correctly measured openness).

*Empirical investigation:* The illustration above shows how, depending on the degree of supply chain flexibility, the foreign and domestic components of a country's gross exports will be sensitive to different exchange rates. If we let $FVA_{it}$ and $DVA_{it}$ denote, respectively, foreign and domestic components embedded in country $i$'s exports to final demand at time $t$, then the following specifications that relate relative price changes to the demand for value added can help elucidate the flexible or inflexible nature of global supply chains:

$$FVA_{it} = \eta + \alpha REER^{*}_{it} + \beta dva_{it} \times REER_{it} + \gamma dva_{it} \times REER^{*}_{it} + \delta X_{it} + \varepsilon_{it}, \quad (1)$$

$$DVA_{it} = \eta + \alpha REER_{it} + \beta fva_{it} \times REER^{*}_{it} + \gamma fva_{it} \times REER_{it} + \delta X_{it} + \varepsilon_{it}, \quad (2)$$

where $REER$ denotes country $i$'s real effective exchange rate; $REER^{*}$ denotes the real effective exchange rate of country $i$'s intermediate-import partners; $dva$ ($fva$) is the share of domestic (foreign) value added in country $i$'s gross exports to final demand; and $X$ is a vector of controls.[1] Because it is possible that global supply chains are less flexible over short horizons than over longer time periods, and the response to changes in

The authors of this box are Jelle Barkema, Tamim Bayoumi, and Diego Cerdeiro.

[1]See Bayoumi and others (forthcoming) for details on the construction of the data set. Note also that the same notation is used across equations (1) and (2) for expositional simplicity given the discussion that follows. The coefficients need not be similar across the two equations: while foreign value added is by definition global-supply-chain trade (insofar as it measures exports of intermediates that are further processed to be reexported), domestic value-added exports include also exports that are not part of a multicountry supply chain.

## Box 2.4 *(continued)*

### Table 2.4.1. Testing the Degree of Flexibility of Global Supply Chains

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Foreign Value Added (FVA) | | | Domestic Value Added (DVA) | | |
| | Theory | | Empirics | Theory | | Empirics |
| | *Flexible supply chains* | *Inflexible supply chains* | | *Flexible supply chains* | *Inflexible supply chains* | |
| **Long Term** | | | | | | |
| Importing Partners' EER | –A | –B | –2.252 (–5.45)*** | | | |
| Own EER × DVA Share | 0 | –B | –0.607 (–4.60)*** | | | |
| Importing Partners' EER × DVA | 0 | +B | 1.295 (5.07)*** | | | |
| Own EER | | | | –A | –B | –0.750 (–6.34)*** |
| Importing Partners' EER × FVA | | | | 0 | –B | –0.435 (–0.75) |
| Own EER × FVA Share | | | | 0 | +B | 1.381 (2.31)** |
| **Short Term** | | | | | | |
| Error Correction Term | | | –0.202 (–7.10)*** | | | –0.155 (–6.49)*** |
| Importing Partners' EER | –a | –b | –0.640 (–2.94)*** | | | |
| Own EER × DVA Share | 0 | –b | –0.477 (–4.43)*** | | | |
| Importing Partners' EER × DVA | 0 | +b | 0.677 (5.56)*** | | | |
| Own EER | | | | –a | –b | –0.297 (–1.54) |
| Importing Partners' EER × FVA | | | | 0 | +b | –0.719 (–1.01) |
| Own EER × FVA Share | | | | 0 | +b | 0.757 (1.05) |
| Number of observations | | | 1,116 | | | 1,116 |

Source: IMF staff calculations.

Note: EER = effective exchange rate; t statistics in parentheses; * p < 0.1 ** p < 0.05 *** p < 0.01. Controls: foreign demand, oil price, non-oil commodity prices.

relative prices might not be homogeneous across countries over short horizons, (1) and (2) are estimated as error-correction models with short-term heterogeneous coefficients (Pesaran, Shin, and Smith 1999).

The crucial test here is the value of the beta and gamma coefficients. If value chains are flexible (trade in tasks) then beta and gamma should both be zero—only the alpha coefficients on the foreign or domestic exchange rate should matter.

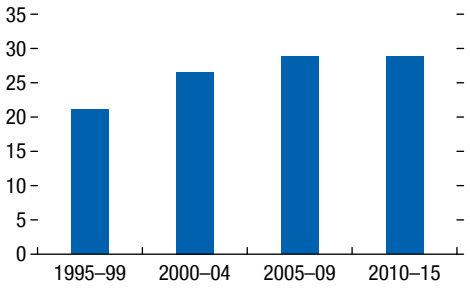
By contrast, if the value chain is inflexible (trade in goods) then both the foreign and domestic exchange rate matter. In the above equation, if the supply chain is fully inflexible then beta will be equal to minus gamma and to alpha. There are also intermediate possibilities in which beta is still different from zero but smaller (in absolute value) than alpha—in which case the production chain is partly flexible.

*Results:* The top part of Table 2.4.1 shows the resulting long-term coefficient estimates, whereas the bottom half presents the estimates associated with the short-term dynamics. To facilitate the interpretation of the results, the table also displays the expected coefficients if supply chains were flexible [columns (1) and (4)] and inflexible [columns (2) and (5)].

The evidence in Table 2.4.1 overwhelmingly rejects the hypothesis that global supply chains are flexible in the short term. In both the foreign- and domestic-value-added equations, the estimated

## Box 2.4 *(continued)*

**Figure 2.4.1. Foreign to Domestic Value Added**
*(World, five-year averages, percent)*




Source: Organisation for Economic Co-operation and Development, Inter-Country Input-Output Tables.

coefficients on beta (gamma) are significantly negative (positive). For foreign value added, the beta and gamma coefficients are approximately equal and opposite, and sizable compared with the (absolute) value of alpha. The point estimate suggests that this ratio is about two-thirds over the entire 1995–2015 sample and hence that supply chains are quite inflexible in the short term (see Bayoumi and others, forthcoming, for a full derivation). The equivalent coefficients for domestic value added point to a similar qualitative result, although they are less precisely estimated.

Moreover, short-term responses of supply chains appear to have become increasingly inflexible over time. Reestimating the model for 2000–15 (that is, removing the first five years of the sample) reveals that production linkages might be fully inflexible in the short term. In particular, the hypotheses that alpha, beta, and gamma are all equal in absolute terms cannot be rejected in either the foreign- or the domestic-value-added equations. This suggests that the observed rising share of foreign inputs in international trade (Figure 2.4.1) is due to the development of increasingly complex production chains that involve increasingly specialized inputs.

Such short-term effects last for some time. The estimated half-life for transition from the short- to long-term relationships is about three to five years, and closing three-quarters of any short-term deviation requires six to nine years. In all, the estimated speed of adjustment suggests that the short-term coefficients remain relevant for horizons of five years. Strikingly, supply chains also remain somewhat inflexible in the long term. In particular, while the longer horizon leads to larger elasticities overall (that is, estimated coefficients tend to be larger in absolute value), complementarities in production persist. All long-term point estimates have the expected sign, and the fact that some of the beta and gamma terms are significant in both equations reveals a degree of inflexibility in production even over long horizons.

Overall, the results suggest that supply chains are pretty inflexible, implying larger disruptions from trade barriers and also adding to the costs of recreating them once lost. The results also have implications for competitiveness calculations: there is a greater role for final destinations—countries that consume final goods—in competitiveness compared with existing practice (see Bayoumi and others 2018).

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CHAPTER 3

# 2018 INDIVIDUAL ECONOMY ASSESSMENTS

## Methodology and Process

The individual economy assessments use a wide range of methods to form an integrated and multilaterally consistent view on economies' external sector positions. These methods are grounded in the latest vintage of the External Balance Assessment (EBA), developed by the IMF's Research Department to estimate desired current account balances and real exchange rates.[1] Model estimates and associated discussions on policy distortions (see also Box 3.1 for an example) are accompanied by a holistic view of other external indicators, including capital and financial account flows and measures, foreign exchange intervention and reserves adequacy, and foreign asset or liability positions.[2]

Moreover, while the EBA models provide key numerical inputs for the identification of external imbalances, in some cases they may not capture all relevant country characteristics and potential policy distortions. As such, the individual economy assessments may need to be complemented by country-specific knowledge and insights. To integrate country-specific judgment in an objective, rigorous, and evenhanded manner, a process was developed for multilaterally consistent external assessment of a subset of the 30 largest economies, representing about 90 percent of global GDP. These assessments are also discussed with the respective authorities as part of bilateral surveillance.

[1]See *The External Balance Assessment Methodology: 2018 Update* for a complete description of the EBA methodology and for a description of the most recent refinements.

[2]The individual country assessments are based on data and IMF staff projections as of June 20, 2019.

External assessments are presented in ranges, in recognition of inherent uncertainties, and in different categories generally reflecting deviations of the overall external position from fundamentals and desired policies. Overall external positions are labeled as either: "broadly in line," "moderately weaker (stronger)," "weaker (stronger)," and "substantially weaker (stronger)" (see Table 3.A and Box 1.1). The criteria for applying the labels on the overall external positions are multidimensional. Regarding the wording to describe the current account and real effective exchange rate (REER) gaps: (1) when comparing the cyclically-adjusted current account to the current account norm, the wording "higher" or "lower" is used, corresponding to positive or negative current account gaps, respectively; (2) a quantitative estimate of the staff's view of the REER gap is generally reported as [–] percent "over" or "under" valued. Current account gaps in the range of +/– 1 percent of GDP as well as REER gaps in the range of +/– 5 percent are generally consistent with external positions that are labeled in line with fundamentals, although REER ranges vary depending on exchange rate semi-elasticities which differ significantly across countries.

## Selection of Economies

The 30 systemic economies analyzed in detail in this report and included in the individual economy assessments are listed in Table 3.B. They were generally chosen on the basis of a set of criteria, including each economy's global rank in terms of purchasing power GDP, as used in the IMF's *World Economic Outlook*, and in terms of the level of nominal gross trade and degree of financial integration.

**Table 3.A. Description in External Sector Report Overall Assessment**

| CA Gap | REER Gap (Using Elasticity at –0.2) | Description in Overall Assessment |
|---|---|---|
| > 4% | < –20% | … substantially stronger … |
| [2%, 4%] | [–20%, –10%] | … stronger … |
| [1%, 2%] | [–10%, –5%] | … moderately stronger … |
| [–1%, 1%] | [–5%, 5%] | The external position is broadly in line with fundamentals and desirable policy settings. |
| [–2%, –1%] | [5%, 10%] | … moderately weaker … |
| [–4%, –2%] | [10%, 20%] | … weaker … |
| < –4% | > 20% | … substantially weaker … |

## Table 3.B. Economies Covered in the External Sector Report

| | | | | |
|---|---|---|---|---|
| Argentina | Euro area | Italy | Poland | Sweden |
| Australia | France | Japan | Russia | Switzerland |
| Belgium | Germany | Korea | Saudi Arabia | Thailand |
| Brazil | Hong Kong SAR | Malaysia | Singapore | Turkey |
| Canada | India | Mexico | South Africa | United Kingdom |
| China | Indonesia | Netherlands | Spain | United States |

## Box 3.1. Assessing Imbalances: The Role of Policies—An Example

**A two-country example** is used to clarify how to analyze policy distortions in a multilateral setting and how to distinguish between domestic policy distortions, on which a country might need to take action to reduce its external imbalance, and foreign policy distortions, which require no action by the home country (but for which action by the other would help reduce the external imbalance). Consider a stylized example of a two-country world.

- **Country A** has a large *current account deficit* and a large fiscal deficit, as well as high public and external debt.
- **Country B** has a *current account surplus* (matching the deficit in Country A) and a large creditor position but has no policy distortions.

**Overall external assessment:** The analysis would show that Country A has an external imbalance reflecting its large fiscal deficit. Country B would have an equal and opposite surplus imbalance. Country A's exchange rate would look overvalued and Country B's undervalued.

**Policy gaps:** The analysis of policy gaps would show that Country A has a domestic policy distortion that needs adjustment. Meanwhile, the analysis would also show that there are no domestic policy gaps in Country B—instead, adjustment by Country A would automatically eliminate the imbalance in Country B.

**Individual economy write-ups:** While the estimates of the needed *current account adjustment* and associated *real exchange rate change* would be equal and opposite in both cases (given there are only two economies in the world), the individual economy assessments would identify the different issues and risks facing the two economies.

- In the case of Country A, the *capital flows and foreign asset and liability position* sections would note the vulnerabilities arising from international liabilities, and the *potential policy response* section would focus on the need to rein in the *fiscal deficit* and limit *financial excesses*.
- For Country B, however, as there were no domestic policy distortions, the write-up would find no fault with policies and would note that adjustment among other economies would help reduce the imbalance.

**Implications:** It remains critical to distinguish between domestic and foreign fiscal policy gaps. The elimination of the fiscal policy gap in a systemic deficit economy would help reduce excess surpluses in other systemic economies.

## Abbreviations and Acronyms

| | |
|---|---|
| Adj. | adjusted |
| ARA | assessing reserve adequacy |
| BOP | balance of payments |
| CA | current account |
| CFM | capital flow management measure |
| CPI | consumer price index |
| Cycl. | cyclically |
| E&O | errors and omissions |
| EBA | External Balance Assessment |
| ECB | European Central Bank |
| eop | end of period |
| FDI | foreign direct investment |
| FX | foreign exchange |
| HKMA | Hong Kong Monetary Authority |
| IIP | international investment position |
| LEBAC | central bank short-term instrument (Argentina) |
| LERS | linked exchange rate system (Hong Kong SAR) |
| Liab. | liabilities |
| LIBOR | London Interbank offered rate |
| MAS | Monetary Authority of Singapore |
| NAFTA | North American Free Trade Agreement |
| NDF | nondeliverable forwards |
| NEER | nominal effective exchange rate |
| NFC | nonfinancial corporation |
| NIIP | net international investment position |
| NPL | nonperforming loan |
| PBoC | People's Bank of China |
| QE | quantitative easing |
| REER | real effective exchange rate |
| Res. | residual |
| RMB | renminbi |
| SOE | state-owned enterprise |
| ULC | unit labor cost |

## Table 3.1. Argentina: Economy Assessment

**Overall Assessment:** *The external position in 2018 was weaker than implied by medium-term fundamentals and desirable policies.* The CA deficit at the end of 2018 was broadly unchanged relative to the previous year, with official inflows (mainly associated with the IMF program) replacing private portfolio inflows as the main source of funding to cover still large gross fiscal financing needs. That said, a significant CA adjustment is currently underway.

**Potential Policy Responses:** The fiscal consolidation envisaged under the IMF-supported program, together with a stronger monetary and exchange policy framework, should help reabsorb the large CA deficit and lower the risks of large peso volatility. Supply-side reforms such as eliminating trade restrictions and introducing tax and product market reforms, would increase productivity and competitiveness and attract FDI, reducing the risk of overvaluation.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** After Argentina regained access to international capital markets in early 2016, significant new external debt was issued and the NIIP fell from its 2013 peak of 10 percent of GDP to 3 percent of GDP by the end of 2017. The financial crisis that ensued in May 2018, with the sudden stop of capital inflows as well as the rapid depreciation of the peso (by about 70 percent in the peso/US$ rate on average over the year), led to a sharp improvement in the NIIP, which reached about 12.1 percent of GDP by end 2018, mainly driven by lower liabilities due to valuation effects and price changes.<br>**Assessment.** Argentina is likely to maintain a net creditor position although declining gradually over the medium term. While external liabilities are expected to grow, due to continued large public sector financing requirements, they are not expected to outpace the accumulation of external assets, resulting in a projected NIIP of about 8 percent of GDP by 2024. Greater portfolio liabilities and other investments (projected to rise from 51 percent of overall liabilities in 2012 to 76 percent in 2018) point to continued vulnerability to capital flow reversals. | | | | | |
| 2018 (% GDP) | NIIP: 12.1 | Gross Assets: 70.3 | Res. Assets: 12.3 | Gross Liab.: 58.2 | Debt Liab.: 46.7 | |
| **Current Account** | **Background.** The CA deficit widened to 5.2 percent of GDP at end-2018, a level not registered since the early 2000s. However, the economic recession and sharp depreciation of the peso following the mid-2018 financial crisis caused a broad-based import contraction which, together with a normalization of agriculture exports, is expected to lead to a CA deficit of about 2 percent of GDP in 2019, and about 2.5 percent of GDP in the medium term. The official sector's reliance on external borrowing means Argentina will continue to have a structural income account deficit.<br>**Assessment.** The EBA CA model estimates a –6.8 percent of GDP cyclically adjusted CA deficit in 2018, against a CA norm of –2.5 percent of GDP. Taking into account the impact of the drought on agricultural exports (about 1.3 percent of GDP), staff considers Argentina's CA deficit to be 2.0 to 4.0 percent of GDP higher than the level implied by fundamentals and desirable policies. The CA gap is largely the result of looser-than-desired fiscal policy and modest credit growth during 2018, only partially offset by reserve buildup. The large negative residual likely reflects distortions in product and labor markets that hinder Argentina's competitiveness. | | | | | |
| 2018 (% GDP) | Actual CA: –5.2 | Cycl. Adj. CA: –6.8 | EBA CA Norm: –2.5 | EBA CA Gap: –4.3 | Staff Adj.: 1.3 | Staff CA Gap: –3.0 |
| **Real Exchange Rate** | **Background.** The REER depreciated by about 18 percent on average in 2018 relative to 2017, driven by a sharp nominal depreciation of the peso (36 percent on average) only partially offset by an increase in relative prices. The average, however, masks the significant peak-to-trough real depreciation in 2018. Estimates as of May 2019 suggest the REER was 5.3 percent weaker than the 2018 average.<br>**Assessment.** The CA model shows the REER to be overvalued by about 30 percent on average in 2018 (assuming an elasticity of 0.14). This, however, mainly reflects the fact that the CA adjustment started with a lag and is expected to take full effect in 2019. Staff believes that the large REER depreciation in 2018 more than corrected the estimated overvaluation and projects that, after overshooting by about 10 to 15 percent, the REER will experience a gradual appreciation during 2019 and the next few years. This is also consistent with estimates of the EBA REER Index model, which shows an REER gap of –5.9 percent in 2018. Staff assesses the 2018 REER to be undervalued in the range of 10 to 15 percent. | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The rise in the CA deficit until mid-2018 has been largely financed by portfolio inflows, notably government liabilities. In 2018:Q2 and 2018:Q3, as the government lost access to international markets, positions in Argentine assets were unwound. The sudden stop and capital flight were offset by official inflows from the IMF, World Bank, and an increase in the PBoC swap line. As a result, gross official reserves rose by US$10.8 billion compared with 2017. Following capital account pressures in May 2018 and intensifying carry-trade flows, the central bank tightened limits on banks' net long FX positions and introduced caps on government debt holdings by domestic banks.<br>**Assessment.** Greater reliance on short-term, volatile portfolio flows exposed Argentina's external balance to risks that materialized in 2018. The elimination of LEBACs and consistent implementation of the stabilization policies underlying the program with the IMF should restore market confidence and help reduce external vulnerabilities going forward. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** Faced with increasing currency pressures, the central bank, following a free-floating, inflation-targeting framework since 2016, intervened significantly in 2018 (selling about US$16 billion in the spot market, and accumulating US$3.6 billion in the forward market, a position that was later unwound). In line with the recently adopted FX intervention rule, the central bank has purchased about US$1 billion so far in 2019 and reserves stood at US$65 billion end-May.<br>**Assessment.** Reserve coverage at end-2018 was about 95.2 percent of the ARA metric. Fiscal consolidation combined with disbursements under the IMF program, the drawing of the swap line with the PBoC, and other multilateral assistance are expected to lead to a further rise in reserve coverage through time. | | | | | |

## Table 3.2. Australia: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by medium-term fundamentals and desirable policies.* The CA deficit in 2018 narrowed to about 2 percent of GDP mainly due to stronger terms of trade and a ramp-up in new resource exports.

**Potential Policy Responses:** With output below potential, macroeconomic policy should in the near term remain supportive of Australia's economic rebalancing after the mining investment boom. The current monetary policy stance is appropriately accommodative, although going forward it should remain data-dependent guided by the inflation and growth outlook. The recent infrastructure investment boost has provided welcome support, although budget surpluses should be targeted in the medium term, consistent with the authorities' medium-term fiscal plans. Structural reforms should aim at boosting productivity, especially of the nonmining sector.

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|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** Australia has a large and relatively stable negative NIIP, amounting to about –50.5 percent of GDP at the end of 2018. Liabilities are largely denominated in Australian dollars, whereas assets are in foreign currency. Foreign liabilities are composed of about one-quarter of FDI, one-half of portfolio investment (principally banks' borrowing abroad and foreign holdings of government bonds), and one-quarter of other investment and derivatives. The NIIP improved in 2018 (by 3 percent of GDP relative to 2017), partly driven by nominal economic growth. The NIIP-to-GDP ratio is expected to remain around –50 percent of GDP over the medium term.<br><br>**Assessment.** The NIIP level and trajectory are sustainable. The External Stability approach suggests that the NIIP would be stabilized at around current levels over the medium term with a CA deficit between 2 and 2½ percent. The structure of Australia's external balance sheet reduces the vulnerability associated with its high negative NIIP. With external liabilities mainly denominated in Australian dollars and a net foreign currency asset position, a nominal depreciation tends to strengthen the external balance sheet, all else equal. The banking sector's net foreign currency liability position is mostly hedged. The maturity of banks' external funding has lengthened since the global financial crisis, and in a tail risk event where domestic banks suffer a major loss, the government's strong balance sheet position allows it to offer credible support. | | | | | |
| 2018 (% GDP) | NIIP: –50.5 | Gross Assets: 131.3 | Debt Assets: 42.3 | Gross Liab.: 181.8 | Debt Liab.: 89.3 | |
| **Current Account** | **Background.** Australia has run CA deficits for most of its history, reflecting a structural saving-investment imbalance with very high private investment relative to a private saving rate that is already high by advanced economy standards. Since the early 1980s, deficits have averaged around 4 percent of GDP. The CA deficit in 2018 narrowed to 2.0 percent of GDP, primarily reflecting mostly stronger terms of trade and a ramp-up in new resource exports, including liquified natural gas, offsetting the negative impact of drought on rural exports. Over the medium term, the CA deficit is expected at a level lower than the historical average of about 4 percent, given the end of the prolonged import-intensive mining investment boom and a lower interest differential on Australian bonds relative to foreign bonds compared with longer-term averages. With over half of Australia's exports going to emerging Asia, a key risk is a sharper-than-expected slowdown in China resulting in a further sharp decline in commodity prices.<br><br>**Assessment.** Considering the relative output gaps and the cyclical component of the commodity terms of trade, the EBA model estimates a cyclically adjusted CA deficit of 2.4 percent of GDP for 2018, which when compared with the EBA CA norm of –0.4 percent of GDP suggests a CA gap of –2.0 percent. However, in staff's view, the CA norm of Australia is closer to –1.3 percent of GDP, reflecting Australia's traditionally large investment needs due to its size, low population density, and initial conditions, whereas the temporary negative impact of adverse weather conditions on exports would increase the cyclical adjustment by an additional 0.1 percent of GDP. Taking these adjustments into consideration, the staff-assessed CA for 2018 is assessed to be broadly in line and in the range of –0.4 to –1.4 percent of GDP. | | | | | |
| 2018 (% GDP) | Actual CA: –2.0 | Cycl. Adj. CA: –2.4 | EBA CA Norm: –0.4 | EBA CA Gap: –2.0 | Staff Adj.: 1.1 | Staff CA Gap: –0.9 |
| **Real Exchange Rate** | **Background.** In 2018, Australia's REER depreciated by 4.0 percent relative to the 2017 average. As of May 2019, the REER was some 4.5 percent below the 2018 average, but still some 2 percent above its 30-year average.<br><br>**Assessment.** Considering estimates of the EBA REER models, and REER gap derived from the staff-assessed CA gap, staff assesses the 2018 REER to be overvalued in the range of 0 to 12 percent.[1] | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The mining investment boom has been funded predominantly offshore. Net FDI inflows into this sector have partially offset the reduced need for the banking sector to borrow abroad. As investment in new mining projects winds down, related demand for imports will decrease, buffering the impact on the overall balance of payments. Australia also received large inflows in recent years into bond markets. The weighted average maturity of government bonds is 6.2 years, with the majority of existing bonds maturing after 2026. Net capital inflows remained modest in 2018, with the composition of foreign investment further shifting from the mining sector to nonmining sector.<br><br>**Assessment.** Credible commitment to a floating exchange rate and a strong fiscal position limit the vulnerabilities. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** A free floater since 1983. The central bank undertook brief but large intervention in 2007–08 when the market for Australian dollars became illiquid (bid-ask spreads widened) following banking sector disruptions in the United States. The authorities are strongly committed to a floating regime, which reduces the need for reserve holding.<br><br>**Assessment.** Although domestic banks' external liabilities are sizable, they are either in local currency or hedged, so reserve needs for prudential reasons are also limited. | | | | | |

## Table 3.3. Belgium: Economy Assessment

**Overall Assessment:** *The external position in 2018 was weaker than medium-term fundamentals and desirable policies would imply.* Recent measures to improve competitiveness, together with an improving investment income balance, should support the external position over the medium term. The strong NIIP mitigates vulnerabilities associated with the high external public debt.

**Potential Policy Responses:** Steady fiscal consolidation, structural reforms to support labor force participation, linking wages to productivity, improving the business environment, simplifying regulations, and strengthening competition in services and regulated professions can help bring the external position more in line with fundamentals.

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|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP remains strong at 42 percent of GDP at end-2018—compared with 53 percent a year earlier—reflecting the continued positive net financial wealth of households. Gross foreign assets were large at 419 percent of GDP, inflated by intragroup corporate treasury activities. Gross foreign assets of the banking sector stood at 79 percent of GDP, down considerably from the precrisis peak. External public debt was 60 percent of GDP, predominantly denominated in euros. Target 2 balances averaged –€9.9 billion (–2.2 percent of GDP) in 2018.<br>**Assessment.** Belgium's large gross international asset and liability positions are inflated by the presence of corporate treasury units, which do not appear to create macrorelevant mismatches. Based on the projected current account and growth paths, the NIIP-to-GDP ratio is expected to decline gradually going forward. The strongly positive NIIP and its trajectory do not raise sustainability concerns. | | | | | |
| 2018 (% GDP) | NIIP: 42.4 | Gross Assets: 419.5 | Debt Assets: 165.6 | Gross Liab.: 377.0 | Debt Liab.: 171.5 | |
| **Current Account** | **Background.** Since the global financial crisis, the CA has hovered around balance, averaging –0.3 percent of GDP over the 2009–17 period.[1] The stability in the CA balance masks significant movements in the trade and primary income balances, reflecting large operations of multinationals. After registering a surplus of 0.7 percent of GDP in 2017, preliminary data indicate a CA deficit of 1.3 percent of GDP in 2018. The movement largely reflects lower primary income outflows related to the operations of multinational enterprises and unusually large R&D imports by one firm. Data are subject to revision and possibly measurement biases.<br>**Assessment.** Preliminary EBA model estimates yield a CA gap of –3.7 percent of GDP for 2018, based on a cyclically adjusted CA balance of –1.3 percent (relative to an estimated norm of 2.4 percent). This is within the range estimated by staff for the CA gap of between –4.7 to –2.7 percent of GDP, which applies a standard range for the CA gap of ±1 percent of GDP. | | | | | |
| 2018 (% GDP) | Actual CA: –1.3 | Cycl. Adj. CA: –1.3 | EBA CA Norm: 2.4 | EBA CA Gap: –3.7 | Staff Adj.: 0.0 | Staff CA Gap: –3.7 |
| **Real Exchange Rate** | **Background.** The REER (both ULC- and CPI-based) appreciated by nearly 20 percent during 2000–09. Over the past decade the REER has been more volatile, with wage moderation contributing to an 8 percent depreciation of both the ULC- and CPI-based REER in 2014–15, which has since been reversed. In 2018, the ULC-based REER appreciated by 1.2 percent and the CPI-based REER appreciated by 2.4 percent relative to the 2017 average. Through May 2019, the CPI-based REER has depreciated by 1.2 percent.<br>**Assessment.** Preliminary EBA model estimates point to an REER overvaluation of between 13 and 22 percent, based on the CPI-based REER index and level models; the REER overvaluation resulting from the EBA CA gap model is 8.8 percent, using an elasticity of 0.42. Staff assesses the REER to be overvalued in the range of 6 to 11 percent, using standard error bands. | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Gross financial outflows and inflows were on an upward trend during the precrisis period as banks expanded their cross-border operations. Since the crisis, these flows have shrunk and become more volatile as banks have deleveraged. Short-term external debt accounted for 29 percent of gross external debt at end-2018. The capital account is open.<br>**Assessment.** Belgium remains exposed to financial market risks, but the structure of financial flows does not point to specific vulnerabilities. The strong NIIP reduces the vulnerabilities associated with high public debt. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** The euro has the status of a global reserve currency.<br>**Assessment.** Reserves held by the euro area are typically low relative to standard metrics, but the currency is free floating. | | | | | |

## Table 3.4. Brazil: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by medium-term fundamentals and desirable policies.* The current account is projected to weaken as the cyclical recovery, especially investment, strengthens.

**Potential Policy Responses:** Efforts to raise national savings are needed to provide room for a sustainable expansion in investment. Fiscal consolidation, including from the federal spending cap and social security reform, should contribute to boosting net public savings. Structural reforms to reduce the cost of doing business would also help strengthen competitiveness. Foreign exchange intervention, including through the use of derivatives, can be appropriate to alleviate disorderly market conditions in the foreign exchange market.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** Brazil's NIIP was –32.1 percent of GDP at end-2018, slightly weaker than the 2011–17 average (about –29 percent of GDP). Over the medium term, the NIIP is projected to strengthen gradually to about –30 percent of GDP, as GDP growth and valuation effects deriving from Brazil's long dollar position are expected to offset current account deficits (of about 2 percent of GDP). Whereas FDI accounts for about half of all liabilities, the rise in external debt since the global financial crisis (to about 33 percent of GDP and 265 percent of exports) is a source of risk.<br>**Assessment.** Brazil's NIIP has remained negative and is currently at the same level as in 2011. Short-term gross external financing needs are moderate, at about 6 percent of GDP, but capital flows and the exchange rate are particularly sensitive to global financing conditions. The CA deficit required to stabilize the NIIP at –35 percent is 1.5 percent of GDP. | | | | | |
| 2018 (% GDP) | NIIP: –32.1 | Gross Assets: 47.9 | Res. Assets: 20.1 | Gross Liab.: 80.0 | Debt Liab.: 22.9 | |
| **Current Account** | **Background.** The CA deficit widened from 0.5 percent of GDP in 2017 to 0.8 percent in 2018 due in part to a modest pickup in domestic demand and is expected to gradually widen to about 2 percent of GDP in the medium term as the recovery continues. However, risks stemming from terms-of-trade fluctuations, unwinding of cross-border integration, and trading partner growth remain tilted to the downside.<br>**Assessment.** In 2018, the cyclically adjusted CA was –2.1 percent of GDP, reflecting a still large negative output gap. EBA estimates suggest a CA norm in 2018 of –2.9 percent of GDP. However, taking into consideration the vulnerabilities associated with a sizable negative IIP, financial risks associated with a large and increasing public debt, and the sensitivity to global financial conditions, staff assesses a CA norm between –1.9 and –2.9 percent of GDP. Thus, the CA is assessed to be broadly in line with the level implied by fundamentals and desirable policies. | | | | | |
| 2018 (% GDP) | Actual CA: –0.8 | Cycl. Adj. CA: –2.1 | EBA CA Norm: –2.9 | EBA CA Gap: 0.8 | Staff Adj.: –0.5 | Staff CA Gap: 0.3 |
| **Real Exchange Rate** | **Background.** After appreciating in 2016–17, the REER depreciated by about 10 percent in 2018, partly reflecting political uncertainty ahead of the presidential elections. As of May 2019, the REER had depreciated by 1.4 percent relative to the 2018 average.<br>**Assessment.** EBA REER index and level methodologies indicate a 9.4 percent undervaluation and 2.1 percent overvaluation, respectively, for 2018. Consistent with the CA gap, staff assesses the REER gap to be in the range of –3 to 6 percent.* | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Brazil continues to attract sizable capital flows. Net FDI has fully financed the CA deficits since 2015 (averaging 3.3 percent of GDP during 2015–18, whereas CA deficits averaged 1.5 percent), although partially offset by net portfolio outflows (0.8 percent of GDP on average during 2016–18). While interest differentials, broadly adequate external buffers, and envisaged reforms to increase trade openness should support portfolio inflows going forward, rigidities in the budget, the financial sector, and labor and product markets, if not properly addressed, may weaken investors' interest.<br>**Assessment.** Weaker than expected global growth, tightening of global financial conditions, and weak implementation of envisaged reforms remain downside risks to capital flows. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** Brazil has a floating exchange rate. Its gross reserves remained broadly constant in 2018, at $375 billion at end-2018, some 20 percent of GDP and about 163 percent of the IMF's composite reserve adequacy metric.<br>**Assessment.** The flexible exchange rate has been an important shock absorber. Reserves are adequate relative to various criteria, including the IMF's reserve adequacy metric. The authorities should retain strong buffers, with intervention limited to addressing disorderly market conditions. | | | | | |

**The staff assessed REER gap of –1.5 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.5. Canada: Economy Assessment

**Overall Assessment:** *The external position in 2018 was weaker than implied by medium-term fundamentals and desirable policies.* It will take time for the economy to adjust to structural shifts in the allocation of resources, restore lost production capacity, and address productivity underperformance. Recent developments do not suggest a material change in the assessment of the external position for 2018.

The current account is expected to weaken in 2019 and then strengthen over the medium term as nonenergy exports gradually benefit from improved price competitiveness and investment in services and manufacturing capacity.

**Potential Policy Responses:** Policies to boost Canada's nonenergy exports include measures geared at improving labor productivity, investing in research and development and physical capital, promoting foreign direct investment, developing services exports, and diversifying export markets. The planned increase in public infrastructure investment should boost competitiveness and improve the external position in the medium term. A credible medium-term consolidation plan for fiscal policy will also be necessary to support the external rebalancing.

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|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** Despite running a CA deficit, Canada's NIIP has improved since 2010, reaching 23.1 percent of GDP in 2018, up from 20.6 percent in 2017 and –18 percent in 2010. This largely reflects valuation gains on external assets. At the same time, gross external debt increased to 121 percent of GDP, of which about one-third is short term.<br>**Assessment.** Canada's foreign assets have a higher foreign currency component than its liabilities, which provides a hedge against currency depreciation. The NIIP level and trajectory are sustainable. | | | | | |
| 2018 (% GDP) | NIIP: 23.1 | Gross Assets: 235.1 | Debt Assets: 59.9 | Gross Liab.: 212.0 | Debt Liab.: 105.3 | |
| **Current Account** | **Background.** The CA deficit narrowed further to 2.6 percent of GDP in 2018 (from 2.8 percent of GDP in 2017), driven by an improvement in energy exports, which were partly offset by import growth. The CA deficit has been partially financed by equity portfolio inflow and deposits, which have more than offset direct investment outflows.<br>**Assessment.** The EBA estimates a CA norm of 2.0 percent of GDP and a cyclically adjusted CA gap of –5.0 percent of GDP for 2018. The EBA gap widened relative to 2017, as the improvement in the CA was less than expected given output gap movements. Staff assesses the CA gap to be lower after taking into account (1) CA measurement issues,[1] (2) the authorities' demographic projections and current immigration targets,[2] and (3) the steeper-than-usual discount between Canadian oil prices and international prices.[3] Taking these factors into consideration, staff assesses the CA lower than warranted by fundamentals and desired policies, with a gap in the range between –0.6 and –3.6 percent of GDP. | | | | | |
| 2018 (% GDP) | Actual CA: –2.6 | Cycl. Adj. CA: –3.0 | EBA CA Norm: 2.0 | EBA CA Gap: –5.0 | Staff Adj.: 2.9 | Staff CA Gap: –2.1 |
| **Real Exchange Rate** | **Background.** The REER depreciated by about 0.5 percent on an annual average basis between 2017 and 2018. As of May 2019, the REER had depreciated by about 2.3 percent relative to the 2018 average.<br>**Assessment.** The EBA REER index model points to an overvaluation of 2.1 percent in 2018, whereas the REER level model points to an undervaluation of about 6.9 percent. In staff's view, the REER level model could overstate the extent of undervaluation.[4] Consistent with the staff-assessed CA gap, staff assesses the REER to be overvalued in the range of 2 to 13 percent.[5] | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The CA deficit in 2018 was partially financed by net portfolio inflows and deposits. Nonresident investors mostly purchased corporate debt securities. In 2018, FDI recorded a lower net outflow of 0.6 percent of GDP (3.3 percent of GDP in 2017).<br>**Assessment.** Canada has an open capital account. Vulnerabilities are limited by a credible commitment to a floating exchange rate. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** Canada has a free-floating exchange rate regime and has not intervened in the foreign exchange market since September 1998 (with the exception of participating in internationally concerted interventions). Canada has limited reserves, but its central bank has standing swap arrangements with the US Federal Reserve and four other major central banks (it has not drawn on these swap lines).<br>**Assessment.** Policies in this area are appropriate to the circumstances of Canada. The authorities are strongly committed to a floating regime, which, together with the swap arrangement, reduces the need for reserve holding. | | | | | |

## Table 3.6. China: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level consistent with medium-term fundamentals and desirable policies.* This represents a change from earlier assessments when the external position was judged to be moderately stronger. While the trend decline in CA surplus since the 2007 peak is largely structural, reflecting progress in rebalancing, the sharp decline in 2018 was partly supported by higher commodity and semiconductor prices. It remains important to ensure that rebalancing in China continues in order to avoid a return of excessive CA surpluses.

**Potential Policy Responses:** Achieving a lasting balance in the external position will require the gradual closing of domestic policy gaps in fiscal and credit areas to be accompanied by reforms that address distortions to ensure that the economy remains on a more sustainable growth path, with higher consumption and lower overall saving. This can be achieved through successful implementation of the authorities' reform agenda. Priorities include improving the social safety net; SOE reform and opening markets to more competition; creating a more market-based and robust financial system; taking steps to attract more inward FDI, including by ensuring equal treatment of foreign and domestic investors; and moving more to a flexible, market-based exchange rate. This will require a more market-based and transparent monetary policy framework and communications.

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|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP remains positive but declined to 15.9 percent of GDP by end-2018 after peaking at 33 percent of GDP in 2007. This deterioration is driven by a reduction in the CA surplus, valuation changes, and sustained high GDP growth. Gross foreign assets (55 percent of GDP by end-2018) are dominated by foreign reserves, whereas gross liabilities (40 percent of GDP) mainly reflect inward FDI. Reserve assets were stable and stood at US$3.1 trillion by end 2018 (about 24 percent of GDP).<br>**Assessment.** The NIIP-to-GDP ratio is expected to remain strong, with a modest decline over the medium term, in line with the projected CA. The NIIP is not a major source of risk at this point, as assets remain high—reflecting large foreign reserves—and liabilities are mostly FDI related. Capital outflow pressures have remained subdued, despite pressures on the US dollar–renminbi bilateral exchange rate during the second half of 2018. There are currently no substantial net outflow pressures, although such pressures may resurface as the private sector seeks to accumulate foreign assets faster than nonresidents accumulate Chinese assets. | | | | | |
| 2018 (% GDP) | NIIP: 15.9 | Gross Assets: 54.6 | Res. Assets: 23.6 | Gross Liab.: 38.7 | Debt Liab.: 13.0 | |
| **Current Account** | **Background.** The CA surplus declined further in 2018, reaching 0.4 percent of GDP in 2018, about 1 percentage point lower than in 2017. This mainly reflects a shrinking trade balance (driven by high import volume growth) and a continued increase in the services deficit (mostly driven by tourism), as well as higher commodity and semiconductor prices. Viewed from a longer perspective, the CA surplus has declined substantially relative to the peak of about 10 percent of GDP in 2007, reflecting strong investment growth, REER appreciation, weak demand in major advanced economies, technological upgrades in manufacturing, and a widening of the services deficit. In line with continued rebalancing, the CA surplus is expected to gradually decline further over the next few years.<br>**Assessment.** Consistent with the EBA CA methodology, which estimates that the cyclically adjusted CA exceeds the norm by 0.8 percent of GDP, staff assesses the CA to be broadly in line with fundamentals and desired policies with a CA gap range of –0.7 to +2.3 percent.[1] The EBA-identified policy gaps are small on net (–0.3 percent), reflecting largely mutually offsetting forces: loose fiscal policy and excessive credit growth on the one hand and inadequate health spending on the other hand. The overall gap is mostly accounted for by the residual, which reflects other factors, including distortions that encourage excessive savings. | | | | | |
| 2018 (% GDP) | Actual CA: 0.4 | Cycl. Adj. CA: 0.3 | EBA CA Norm: –0.4 | EBA CA Gap: 0.8 | Staff Adj.: 0.0 | Staff CA Gap: 0.8 |
| **Real Exchange Rate** | **Background.** In 2018, the average REER appreciated by about 1.4 percent relative to 2017, driven by the appreciation in the NEER (1.5 percent). Estimates through May 2019 show that the REER has depreciated by about 0.2 percent relative to the 2018 average.<br>**Assessment.** The 2018 EBA REER index regression estimates China's REER to be at the same level as warranted by fundamentals and desirable policies—compared with 5.3 percent lower in 2017.[2] However, this assessment is subject to large uncertainties related to the outlook and shifts in portfolio allocation preferences.[3] Overall, staff assesses the REER gap to be in the range of –11.5 to 8.5 percent.* | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** After witnessing capital inflows in the first half, there were some modest outflows in the latter part of 2018. Overall, China registered a small net capital inflow of US$30 billion in 2018, compared with net capital outflows of US$103 billion in 2017, and down significantly from the record outflows of US$647 billion in 2015 and US$646 billion in 2016. China's capital account remains relatively closed in a de jure sense. More recently, a 20 percent reserve requirement on FX forwards, a CFM, was reintroduced, and the authorities reimposed administrative measures to control the exchange rate in August 2018.<br>**Assessment.** Over the medium term, the sequence of capital control loosening that is consistent with exchange rate flexibility should carefully consider domestic financial stability. Specifically, the further opening of the capital account is likely to create substantially larger two-way gross flows. Hence, the associated balance sheet adjustments and the shifts in market sentiment call for prioritizing the shift to an effective float (while using FX intervention to counter disorderly market conditions) and strengthening domestic financial stability prior to a substantial further liberalization of the capital account. Efforts should be stepped up to encourage inward FDI, which would generate positive growth spillovers and improve corporate governance standards. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** FX reserves declined modestly by US$67 billion in 2018, after rising by US$129 billion in 2017. Staff estimates suggest that, after adjusting for estimated valuation changes and return on reserves, this change reflected minor net FX sales during episodes of market pressures; these estimates are subject to a margin of error, which could include no intervention.<br>**Assessment.** Reserves stood at 90 percent of the IMF's composite metric unadjusted for capital controls at end-2018 (down from 106 percent and 97 percent in 2016 and 2017, respectively); relative to the metric adjusted for capital controls, reserves stood at 143 percent (down from 156 percent in 2017). The decline of the ratio is driven by higher broad money (M2) growth, external debt, and other liabilities that are driving up the metric. Given that the capital account is considered only partially open, reserves would be considered adequate in the range indicated by the adjusted and unadjusted metrics. Overall, staff assesses the current level of reserves to be adequate. As the transition to greater flexibility advances, intervention should be limited to smooth excessive volatility. | | | | | |

**The staff assessed REER gap of –1.5 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.7. Euro Area: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately stronger than the level implied by medium-term fundamentals and desirable policies.* Going forward the CA surplus is projected to narrow modestly as surpluses decline in large net external creditor countries, supported by a gradual realignment of price competitiveness and solid domestic demand.

Nevertheless, imbalances at the national level are expected to remain sizable. Countries with excess CA surpluses should continue to strengthen investment and potential growth, whereas those with weak external positions should work to further raise productivity and competitiveness.

**Potential Policy Responses:** Monetary policy should remain accommodative until inflation has durably converged to the ECB's medium-term price stability objective, facilitating relative price adjustments at the national level by enabling greater inflation differentials across monetary union members. Area-wide initiatives to make the currency union more resilient (for example, banking and capital markets union, fiscal capacity for macrostabilization) could also reinvigorate investment and reduce savings-investment imbalances. At the country level, efforts are needed to address imbalances. Countries with stronger-than-warranted external positions should use available fiscal space to expand investment and promote structural reforms to foster entrepreneurship and raise their potential growth. Meanwhile, countries with weaker-than-warranted external positions should continue consolidating to reduce their debt and increase their buffers, while undertaking competitiveness-enhancing reforms. In general, a more balanced policy mix with the implementation of priority institutional and structural reforms at the country level would help to reduce external imbalances, including within the euro area.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP of the euro area fell to about –17 percent of GDP by the end of 2009, but has since recovered, reaching about –4 percent by the end of 2018.[1] The rise has been driven by stronger CA balances and modest nominal GDP growth. Gross foreign positions were about 228 percent of GDP for assets and 232 percent of GDP for liabilities in 2018. However, net external assets reached elevated levels in large net external creditors (for example, Germany and the Netherlands), whereas net external liabilities remained high in some countries, including Spain and Portugal.

**Assessment.** Projections of continued CA surpluses suggest that the NIIP-to-GDP ratio will improve further, at a moderate pace, and the euro area is expected to soon become a net external creditor. The region's overall NIIP financing vulnerabilities appear low. Despite improved CAs, large net external debtor countries still bear a greater risk of a sudden stop of gross inflows.

| 2018 (% GDP) | NIIP: –3.8 | Gross Assets: 228.0 | Debt Assets: 89.7 | Gross Liab.: 231.8 | Debt Liab.: 94.6 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA balance for the euro area increased steadily from 2011, when it was close to zero, reaching a peak of 3.2 percent in 2016–17. In 2018, the CA balance narrowed to 2.9 percent of GDP, reflecting higher oil prices and weaker external demand from key trading partners (China, Turkey, United Kingdom) in the context of rising trade tensions and Brexit-related uncertainties. Some large creditor countries, such as Germany and the Netherlands, continued to have sizable surpluses, reflecting strong corporate and household saving and weak investment.

**Assessment.** The EBA model estimates a CA norm of 1.1 percent of GDP, against a cyclically adjusted CA of 2.9 percent of GDP. This implies a gap of 1.8 percent of GDP. Staff's analysis indicates a higher CA norm than estimated by the EBA model, consistent with the assessed external positions of euro area member countries. The higher CA norm takes into account the large net external liabilities positions in some countries (for example, Spain) and uncertainty about the demographic outlook and the impact of the recent large-scale immigration (for example, Germany). In addition, adjustments to the underlying CA for measurement issues are considered in a few cases (for example, Ireland and the Netherlands). Considering these factors and uncertainties in the estimates, staff assesses the CA gap to be 1.3 percent for 2018, with a range of 0.5 to 2.1 percent of GDP.[2,3]

| 2018 (% GDP) | Actual CA: 2.9 | Cycl. Adj. CA: 2.9 | EBA CA Norm: 1.1 | EBA CA Gap: 1.8 | Staff Adj.: –0.6 | Staff CA Gap: 1.3 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The CPI-based REER appreciated by about 3.0 percent from 2017 to 2018, reflecting that the nominal appreciation of about 5.2 percent was partly offset by weaker inflation in the euro area relative to its trading partners. Estimates through May 2019 show that the REER has depreciated by 3.1 percent relative to the 2018 average, partly reflecting the euro area's relatively weaker growth and inflation outlook.

**Assessment.** Consistent with the assessed REERs of euro area member countries, staff assesses the average euro real exchange rate gap in the range of –5 to –1 percent,[4] with a midpoint of –3 percent.* As with the CA, the aggregate masks a large degree of heterogeneity in REER gaps across euro area member states, ranging from an undervaluation of 8 to 18 percent in Germany to overvaluations of 0 to 10 percent in several small to mid-sized euro area member states. The large differences in REER gaps within the euro area highlight the continued need for net external debtor countries to improve their external competitiveness and for net external creditor countries to boost domestic demand.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Mirroring the 2018 CA surplus, the euro area experienced net capital outflows, largely driven by portfolio debt and FDI outflows. These were somewhat tempered by inflows into portfolio equity.

**Assessment.** Capital outflows in portfolio debt and inflows into portfolio equity over the past couple years likely arose in large part from the ECB's monetary accommodation through its asset purchase program, which has lowered yields on debt and spurred interest in equity.

**FX Intervention and Reserves Level**

**Background.** The euro has the status of a global reserve currency.

**Assessment.** Reserves held by euro area economies are typically low relative to standard metrics, but the currency is free floating.

**The staff assessed REER gap of –3 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.8. France: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by medium-term fundamentals and desirable policies.*

**Potential Policy Responses:** Although the external position is in line with fundamentals, a coordinated policy response that addresses domestic policy distortions with offsetting effects is needed. Steadfast implementation of recently enacted structural reforms (for example, labor market reforms), together with further efforts to reduce corporate administrative burdens, promote innovation, and strengthen competition in service sectors, would help improve competitiveness and investment and support long-term growth. Steady medium-term fiscal consolidation would also help keep the external position in line with medium-term fundamentals.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Foreign Asset and Liability Position and Trajectory** | **Background.** Since 2015, the NIIP has averaged about –16 percent of GDP, largely driven by public sector and banking sector net external debt, as the net FDI position is positive and over 20 percent of GDP. The NIIP improved slightly from –20 percent of GDP in 2017 to –11 percent of GDP in 2018, due to lower nonfinancial firms' portfolio equity liabilities partly reflecting valuation effects. Whereas the net position is moderately negative, gross positions are large, particularly for financial (bank and nonbank) institutions, reflecting their global activities. Specifically, the gross asset position stood at 290 percent of GDP in 2018, of which banks' non-FDI-related assets account for about one-third, and other nonbank financial institutions close to another one-third. On the other hand, gross liabilities reached 301 percent of GDP in 2018, of which external debt is estimated at 200 percent of GDP (of this, the public sector accounts for 54 percent of GDP, and banks for 104 percent of GDP). Target 2 balances averaged at about –€36 billion (–1.5 percent of GDP) in 2018.<br>**Assessment.** The NIIP is negative, but its size and projected stable trajectory do not raise sustainability concerns. However, there are vulnerabilities coming from large public external debt and banks' gross financing needs—bank debt maturing in 2019 is estimated at €75 billion (3.2 percent of GDP), and financial derivatives stand at 30 percent of GDP. | | | | | |
| 2018 (% GDP) | NIIP: –11.4 | Gross Assets: 289.9 | Debt Assets: 153.1 | Gross Liab.: 301.2 | Debt Liab.: 193.1 | |
| **Current Account** | **Background.** The CA deficit has hovered around 0.7 percent of GDP since 2010, although it narrowed to 0.3 percent in 2018 (from 0.6 percent in 2017). The lower CA deficit in 2018 took place despite a deterioration in the oil balance and largely reflected lower import growth amid weak investment.<br>**Assessment.** The 2018 cyclically adjusted CA deficit is estimated at 0.3 percent of GDP, compared with an EBA-estimated norm of a surplus of 0.5 percent. On this basis, staff assesses that the CA gap in 2018 was between –1.2 and –0.2 percent of GDP. | | | | | |
| 2018 (% GDP) | Actual CA: –0.3 | Cycl. Adj. CA: –0.3 | EBA CA Norm: 0.5 | EBA CA Gap: –0.7 | Staff Adj.: 0.0 | Staff CA Gap: –0.7 |
| **Real Exchange Rate** | **Background.** After depreciating by about 4 to 9 percent since 2010, mainly due to the euro depreciation, both the ULC-based and the CPI-based REER appreciated moderately by 0.6 to 2.2 percent in 2018 relative to their 2017 average. Through May 2019, the CPI-based REER has depreciated by 1.6 percent. From a longer perspective, the ULC-based REER appreciated by about 3 to 9 percent since the late 1990s, notwithstanding relatively stable CPI-based REER indices. As a result, France has lost about one-third of its export market share in the 2000s and has not regained it since.<br>**Assessment.** The EBA REER Index model points to a REER gap of –0.4 percent, whereas the EBA REER Level model points to a REER gap of 7.1 percent. Meanwhile, given an elasticity of 0.27, the EBA CA gap points to an overvaluation of 1 to 4 percent. In line with estimates derived from the CA assessment, staff assesses the REER gap to be in the 1 to 4 percent range. | | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The CA deficit has been financed mostly by debt inflows (portfolio and other investment), whereas outward direct investment was generally higher than inward investment. Financial derivative flows have grown sizably both on the asset and the liability side since 2008. The capital account is open.<br>**Assessment.** France remains exposed to financial market risks owing to the large refinancing needs of the sovereign and banking sector. | | | | | |
| **FX Intervention and Reserves Level** | **Background.** The euro has the status of a global reserve currency.<br>**Assessment.** Reserves held by the euro area are typically low relative to standard metrics, but the currency is free floating. | | | | | |

## Table 3.9. Germany: Economy Assessment

**Overall Assessment:** *The external position in 2018 was substantially stronger than implied by medium-term fundamentals and desirable policies.* Staff projects a modest narrowing in the medium term, supported by a gradual realignment of price competitiveness and continued solid domestic demand. As Germany is part of the euro area, the nominal exchange rate does not flexibly adjust to the country's external position, but stronger wage growth relative to euro area trading partners is expected to contribute to realigning price competitiveness within the monetary union. The projected adjustment is, however, partial, and additional policy actions will be necessary to make further progress on external rebalancing.

**Potential Policy Responses:** A more growth-oriented fiscal policy that promotes potential growth, structural reforms to foster entrepreneurship (for example, expanding access to venture capital, stronger tax incentives for research and development, and more investment in digital infrastructure), as well as additional tax relief for lower-income households, boosting their purchasing power, and pension reforms prolonging working lives would help reduce excess saving, stimulate investment, and reduce external imbalances.

**Foreign Asset and Liability Position and Trajectory**

**Background.** Germany's positive NIIP reached 61 percent of GDP in 2018, more than twice the 2012 level. The net rise in foreign assets over this period has, however, fallen short of the accumulation of CA surpluses. The NIIP of financial corporations other than monetary financial institutions is large and positive (57 percent of GDP), whereas that of the general government is large and negative (25 percent of GDP), partly reflecting Germany's safe-haven status. The NIIP is expected to exceed 80 percent of German GDP by 2023, as the projected CA surplus remains sizable through the medium term but is expected to be partly offset by valuation changes. Foreign assets are well diversified by instrument. The stock of Germany's TARGET2 claims on the Eurosystem has been on an upward trend since 2015, but has stabilized and started declining, standing at €934 billion in May 2019 (27 percent of GDP), down from over €976 billion in mid-2018.

**Assessment.** With implementation of QE measures by the ECB, Germany's exposure to the Eurosystem remains large.

| 2018 (% GDP) | NIIP: 60.6 | Gross Assets: 252.9 | Debt Assets: 89.8 | Gross Liab.: 192.3 | Debt Liab.: 143.2 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA surplus has widened significantly since 2001, peaking at 8.5 percent of GDP in 2015 and falling gradually since then. In 2018, the CA surplus declined to 7.3 percent of GDP (from 8.0 percent of GDP in 2017), driven by a decline in net exports (partly due to higher energy prices) and reflecting a narrowing of the CA balance vis-à-vis most major trading partners (though concentrated among oil exporters). The bulk of the CA surplus reflects large saving-investment surpluses of NFCs and households, with rising savings of NFCs and continued fiscal consolidation accounting for the upward trend.

**Assessment.** The cyclically adjusted CA balance reached 7.6 percent of GDP in 2018, 0.7 percentage points below the 2017 level. Staff assesses the CA norm at 2 to 4 percent of GDP, with a midpoint ½ percent of GDP above the CA norm implied by the EBA model of 2.5 percent. Such upward adjustment reflects uncertainty over the demographic outlook and the impact of the recent large-scale immigration on national savings. Taking these factors into account, staff assesses the 2018 CA gap to be in the range of 3.6 to 5.6 percent of GDP.[1,2]

| 2018 (% GDP) | Actual CA: 7.3 | Cycl. Adj. CA: 7.6 | EBA CA Norm: 2.5 | EBA CA Gap: 5.1 | Staff Adj.: – 0.45 | Staff CA Gap: 4.6 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The yearly average CPI-based and ULC-based REERs appreciated 2.4 and 3.5 percent in 2018, respectively, reflecting the nominal appreciation of the euro against the currencies of key trading partners—most notably the US dollar, the yen, and the Swiss franc—and the relative pickup in labor costs. Estimates through May 2019 show that the REER has depreciated by 1.2 percent relative to the 2018 average.

**Assessment.** The EBA REER Level model yields an undervaluation of 16 percent, whereas the undervaluation implied by the assessed CA gap using standard trade elasticities is in the range of 12 to 27 percent.[3] Taking these estimates into consideration and the 2018 real appreciation, staff assesses the 2018 REER to have been undervalued in the range of 8 to 18 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** In 2018, net portfolio outflows constituted over three-quarters of the capital and financial accounts balance, with direct investment being the second largest item (one-fifth of total). From a destination basis, 80 percent of the outflows went to European countries, with about 6 percent going to the Americas (mostly the United States). Meanwhile, the source of gross inflows is different, with only 14 percent of inflows originating from the European Union, due to falling investment by noneuro EU countries (Denmark, United Kingdom), whereas investment by emerging markets (especially Turkey) and North America picked up considerably. FDI inflows and outflows continued to recover, after a drop in 2016, coming/going mostly from/to euro area countries.

**Assessment.** Safe-haven status and the strength of Germany's current external position limit risks.

**FX Intervention and Reserves Level**

**Background.** The euro has the status of global reserve currency.

**Assessment.** Reserves held by euro area countries are typically low relative to standard metrics. The currency is freely floating.

## Table 3.10. Hong Kong SAR: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by medium term fundamentals and desirable policies.* The CA surplus has declined relative to its pre-2010 level on account of structural factors, including opening of the mainland capital account and changes in offshore merchandise trade activities. As a result of Hong Kong SAR's LERS, short-term movements in the REER largely reflect US dollar developments. Hong Kong SAR's flexible goods, factor, and asset markets continue to support the LERS.

**Potential Policy Responses:** Macroeconomic policies are broadly appropriate. Maintaining policies that support wage and price flexibility is crucial to preserving competitiveness. Robust and proactive financial supervision and regulation, prudent fiscal management, flexible markets, and the LERS have worked well, and continuation of these policies will help keep the external position broadly in line with medium-term fundamentals.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP reached about 357 percent of GDP as of end-2018, up from 275 percent in 2012. Gross assets (about 1,510 percent of GDP) and liabilities (about 1,154 percent of GDP) are high, reflecting Hong Kong SAR's status as a major international financial center. Valuation changes have been sizable and positive, partly reflecting measurement biases, as the change in NIIP during 2014–18 (150 percent of 2018 GDP) far exceeded the cumulative financial account balances (20 percent of 2018 GDP). On the other hand, income accrued to the large NIIP has been modest despite some increase in the last two years, due to relatively low yields on assets and, even more important, substantially higher payments on liabilities.

**Assessment.** Vulnerabilities are low given the positive NIIP and its favorable composition. Reserve assets are large and stable (117 percent of GDP at end-2018), direct investments account for a large share of total assets and liabilities (38 and 53 percent, respectively, in 2018), and portfolio liabilities accounted for only 13 percent of total liabilities at end-2018.

| 2018 (% GDP) | NIIP: 356.7 | Gross Assets: 1,510.3 | Debt Assets: 515.2 | Gross Liab.: 1,153.6 | Debt Liab.: 394.2 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA surplus, after peaking at about 15 percent of GDP in 2008, is estimated to have reached 4.3 percent of GDP in 2018, down from 4.5 percent in 2017. Last year's decline was driven by a larger trade deficit in goods on the back of higher oil prices and robust domestic demand, which was partially offset by higher services and income balances. From a sectoral perspective, the gradual decline in private saving (from the peak of 34.4 percent of GDP in 2006 to 22.9 percent of GDP in 2018), driven by robust consumption growth, a tight labor market, and wealth effects related to strength in the housing market, accounted for most of the drop in the CA surplus. The CA surplus is projected to be about 3.5 percent of GDP over the medium term.

**Assessment.** Staff's quantitative assessment finds that the projected cyclically adjusted CA, at 4.5 percent, is in the midpoint of the CA norm range of 3.0 to 6.0 percent of GDP. The CA gap range is hence –1½ to 1½ percent of GDP. Given the large valuation effects in the NIIP and the resulting discrepancies between stocks and flows, the CA needs to be adjusted for measurement issues.[1]

| 2018 (% GDP) | Actual CA: 4.3 | Cycl. Adj. CA: 4.5 | EBA CA Norm: — | EBA CA Gap: — | Staff Adj.: — | Staff CA Gap: 0.0 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** REER dynamics are largely determined by the HK dollar/US dollar peg and subdued inflation in Hong Kong SAR. In line with the US dollar, after appreciating in real effective terms by about 20 percent between 2012–17, the HK dollar depreciated by 1.9 percent in 2018 compared with the 2017 average. The weak side of the convertibility undertaking has been triggered several times since April 2018, prompting the HKMA to sell US dollars in the market.

**Assessment.** Based on elasticity estimates for similar economies and factoring in the uncertainties and variability of an offshore trading and financial center, the REER gap is assessed by staff to be between –5 and 5 percent.*

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** As a financial center, Hong Kong SAR has an open capital account. Nonreserve financial flows moved from sizable net inflows in 2017 to outflows of similar magnitude in 2018. The financial account is typically very volatile, reflecting financial conditions on the mainland, transmitted through growing cross-border financial linkages, as well as shifting expectations of US monetary policy and related arbitraging in the FX and rates markets.[2]

**Assessment.** Large financial resources and proactive financial supervision and regulation limit the risks from potentially volatile capital flows, as do deep and liquid markets. The greater financial exposure to mainland China could pose risks to the banking sector if mainland growth slows sharply and financial stress emerges in some key sectors, such as export-oriented manufacturing or real estate. However, given the high origination and underwriting standards that Hong Kong SAR banks have maintained, the credit risk appears manageable.

**FX Intervention and Reserves Level**

**Background.** Hong Kong SAR has a currency board arrangement. International reserves have been built up as the HK dollar was often pushed to the strong side of its trading range, particularly following the global financial crisis. The stock of reserves at end-2018 was equivalent to about 117 percent of GDP, lower than at end-2017 but still above its level at end-2015. Since April 2018, the HK dollar hit the lower range of the convertibility undertaking of 7.85 a few times, prompting the HKMA to sell US dollars in the market under the normal functioning of the LERS. As liquidity is drained from the system, short-term HK dollar money market interest rates will continue to rise gradually closing the gap with the LIBOR and reducing HK dollar depreciation pressure.

**Assessment.** Currently, reserves are adequate for precautionary purposes and should continue to evolve in line with the automatic adjustment inherent in the currency board system. Hong Kong SAR also holds significant fiscal reserves built up through a track record of strong fiscal discipline.

**The midpoint of the staff assessed REER gap is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.11. India: Economy Assessment

**Overall Assessment:** *The external sector position in 2018 was broadly in line with the level implied by fundamentals and desirable policies.* India's low per capita income, favorable growth prospects, demographic trends, and development needs justify running CA deficits. External vulnerabilities remain, as highlighted by bouts of turbulence in 2018. India's economic risks stem from volatility in global financial conditions and an oil price surge, as well as a retreat from cross-border integration. Progress has been made on FDI liberalization, whereas portfolio flows remain controlled. India's trade barriers remain significant.

**Potential Policy Responses:** Whereas the external position is broadly in line with fundamentals, measures to rein in fiscal deficits should be accompanied by efforts to enhance credit provision through faster cleanup of bank and corporate balance sheets and strengthening the governance of public banks. Improving the business climate, easing domestic supply bottlenecks, and liberalizing trade and investment will be important to help attract FDI, improve the CA financing mix, and contain external vulnerabilities. Gradual liberalization of portfolio flows should be considered, while monitoring risks of portfolio flows' reversals. Exchange rate flexibility should remain the main shock absorber, with intervention limited to addressing disorderly market conditions.

**Foreign Asset and Liability Position and Trajectory**

**Background.** As of end-2018, India's NIIP improved to –15.9 percent of GDP, from –17.3 percent of GDP at end-2017. Gross foreign assets and liabilities were 22.2 and 38.1 percent of GDP, respectively. The bulk of assets are in the form of official reserves and FDI, whereas liabilities include mostly other investments (39 percent), FDI (37 percent), portfolio equity (13 percent), and debt (10 percent). External debt amounted to some 20 percent of GDP, of which about half was denominated in US dollars and another 36 percent in Indian rupees. Long-term external debt accounted for about 80 percent of the total. Short-term external debt on a residual maturity basis stood at 43 percent of total external debt and 55.8 percent of FX reserves.

**Assessment.** With CA deficits projected to continue in the medium term, the NIIP-to-GDP ratio is expected to weaken marginally. The moderate level of foreign liabilities reflects India's gradual approach to capital account liberalization, which has focused mostly on attracting FDI. India's external debt is moderate compared with other emerging market economies, but rollover risks remain elevated in the short term.

| 2018 (% GDP) | NIIP: –15.9 | Gross Assets: 22.2 | Res. Assets: 14.5 | Gross Liab.: 38.1 | Debt Liab.: 18.3 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA deficit is estimated to have increased to 2.5 percent of GDP in fiscal year 2018/19 from 1.9 percent of GDP in the previous year, due to higher commodity prices and strong domestic demand in the first half of the fiscal year. Robust export growth continued, supported by partners' strengthening demand and rupee depreciation. Over the medium term, the CA deficit is expected to remain about 2½ percent of GDP.

**Assessment.** The EBA cyclically adjusted CA deficit stood at 2.5 percent of GDP in fiscal year 2018/19. The EBA CA regression estimates a norm of –3.4 percent of GDP for India in fiscal year 2018/19, with a standard error of 1.4 percent, thus implying an EBA gap of 0.9 percent. In staff's judgment, a CA deficit of about 2½ percent of GDP is financeable over time. Based on India's historical cash flow and capital inflow restrictions, global financial markets cannot be counted on to reliably finance a CA deficit above 3 percent of GDP. FDI flows are not yet sufficient to cover protracted and large CA deficits; portfolio flows are volatile and susceptible to changes in global risk appetite, as demonstrated in the taper tantrum episode and again in fall 2018. Based on the staff-assessed CA norm, the CA is in line with fundamentals and desired policies, with a CA gap range from –1.0 to 1.0 percent of GDP. Positive policy contributions to the CA gap stem from a negative credit gap and a relatively closed capital account, partly offset by a larger-than-desirable domestic fiscal deficit and a large decline in FX reserves.

| 2018 (% GDP) | Actual CA: –2.5 | Cycl. Adj. CA: –2.5 | EBA CA Norm: –3.4 | EBA CA Gap: 0.9 | Staff Adj.: –0.9 | Staff CA Gap: 0.0 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The average REER in 2018 depreciated by about 3.8 percent from its 2017 average. As of May 2019, the rupee had appreciated by about 7.7 percent in real terms compared with the average REER in 2018.

**Assessment.** The EBA REER Index and REER level models estimate a REER gap of 5.4 and 2.5 percent, respectively, for 2018. Meanwhile, the external stability approach estimates a REER gap of about –2.0 percent. Based on the staff-assessed CA gap, the REER gap is assessed to be in the range of –6 to 6 percent for fiscal year 2018/19.*

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** The sum of FDI, portfolio, and financial derivative flows on a net basis is estimated at 0.8 percent of GDP in fiscal year 2018/19, down from 2 percent in fiscal year 2017/18. Net FDI inflows remained unchanged at 1.3 percent of GDP in fiscal year 2018/19, despite investor-friendly reform efforts that could have attracted more investment. Bouts of both equity and debt outflows, especially in the spring and fall of 2018, brought net portfolio flows into negative territory (by 0.5 percent of GDP) in fiscal year 2018/19.

**Assessment.** Yearly capital inflows are relatively small, but, given the modest scale of FDI, flows of portfolio and other investments are critical to finance the CA. As evidenced by the episodes of external pressures, portfolio debt flows have been volatile, and the exchange rate has been sensitive to these flows and changes in global risk aversion. Attracting more stable sources of financing is needed to reduce vulnerabilities.

**FX Intervention and Reserves Level**

**Background.** The authorities responded to market pressure in fall 2018 with a combination of exchange rate flexibility and FX intervention. Spot foreign exchange sales were US$26 billion (1 percent of GDP) and net forwards decreased by US$31.5 billion in 2018. International reserves stood at $411.9 billion at end-March 2019, down by about $12.5 billion from March 2018. Reserve coverage currently is about 15.2 percent of GDP and about 6.7 months of prospective imports of goods and services.

**Assessment.** Reserve levels are adequate for precautionary purposes relative to various criteria. International reserves represent about 155 percent of short-term debt and 149 percent of the IMF's composite metric.[1]

**The midpoint of the staff assessed REER gap is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.12. Indonesia: Economy Assessment

**Overall Assessment:** *The external position in 2018 was assessed to be moderately weaker than implied by medium-term fundamentals and desirable policies.* Exchange rate flexibility and trade-related policy actions (import compression and export promotion) together with broadly stable (projected) commodity prices are expected to modestly reduce the current account deficit over the medium term. External financing appears sustainable, although the large share of foreign portfolio holdings makes the economy vulnerable to a sharp tightening of global financial conditions.

**Potential Policy Responses:** Improving Indonesia's external position requires boosting competitiveness through higher infrastructure and social spending while maintaining fiscal sustainability through the mobilization of revenues. In addition, structural policies are necessary to bolster global value chain participation, ease FDI and nontariff trade restrictions, and strengthen labor markets and worker skills (for example, streamlining stringent job protection and improving job placement services, vocational training, and overall education). Flexibility of the exchange rate and market-determined bond yields should continue to support external stability.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** At end-2018, Indonesia's NIIP stood at –30 percent of GDP, compared with –33 percent of GDP at end-2017 (and –39½ percent at end-2012). Gross external assets reached 33.3 percent of GDP (of which, close to 35 percent were reserve assets) and gross external liabilities, 63.8 percent of GDP. Indonesia's gross external debt was moderate at 36.2 percent of GDP at end-2018, of which 19 percent was denominated in rupiah and 87 percent was maturing after one year. About one-third of the government's external debt was denominated in rupiah.<br>**Assessment.** The level and composition of the NIIP and gross external debt indicate that Indonesia's external position is sustainable and subject to limited rollover risk, but nonresident holdings of rupiah-denominated government bonds, at 34 percent of the total stock (or 6.4 percent of GDP) at end-2018, combined with shallow domestic financial markets, make Indonesia susceptible to global financial volatility, higher US interest rates, and a stronger US dollar. Staff projections for the current account suggest that the NIIP position as a percent of GDP will be stable over the medium term. | | | | |
| 2018 (% GDP) | NIIP: –30.5 | Gross Assets: 33.3 | Res. Assets: 11.6 | Gross Liab.: 63.8 | Debt Liab.: 36.2 |

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| **Current Account** | **Background.** After narrowing since 2013, Indonesia's CA deficit increased to 3 percent of GDP in 2018, from a 1.6 percent deficit in 2017, driven by mainly by growing domestic demand and higher oil prices. The CA deficit is projected to narrow slightly to 2.9 percent in 2019 on the back of weaker import growth, in part due to the lagged effects of the sharp exchange rate depreciation since mid-2018 and lower oil prices. A gradual increase in manufacturing exports, underpinned by improved competitiveness and stronger demand from trading partners, should help limit the CA deficit over the medium term.<br>**Assessment.** Staff estimates a CA gap of –1.5 percent for 2018, consistent with an estimated cyclically adjusted CA balance of –3.3 percent of GDP and a staff-assessed norm of –1.8 percent of GDP.[1] Taking into account uncertainties in the estimation of the norm, the CA gap for 2018 is in the range of –3 percent to 0 percent of GDP.[2] The offsetting impact of domestic policy gaps suggests that addressing excess imbalances will require reforms to improve labor markets and competitiveness. The lagged effects of the weaker rupiah should help improve the CA deficit in the near term. | | | | | |
| 2018 (% GDP) | Actual CA: –3.0 | Cycl. Adj. CA: –3.3 | EBA CA Norm: –0.9 | EBA CA Gap: –2.4 | Staff Adj.: 0.9 | Staff CA Gap: –1.5 |

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| **Real Exchange Rate** | **Background.** The REER remained broadly stable between 2013 and 2017. In 2018, the average REER depreciated by 6.0 percent relative to the average of 2017 due to a depreciation of the nominal exchange rate by 7.1 percent from tighter global financial conditions that led to capital flow pressures. Estimates through May 2019 show that the REER has appreciated by 5.0 percent relative to the 2018 average.<br>**Assessment.** The EBA index and level REER models point to an REER gap of about –3.2 percent to –15.5 percent for 2018, with the change driven by the depreciation of the REER. Meanwhile, the CA gap estimate of –1.5 percent of GDP with standard elasticities and uncertainty ranges (± 5 percent), would indicate that the REER is overvalued in the range of 3 to 13 percent. Taking into account the depreciation in 2018, staff assesses the REER gap to be in the –9 to 1 percent range.* |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** In 2018, net capital and financial account inflows (2.5 percent of GDP) were sustained by net FDI inflows (1.4 percent of GDP), net portfolio inflows (0.9 percent of GDP), and net other investment inflows of 0.2 percent of GDP.<br>**Assessment.** Net and gross financial flows have been relatively steady since the global financial crisis despite some short periods of volatility. The contained CA deficit and strengthened policy frameworks, including exchange rate flexibility since mid-2013, have also helped reduce capital flow volatility. Continued strong policies focused on strengthening the fiscal position, keeping inflation in check, and easing supply bottlenecks would help sustain capital inflows in the medium term. |
| **FX Intervention and Reserves Level** | **Background.** Since mid-2013, Indonesia has had a more flexible exchange rate policy framework. Its floating regime has better facilitated adjustments in exchange rates to market conditions. At end-2018, reserves were US$120.6 billion (equal to 12 percent of GDP, about 118 percent of the IMF's reserve adequacy metric and about 6.4 months of prospective imports of goods and services), compared with US$130.2 billion at end-2017. The loss in international reserves reflects mainly FX intervention in response to the disorderly market conditions triggered by the tightening of global financial conditions last year. In addition, contingencies and swap lines amounting to about US$92.5 billion are in place.<br>**Assessment.** Whereas the composite metric may not adequately account for commodity price volatility, the current level of reserves (US$124.3 billion at end-April) should provide a sufficient buffer against a wide range of possible external shocks, with predetermined drains also manageable. FX intervention, while broadly appropriate last year, should continue to aim primarily at preventing disorderly market conditions, while allowing the exchange rate to adjust to external shocks. |

**The staff assessed REER gap of –4 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.13. Italy: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by fundamentals and desirable policies.* Nonetheless, policies to improve competitiveness are necessary to support growth, reduce high unemployment and public debt, and safeguard the external balance sheet.

**Potential Policy Responses:** Although the external position is in line with fundamentals, credible, growth-friendly, and inclusive fiscal consolidation is necessary to reduce external vulnerabilities and maintain investor confidence. Structural reforms, including to improve the wage bargaining mechanisms to better align wages with productivity at the firm level, as well as efforts to strengthen bank balance sheets, are also critical to improving competitiveness, boosting potential growth, and reducing vulnerabilities. The elements of this package of policies will likely have offsetting effects on the CA while being supportive of overall growth.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** Italy's NIIP reached –4.1 percent of GDP at end-2018, returning broadly to the level at end-2000 (–6 percent of GDP). Gross assets and liabilities, however, reached 153 and 157 percent of GDP, respectively, both about 55 percentage points higher than in 2000. TARGET2 liabilities rose from about 15 to 28 percent of GDP between end-2015 and end-2018, in part reflecting residents' net purchases of foreign assets and the creation of liquidity by the Bank of Italy's participation in the ECB's asset purchase program. Debt securities represent about three-quarters of gross external liabilities, half of which are owed by the public sector. Modest expected CA surpluses should continue to gradually improve the NIIP.<br>**Assessment.** Further strengthening of balance sheets would reduce vulnerabilities related to the high public debt and potential negative feedback loops between the debt stock and debt servicing costs, as well as between sovereign debt and the financial system. | | | | |
| 2018 (% GDP) | NIIP: –4.1 | Gross Assets: 152.5 | Debt Assets: 59.3 | Gross Liab.: 156.6 | Debt Liab.: 108.6 |

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| **Current Account** | **Background.** Italy's CA averaged –1¼ percent of GDP in the decade following euro adoption. Starting in 2013, it moved into balance; by 2017, it registered a multiyear-high surplus of 2.8 percent of GDP before declining slightly in 2018 as higher energy costs and weaker external demand reduced the trade surplus. About two-thirds of the improvement since 2013 was driven by Italy's growing trade surplus, supported initially by lower commodity prices and subsequently by a rebound in external demand. The rest was due to a higher income balance following the increase in residents' net purchases of foreign assets and a reduction of external liability payments, related not least to the impact of monetary policy. In terms of saving and investment, declining overall investment (partly due to weak credit growth) accounted for two-thirds of the improvement in the CA since 2010, with higher public saving contributing the rest.<br>**Assessment.** The cyclically adjusted CA is estimated at 2.2 percent of GDP in 2018, 0.1 percentage point below the EBA-estimated CA norm of 2.3 percent of GDP. Staff assesses a CA gap in the range of –1.1 to 0.9 percent of GDP. Italy's sizable and long-standing structural rigidities, however, hamper its ability to improve competitiveness (also reflected in negative residuals from the EBA CA model). | | | | | |
| 2018 (% GDP) | Actual CA: 2.6 | Cycl. Adj. CA: 2.2 | EBA CA Norm: 2.3 | EBA CA Gap: –0.1 | Staff Adj.: 0.0 | Staff CA Gap: –0.1 |

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| **Real Exchange Rate** | **Background.** From 2017 to 2018, both the CPI-based and ULC-based REER appreciated by 1.6 percent. As of May 2019, the REER had depreciated by 1.9 percent relative to the 2018 average. Stagnant productivity and rising labor costs led to a gradual appreciation of the REER since Italy joined the euro area, both in absolute terms and relative to the euro area average (by about 10 percent using ULC-based indices).<br>**Assessment.** The EBA level and index REER models suggest a modest overvaluation of 6.9 percent and 9.7 percent, respectively. This is generally consistent with, but slightly below, the persistent wage-productivity differentials vis-à-vis key partners, and it corresponds to a CA gap below the lower end of the staff-assessed CA gap range.[1] Taken together, staff assesses a REER gap of 0 to 10 percent. |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Portfolio and other investment inflows typically have financed the CA deficits of the past, despite a modest net FDI outflow, without much difficulty. Italy's financial account posted net outflows of 2.5 percent of GDP in 2018, reflecting residents' net purchases of foreign assets.<br>**Assessment.** While supported by monetary accommodation by the ECB, Italy remains vulnerable to market volatility, owing to the large refinancing needs of the sovereign and banking sectors and the potentially tight credit conditions from the still high stock of NPLs in the banking sector. |
| **FX Intervention and Reserves Level** | **Background.** The euro has the status of a global reserve currency.<br>**Assessment.** Reserves held by the euro area are typically low relative to standard metrics, but the currency is free floating. |

## Table 3.14. Japan: Economy Assessment

**Overall Assessment:** *The 2018 external position was broadly in line with the level implied by medium-term fundamentals and desirable policies.* A continued accommodative stance by the Bank of Japan is consistent with the objective of reflating the economy and needs to be accompanied by bold structural reforms and a credible and specific medium-term fiscal consolidation plan to maintain an external position consistent with medium-term fundamentals.

**Potential Policy Responses:** Ensuring that the external position remains in line with fundamentals requires a coordinated policy package that addresses domestic policy distortions with offsetting effects. Whereas fiscal consolidation should proceed in a gradual manner, it will need to be accompanied by a credible medium-term fiscal framework and structural reforms that support domestic demand. These include measures to boost wages, increase labor supply, reduce labor market duality, reduce barriers to entry in some industries, and accelerate agricultural and professional services sector deregulation.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP remained at about 60 percent of GDP over 2014–18, with assets reaching 182 percent and liabilities reaching 121 percent in 2018. In the medium term, the NIIP is projected to rise to about 68 percent with CA surpluses, before gradually stabilizing due to population aging. Japan holds the world's largest stock of net foreign assets, which at end-2018 was valued at US$3.03 trillion.<br>**Assessment.** Foreign asset holdings are diversified geographically and by risk classes. Portfolio investment accounts for 45 percent of total foreign assets, with 20 percent yen-denominated. However, with about half of portfolio investment denominated in US dollars, negative valuation effects could materialize in the event of yen appreciation against the US dollar. Liabilities' vulnerabilities are limited, with equity and direct investment accounting for 31 percent of total liabilities. The NIIP generated net annual investment income of 3.8 percent of GDP in 2018. The large positive NIIP in part reflects the accumulation of assets for old-age consumption, which is expected to be gradually unwound over the long term. |

| 2018 (% GDP) | NIIP: 61.0 | Gross Assets: 181.9 | Debt Assets: 87.7 | Gross Liab.: 120.9 | Debt Liab.: 79.6 |
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| **Current Account** | **Background.** Japan's CA surplus reflects high corporate gross saving exceeding domestic investment and a sizable income balance owing to its large NFA position. In line with growing national savings, the CA surplus has risen since 2014, reaching 4.2 percent of GDP in 2017 and 3.5 percent in 2018. The income balance continues to contribute most to the CA surplus, at 3.8 percent in 2018. While lower energy prices largely underpinned the 2014–17 CA balance increase, higher energy prices were an important driver of the decrease in the CA surplus in 2018—with the goods trade balance falling to 0.2 percent of GDP in 2018. The increase in exports in 2018 was more than offset by the increase in imports (largely due to higher energy prices). Over the medium term, the CA balance is projected to remain stable at about 3.6 percent of GDP.<br>**Assessment.** The 2018 CA assessment uses the EBA model, in which the estimated cyclically adjusted CA is 3.3 percent of GDP and the cyclically adjusted CA norm is estimated at 3.1 percent of GDP, with a standard error of 1.2 percent of GDP. Staff estimates a CA norm range between 1.9 and 4.3 percent of GDP. The 2018 CA gap midpoint is assessed to be 0.2 percent of GDP (with the CA gap range between –1.0 and 1.4), suggesting that the underlying CA is in line with the level consistent with fundamentals and desirable policies. The large unexplained portion of the EBA CA gap suggests that important bottlenecks to investment remain. |

| 2018 (% GDP) | Actual CA: 3.5 | Cycl. Adj. CA: 3.3 | EBA CA Norm: 3.1 | EBA CA Gap: 0.2 | Staff Adj.: 0.0 | Staff CA Gap: 0.2 |
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| **Real Exchange Rate** | **Background.** The 2018 average REER stands at its 2014 level, when it was assessed to be broadly in line with the level consistent with fundamentals and desirable policies. After appreciating during 2014–16, the average REER depreciated during 2016–18. In 2018, the average REER weakened by 0.8 percent relative to 2017 as a confluence of factors led to an overall stable REER, with earlier expectations of a more rapid pace of US monetary normalization on the one hand and speculation of earlier-than-expected normalization in Japan on the other (with 10-year Japanese government bond rates reaching a three-year high in October). Estimates through May 2019 show that the REER has appreciated by 2.9 percent relative to the 2018 average, although markets remain volatile, reflecting changes in global risk aversion and the monetary policy stances of key central banks.<br>**Assessment.** The EBA REER Index and Level models estimate the 2018 average REER to be 17 to 22 percent lower than the level consistent with fundamentals and desirable policies. However, the EBA REER gaps are unexplained by the models, partly because the REER models do not include Japan-specific factors that affect the REER, including the Japanese government bond–US Treasury spread, portfolio rebalancing, and temporary speculative positions vis-à-vis the yen. As a result, less weight is given to the EBA REER models. Using the staff-assessed 2018 EBA CA gap range as a reference and applying a staff-estimated semielasticity of 0.13 yields an indicative range for the 2018 REER gap of between –11 and 8 percent with a midpoint of –1.5 percent.* |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Portfolio outflows continued during most of 2018—registering a faster pace than in 2017—as institutional investors continued to diversify overseas (mostly to Europe) and FDI outflows continued. Net FDI and portfolio flows comprise the bulk of the 2018 financial account (2.7 and 1.8 percent of GDP, respectively), whereas other investments (net) recorded inflows (1.3 percent of GDP). Net short yen positions have prevailed since June 2018.<br>**Assessment.** Vulnerabilities are limited. (Inward investment tends to be equity-based, and the home bias of Japanese investors remains strong.) So far there have been no large spillovers from the Bank of Japan's yield curve control to financial conditions in other economies (interest rates, credit growth). If capital outflows from Japan accelerate, they could provide an offset to the effects of tighter domestic financial conditions in the region. |
| **FX Intervention and Reserves Level** | **Background.** Reserves are about 25 percent of GDP, on legacy accumulation. There has been no FX intervention in recent years.<br>**Assessment.** The exchange rate is free floating. Interventions are isolated (last occurring in 2011), intended to reduce short-term volatility and disorderly exchange rate movements. |

**The staff assessed REER gap of –1.5 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.15. Korea: Economy Assessment

**Overall Assessment:** *The external position in 2018 was assessed to be moderately stronger than warranted by medium-term fundamentals and desirable policies.* This reflects excessive saving, including for precautionary purposes, as well as relatively weak private investment.

**Potential Policy Responses:** Significantly more expansionary fiscal policy to boost domestic demand in the short and longer term will help to reduce imbalances, given the substantial fiscal space. This will also contribute to a recalibration of the policy mix, thereby gradually reducing reliance on monetary policy. Structural policies should also play an important role by facilitating rebalancing of the economy toward services and boosting domestic demand growth. These include strengthening the social safety net to lessen incentives for precautionary savings and addressing bottlenecks to investment. The exchange rate should remain market-determined, with intervention limited to addressing disorderly market conditions.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP has been positive since 2014 and rising gradually since 2010. In December 2018, it reached 24 percent of GDP, with gross liabilities totaling 64 percent of GDP, of which 26 percent of GDP was gross external debt.<br>**Assessment.** The positive NIIP strengthens external sustainability and should increase further as the CA is projected to remain in surplus. Risks from currency mismatches are lower than before the global financial crisis, as short-term external liabilities of banks, which rose to relatively high levels before the global financial crisis, declined back to below precrisis levels. | | | | |
| 2018 (% GDP) | NIIP: 24.0 | Gross Assets: 88.3 | Debt Assets: 26.0 | Gross Liab.: 64.3 | Debt Liab.: 23.9 |
| **Current Account** | **Background.** The CA surplus narrowed further in 2018, from the peak of 7.6 percent of GDP in 2015. This decline from 4.9 percent of GDP in 2017 to 4.4 percent in 2018 mainly reflected (1) a decline in the goods trade balance, as the terms of trade worsened substantially; and (2) a decline in the income balance, reflecting in part increased dividend payouts from firms. The service balance increased owing to a less negative transportation balance and a rebound in tourist arrivals. From an investment-saving perspective, the narrowing of the CA is explained by larger fall in the savings rate than in the investment-to-GDP ratio.<br>**Assessment.** The EBA model estimates the 2018 cyclically adjusted CA surplus to be 4.2 percent of GDP, and the CA norm to be in the range 1.7 to 3.7 percent of GDP. In line with the EBA estimates, staff assesses the CA gap midpoint of 1.4 percent of GDP with a range of 0.4 to 2.4 percent of GDP. Identified policy gaps from significantly tighter than desired fiscal policy and relatively low social spending are key contributors to the CA gap. The latter acts to increase precautionary savings, and thus the CA, through lack of access to social safety net. | | | | |
| 2018 (% GDP) | Actual CA: 4.4 | Cycl. Adj. CA: 4.2 | EBA CA Norm: 2.7 | EBA CA Gap: 1.4 | Staff Adj.: 0.0 | Staff CA Gap: 1.4 |
| **Real Exchange Rate** | **Background.** The REER appreciated by 1.0 percent in 2018, thus continuing a gradual appreciating trend since 2013 (up about 10 percent since 2013). As of May 2019, the REER weakened by about 5.1 percent relative to the 2018 average.<br>**Assessment.** The EBA REER regression models suggest gaps ranging from –5.4 (for the REER Level model) and 3.8 (for the REER Index model). Staff assesses the REER gap in 2018 to be in the range of –7 to –1 percent, which is derived by applying the estimated semielasticity of 0.36 to the staff-assessed CA gap. | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Net capital outflows have been relatively stable over the medium term despite significant shifts in composition. In the 2018, they decreased to 4.1 percent of GDP from 5.2 percent of GDP in 2017. Nonresident portfolio inflows surged to US$21.1 billion as foreigners continued to sharply expand purchases of debt securities. On the other hand, nonresidents sold US$6 billion worth of equities (on a net basis), contributing to a correction in equity prices of about 20 percent in 2018.<br>**Assessment.** The present configuration of net and gross capital flows appears sustainable over the medium term. Korea has demonstrated the capacity to absorb short-term capital flow volatility in magnitudes that occurred over the last few years. | | | | |
| **FX Intervention and Reserves Level** | **Background.** Korea has a floating exchange rate. FX intervention appears to have been two-sided since early 2015, based on staff estimates. Staff estimates that total net intervention in 2018 was limited, with spot interventions roughly offsetting the change in the forward position. Reserves increased steadily from 2009 through mid-2014, remained broadly stable through 2016, and have increased slightly since. In 2018, reserves increased by US$14.4 billion, including valuation effects. At end-2018, total reserves stood at US$403 billion (23.4 percent of GDP).<br>**Assessment.** Intervention appears to have been limited to addressing disorderly market conditions since 2015. Foreign exchange reserves were about 106 percent of the IMF's composite reserve adequacy metric at end-2018, which provides a sufficient buffer against a wide range of possible external shocks. According to staff estimates net intervention since 2016 has been slightly negative. | | | | |

## Table 3.16. Malaysia: Economy Assessment

**Overall Assessment:** *The external position in 2018 was stronger than implied by fundamentals and medium-term desirable policies.* Over the past few years Malaysia's growth model has become increasingly driven by private domestic demand, and its CA surplus has narrowed significantly. A further decline in the surplus is projected over the medium term on the back of policies supporting continued robust domestic private demand.

**Potential Policy Responses:** The planned medium-term fiscal consolidation should be accompanied by policies to strengthen the social safety net and continue to encourage private investment. Fiscal spending should be reoriented to accommodate further improvements in social protection and public health care. At the same time, continued efforts are needed to improve the quality of public infrastructure (supported by enhanced public finance management) and to address structural impediments holding back private investment. Specifically, efforts to improve the quality of education, reduce skills mismatch, and encourage female labor participation would help to support private investment and productivity.

Continued exchange rate flexibility is necessary to facilitate external adjustment, with intervention limited to addressing disorderly market conditions.

**Foreign Asset and Liability Position and Trajectory**

**Background.** Malaysia's NIIP has averaged about 1 percent of GDP since 2010, with changes in recent years reflecting both capital flows and valuation effects. As of end-2018, the NIIP fell to about –5.2 percent of GDP (compared with –2 percent of GDP at end-2017), with higher net direct investment and other investment liabilities more than offsetting the reduction in net portfolio capital liabilities.[1] Official reserves contribute most to net assets, whereas net portfolio liabilities contribute most to net liabilities. Total external debt, measured in US dollars, was about 62.4 percent of GDP at end-2018 (compared to 70 percent of GDP at end-2017), of which about two-thirds was in foreign currency and 44 percent in short-term debt, by original maturity.

**Assessment.** The NIIP should rise gradually over the medium term reflecting projected moderate CA surpluses. Malaysia's balance sheet strength, along with exchange rate flexibility and increased domestic investor participation, would help support resilience to a variety of shocks, including outflows associated with external liabilities.[2]

| 2018 (% GDP) | NIIP: –5.2 | Gross Assets: 113.6 | Res. Assets: 28.3 | Gross Liab.: 118.9 | Debt Liab.: 51.0 |
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**Current Account**

**Background.** Malaysia's CA surplus declined by about 7 percentage points of GDP between 2010 and 2017, driven mainly by lower national savings and a modest rise in investment. In 2018, the CA surplus further declined to 2.1 percent of GDP (from 3 percent in 2017), despite a higher oil balance. The goods balance was in surplus, whereas the services and income accounts registered larger deficits.

**Assessment.** The EBA CA regression estimates the 2018 CA norm at –0.2 percent of GDP after cyclical and multilateral consistency adjustments. The 2018 cyclically adjusted CA is estimated at about 2.3 percent of GDP. This leads to an estimated 2018 CA gap of 2.4 percent of GDP (about ±1 percent of GDP). Unidentified residuals explain the entire CA gap, potentially reflecting structural distortions and country-specific factors not included in the model. Identified domestic policy gaps have an offsetting effect. Whereas low public health care spending contributes to the excess surplus, FX intervention that helped to prevent further currency depreciation reduces the surplus. The CA balance is expected to remain in surplus, albeit a lower one, over the medium term, driven by lower private sector net saving.[3]

| 2018 (% GDP) | Actual CA: 2.1 | Cycl. Adj. CA: 2.3 | EBA CA Norm: –0.2 | EBA CA Gap: 2.4 | Staff Adj.: 0.0 | Staff CA Gap: 2.4 |
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**Real Exchange Rate**

**Background.** In 2018, the average REER appreciated by 4.2 percent. However, it had depreciated nearly 2.4 percent since April 2018. The REER is about 10 percent lower than its 2013 level, reflecting the impact on the NEER from capital outflows and terms-of-trade shocks, with the latter contributing to a decline in the CA surplus. Through May 2019, the REER has depreciated by 2.0 percent relative to the 2018 average.

**Assessment.** The EBA REER Index and Level models estimate Malaysia's REER to be undervalued by about 25 and 37 percent, respectively. However, the usual macroeconomic stresses associated with such undervaluation are absent (for example, high core inflation, sustained wage pressure, or significant FX reserve buildup). Consistent with the assessed CA gap, staff assesses the REER gap in 2018 to be –5 percent (± about 2 percent).

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Since the global financial crisis, Malaysia has experienced periods of significant capital flow volatility, largely driven by portfolio flows in and out of the local-currency debt market. Following the tightening of global financial conditions and general elections in spring 2018, portfolio outflows again intensified, although they have recovered somewhat since late 2018. Since late 2016, the Financial Markets Committee has implemented measures to develop the onshore FX market.[4]

**Assessment.** Continued exchange rate flexibility and macroeconomic policy adjustments are necessary to manage capital flow volatility. Capital flow management measures should be gradually phased out, with due regard for market conditions.

**FX Intervention and Reserves Level**

**Background.** Malaysia faced significant reserve losses between 2014 and 2016 and witnessed an increase of nearly US$8 billion in 2017. Reserves were generally unchanged in 2018, although it masked intrayear volatility. After increasing by US$7.1 billion through end-April 2018, reserves fell by US$8.1 billion during the remainder of the year, reaching US$101.4 billion as of end-2018.

**Assessment.** Under the IMF's composite reserve adequacy metric (ARA),[5] reserves remain broadly adequate. Gross official reserves are about 108 percent of the ARA metric as of end-2018, but reserves adjusted for net forward positions are below 100 percent of the ARA metric. Given limited reserves and the increased hedging opportunities since 2017, FX interventions should be limited to preventing disorderly market conditions. In case of an inflow surge, some reserve accumulation would be appropriate to increase the reserve coverage ratio.

## Table 3.17. Mexico: Economy Assessment

**Overall Assessment:** *In 2018, the external sector position was broadly in line with the level implied by medium-term fundamentals and desirable policies.* The CA deficit widened slightly, amid uncertainty about future trade relations with the United States and the Mexican elections, as well as significant exchange rate volatility.

**Potential Policy Responses:** Despite the current absence of external imbalances, further structural reforms to improve competitiveness and the investment climate will be essential for boosting growth and exports while also maintaining external sustainability in the medium and long term. To this effect, the commitment to maintain the public sector borrowing requirement at or below 2.5 percent of GDP will help to safeguard fiscal and external sustainability, although efforts to boost non-oil tax revenue are necessary to provide space for much-needed public investment.
The floating exchange rate should continue to serve as the main shock absorber, with FX interventions used to prevent disorderly market conditions. The IMF Flexible Credit Line provides an added buffer against global tail risks.

**Foreign Asset and Liability Position and Trajectory**

**Background.** Mexico's NIIP was –46 percent of GDP in 2018 (gross foreign assets and liabilities were 46.7 percent and 93.0 percent of GDP, respectively). Over the past five years, the NIIP has remained relatively stable in the range of –46 to –51 percent of GDP—with negative balance of payments flows largely compensated for by exchange rate and other valuation effects—and is projected to remain broadly stable through 2024. In 2018, foreign assets mainly consisted of direct investment (17 percent of GDP) and reserves (14 percent of GDP), whereas foreign liabilities were mostly FDI (45 percent of GDP) and portfolio investment (40 percent of GDP). Gross public sector external debt stood at 25 percent of GDP, of which about one-third was holdings of local currency government bonds and the remainder was mostly denominated in US dollars.

**Assessment.** Whereas the NIIP is sustainable, and the local currency denomination of a large share of foreign public liabilities reduces foreign exchange risks, the large gross foreign portfolio liabilities holdings could be a source of vulnerability in case of global financial volatility. Exchange rate vulnerabilities are also moderate as most Mexican firms with FX debt have natural hedges and actively manage their FX exposures.

| 2018 (% GDP) | NIIP: –46.4 | Gross Assets: 46.7 | Res. Assets: 14.4 | Gross Liab.: 93.0 | Debt Liab.: 37.4 |
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**Current Account**

**Background.** In 2018, the CA deficit widened slightly to 1.8 percent of GDP (1.6 percent cyclically adjusted), from 1.7 percent in 2017, after having gradually narrowed from 2.6 percent of GDP in 2015 driven by an improved non-oil trade balance. Over the medium term, a broadly stable CA deficit at current levels is projected, as a stronger oil balance broadly offsets widening primary income deficits.

**Assessment.** The EBA model estimates a cyclically adjusted CA norm of –2.6 percent of GDP in 2018.[1] This implies a CA gap of 1.0 percent of GDP in 2018, with an estimated policy gap of 0.7 percent of GDP. Staff estimates a similar CA gap within the range of 0.0 and 2.0 percent of GDP.

| 2018 (% GDP) | Actual CA: –1.8 | Cycl. Adj. CA: –1.6 | EBA CA Norm: –2.6 | EBA CA Gap: 1.0 | Staff Adj.: 0.0 | Staff CA Gap: 1.0 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The free-floating exchange rate continued to fulfill its role as a key shock absorber in 2018. It fluctuated notably during the year, reflecting periods of heightened uncertainty related to an unsettled global environment, NAFTA-related uncertainty, and the Mexican elections. The average REER in 2018 was broadly unchanged relative to the 2017 average. While subject to significant volatility, by May 2019 the REER was about 4.3 percent stronger than its 2018 average.

**Assessment.** The EBA REER Level model estimates an undervaluation of 9.5 percent in 2018, whereas the REER Index model yields a higher undervaluation (21.0 percent). Staff put less weight on the REER index approach as it has implied a large and persistent undervaluation of the peso for most of the sample period. The external sustainability approach suggests a 3.3 percent undervaluation. Considering all estimates and the uncertainties around them, staff's assessment is based on the EBA CA model gap (applying a semielasticity of 0.16) and estimates Mexico's REER gap to be in the range of –14 to 2 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** During 2010–14, a large share of capital inflows went into purchases of locally issued government paper and other portfolio investments. In 2015–18, gross portfolio inflows slowed markedly. In 2018, net inflows into the private sector turned negative, including due to high uncertainty from domestic and global developments. EPFR bond and equity flows turned negative in the second half of 2018, though they remained positive for the year overall. Going forward, the oil auctions completed since the start of the energy reforms are expected to support higher FDI, whereas portfolio inflows are unlikely to return to the previous high growth rates.

**Assessment.** The long average maturity of sovereign debt and the high share of local currency financing reduce the exposure of government finances to depreciation risks. The banking sector is well capitalized and liquid and assessed to be resilient to large shocks. Nonfinancial corporate debt levels are low and foreign exchange risks generally covered by natural and financial hedges. Nonetheless, the strong presence of foreign investors leaves Mexico exposed to greater risk of capital flow reversals and risk premium increases. The authorities have refrained from capital flow management measures. Capital flow risks are also mitigated by prudent macroeconomic policies.

**FX Intervention and Reserves Level**

**Background.** The central bank remains committed to a free-floating exchange rate, which has been the key shock absorber, whereas discretionary intervention is used solely to prevent disorderly market conditions. In the past, the central bank built up reserves primarily through purchases of the net foreign currency proceeds of the state oil company, which have declined substantially, and occasionally through auctions.[2] In 2018, no new NDF sales or other discretionary interventions took place.[3] At end-2018, FX reserves increased to US$176.4 billion (14.5 percent of GDP) from US$175.4 at end-2017.

**Assessment.** At 117 percent of the Assessing Reserve Adequacy metric at end-2018 and 234 percent of short-term debt (at remaining maturity), the current level of foreign reserves remains adequate. Staff recommends that the authorities continue to maintain reserves at an adequate level over the medium term. The Flexible Credit Line arrangement has been an effective complement to international reserves, providing protection against global tail risks.

## Table 3.18. Netherlands: Economy Assessment

**Overall Assessment:** *The external position in 2018 was substantially stronger than the level consistent with medium-term fundamentals and desirable policies.* The Netherlands' status as a trade and financial center and natural gas exporter makes an external assessment more uncertain than usual.

**Potential Policy Responses:** Implementation of the envisaged expansionary fiscal policy and use of the additional fiscal space under the Medium-Term Objective over the medium term will help support domestic demand and contribute to reducing excess external imbalances. In addition, reforms aimed at supporting household and small and medium-sized enterprise rebalancing are necessary to encourage investment and should be complemented by an expansion of direct support to research and development, and public investment in digitalization and lifelong learning.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The Netherlands' NIIP reached 66.7 percent of GDP at the end of 2018 (with gross assets and liabilities totaling 1,062 and 995 percent of GDP, respectively), rising from an almost balanced NIIP at end-2009. The largest component of the NIIP comes from the net FDI stock, about €943 billion (122 percent of GDP) at the end of 2018. The Netherlands reported the largest inward and outward FDI positions in the world at end-2017, according to the latest Coordinated Direct Investment Survey. The United States, Luxembourg, and the United Kingdom are the top three partner countries, with gross bilateral stock positions close to €2.2, €1.4, and €1.4 trillion, respectively. TARGET2 assets of the Eurosystem are estimated at about €100 billion. Over the medium term, the NIIP is expected to continue growing to above 100 percent of GDP, in line with projected sizable CA surpluses.

**Assessment.** The Netherlands' safe-haven status and its sizable foreign assets limit risks from its large foreign liabilities.

| 2018 (% GDP) | NIIP: 66.7 | Gross Assets: 1,061.9 | Debt Assets: 205.7 | Gross Liab.: 995.2 | Debt Liab.: 275.8 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA has been in surplus since 1981—a reflection of a positive goods and services balance, largely vis-à-vis EU trading partners. In 2018, the CA surplus increased to 10.8 percent of GDP (11 percent cyclically adjusted), driven by continued strong net exports, whereas the primary income balance is low despite the large NIIP, reflecting a dominant role of multinationals. Nonfinancial corporate net saving (that is, gross saving minus domestic business investment) has been the main driver of the surpluses since 2000, with large corporate savings financing substantial FDI outflows. Household net saving (that is, gross saving minus residential investment) only contributes a small part of the CA surpluses, reflecting offsetting high mandatory contributions to the second-pillar pension funds and high real estate investment. The Netherlands' status as a trade and financial center and natural gas exporter likely contributes to the strong structural position.

**Assessment.** The EBA CA model estimates a CA norm of 3.3 percent of GDP and a CA gap of 7.7 percent of GDP in 2018, with an unexplained residual of 6.2 percent of GDP.[1] The large unexplained residual primarily reflects the high gross saving of Netherlands-based multinationals, a fraction of which may reflect measurement errors or biases as official statistics may overstate the net accumulation of wealth by Dutch residents. However, at this stage, data constraints related to the complexity of corporate and ownership structures prevent proper quantification. Taking these factors into account, staff assesses the norm in a range of 1.3 to 5.3 percent of GDP, and a corresponding CA gap of 4.2 to 8.2 percent of GDP. The CA gap is expected to narrow moderately over the medium term, supported by continued strong domestic demand and expedited phasing-out of gas production.

| 2018 (% GDP) | Actual CA: 10.8 | Cycl. Adj. CA: 11.0 | EBA CA Norm: 3.3 | EBA CA Gap: 7.7 | Staff Adj.: –1.5 | Staff CA Gap: 6.2 |
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**Real Exchange Rate**

**Background.** The annual average CPI-based REER appreciated about 2.0 percent, whereas the average ULC-based REER depreciated by about 0.5 percent in 2018. The REER appreciation was largely driven by the euro appreciation (about 1.8 percent), whereas the Dutch CPI and ULC grew more slowly than its trading partners'. As of May 2019, the REER was unchanged relative to the 2018 average.

**Assessment.** The EBA REER models indicate an overvaluation between 2.2 percent (level model) and 14.5 percent (index model) in 2018, largely attributable to unexplained residuals. The staff-assessed CA gap implies a REER undervaluation of about 8.6 percent (assuming a semielasticity of 0.72). Taking into account all estimates and the uncertainty surrounding the EBA REER results, staff assesses that the REER remained undervalued by about 5.8 to 11.4 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Net FDI and portfolio outflows dominate the financial account. FDI outflows are driven by the investment of corporate profits abroad, largely by multinationals. On average, gross FDI outflows largely match corporate profits.[2]

**Assessment.** The strong external position limits vulnerabilities from capital flows. The financial account is likely to remain in deficit as long as the corporate sector continues to invest substantially abroad.

**FX Intervention and Reserves Level**

**Background.** The euro is a global reserve currency.

**Assessment.** Reserves held by the euro area are typically low relative to standard metrics, but the currency is free floating.

## Table 3.19. Poland: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with that suggested by medium-term fundamentals and desirable policies.* Increased absorption of EU funds, continued buoyant private consumption, and weaker external demand returned the CA to a small deficit in 2018. Over the medium term, the CA deficit is expected to widen gradually, reflecting further declines in government and household net saving rather than a more desirable increase in private investment, which has been persistently low.

**Potential Policy Responses:** Policies should aim at boosting private investment and productivity while restraining fiscal current spending. Therefore, focus should be given to structural reforms aimed at removing existing barriers to private investment, facilitating access to skilled labor, enhancing the predictability of policies affecting firms, and providing a level playing field for all investors, including by protecting the rights of minority shareholders and ensuring competition. Front-loaded fiscal consolidation can support these medium-term objectives, although room will need to be made for priority spending, especially for health care and public investment, as EU funds are gradually reduced.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP is estimated to have reached –59 percent of GDP in 2018, broadly in line with the average level of recent years. Both gross assets and liabilities declined (to 48 percent of GDP and 107 percent of GDP, respectively). Inward FDI (both equity and debt), which accounts for about 46 percent of gross external liabilities, is diversified across sectors and source countries. Whereas gross external debt is sizable (62 percent of GDP at end-2018), more than a quarter corresponds to liabilities to direct investors. The share of short-term debt (at remaining maturity) is relatively high (29 percent of total gross debt), but non-FDI short-term debt is much lower at 17 percent of total gross external debt (11 percent of GDP). Over the medium term, the negative NIIP position is expected to narrow, consistent with Poland's ongoing income convergence.<br>**Assessment.** Whereas sizable external debt, including short-term debt, presents a vulnerability, rollover risk is mitigated by the large share of debt FDI, which tends to be rolled over automatically. Sizable reserves also mitigate any residual liquidity risk related to short-term debt (gross reserves at end-2018 were about 187 percent of non-FDI short-term debt at remaining maturity). |

| 2018 (% GDP) | NIIP: –58.8 | Gross Assets: 48.1 | Res. Assets: 20.1 | Gross Liab.: 106.9 | Debt Liab.: 45.1 |
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| **Current Account** | **Background.** The CA has improved significantly since the global financial crisis, reaching close to balance during 2015–17 on higher goods and services balances, notwithstanding large and rising primary income deficits. Low investment and rising saving by the corporate sector (which reached 5 percent of GDP in recent years) have been partly offset by (declining) net borrowing by households and the government. In 2018, Poland's CA returned to a small deficit of 0.7 percent of GDP on slower external demand, increased absorption of EU funds, and buoyant private consumption. Higher oil prices and larger remittance outflows by foreign workers also reduced the CA. Under the baseline, the CA deficit relative to GDP is expected to widen further on declining government and household saving.<br>**Assessment.** For 2018, the EBA model estimates a cyclically adjusted CA deficit of 0.6 percent of GDP and a CA norm of –2.3 percent of GDP. The resulting EBA gap of 1.7 percent of GDP includes identified policy gaps (1.0 percent of GDP). However, given Poland's need to reduce its large negative NIIP position to safer levels over the next five years (that is, to 45 percent of GDP, which is the level consistent with that of other EU member countries after controlling for per capita income) a CA deficit of 1.7 percent of GDP would be more appropriate. As such, after applying a 0.8 percentage point adjustment to the norm, staff assesses the CA to have been broadly in line with fundamentals and medium-term policies in 2018, with a CA gap of 0.9 (±1) percent of GDP.[1,2] |

| 2018 (% GDP) | Actual CA: –0.7 | Cycl. Adj. CA: –0.6 | EBA CA Norm: –2.3 | EBA CA Gap: 1.7 | Staff Adj.: –0.8 | Staff CA Gap: 0.9 |
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| **Real Exchange Rate** | **Background.** The REER appreciated in 2017 (by 3.4 percent) and again marginally (1.7 percent) in 2018. In nominal terms, the zloty appreciated by about 4½ percent against the dollar (annual average) and was stable against the euro in 2018. Between end-2018 and May 2019, the zloty depreciated by 0.1 percent against the dollar and by 1 percent against the euro.<br>**Assessment.** The REER index model suggests a gap of –2.7 percent.[3] Overall, staff assesses, based on the REER model and the CA gap, that Poland's REER gap in 2018 was in the range of –5 to 0 percent.* |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** The capital account is dominated by inflows of EU funds for the financing of investment projects. In the financial account, net FDI inflows increased significantly in 2018, on account of smaller foreign placement of FDI assets. Net issuance of government debt declined considerably in recent years as the fiscal position improved.<br>**Assessment.** The sizable foreign holdings of (both zloty- and FX-denominated) government debt securities (about 49 percent of total; 25 percent of GDP) suggests a potential vulnerability. This share has been declining since 2016 as domestic banks have increased their holdings in response to the bank asset tax, which exempts government bonds. The diversified foreign investor base is another mitigating factor. |
| **FX Intervention and Reserves Level** | **Background.** Gross international reserves were stable in 2018 and reached US$117 billion at year-end. Net reserves, which exclude the National Bank of Poland's (NBP's) repo operations (part of its reserve management strategy) from gross reserves, increased marginally to about US$98 billion at end-2018, reflecting net inflows of EU funds. This is consistent with the NBP's strategy of building an adequate precautionary reserve buffer. The zloty is a free-floating currency, and the NBP does not intervene.<br>**Assessment.** Standing at 97 percent of the IMF's composite reserve adequacy (ARA) metric in 2018, net reserves remain adequate to insulate against external shocks and disorderly market conditions. Gross reserves were about 115 percent of the ARA metric. |

**The staff assessed REER gap of –2.5 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.20. Russia: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately stronger than that suggested by fundamentals and desirable policies.* Favorable commodity prices have boosted exports, whereas worsening geopolitical tensions weakened the exchange rate and contained imports. As a result, the CA surplus reached a historical high. In the meantime, uncertainty about sanctions has weighed on capital flows and complicates the external sector assessment.

**Potential Policy Responses:** Fiscal policy should continue operating within the parameters of the new fiscal rule to reduce the impact of oil price volatility on the non-oil sector while rebalancing government expenditure toward health, education, and infrastructure in the medium term. Greater focus should be given to structural reforms aimed at improving the business climate and boosting private sector investment, especially in the non-oil sector. Both the reorientation of fiscal expenditure to key areas and an increase in private sector investment will raise Russia's growth potential while bringing the external position into balance.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP rose to US$370.9 billion at end-2018, which at 22 percent of GDP is marginally higher than in 2017 and well above the near balance net stock position in 2010. Gross assets stood at 81 percent of GDP, while liabilities (53 percent equity and 47 percent debt) declined from 68 percent of GDP in 2017 to 59 percent of GDP on private sector deleveraging. Debt liabilities to nonresidents, three-quarters of which are in foreign currencies, declined from 32 percent of GDP in 2017 to 28 percent of GDP by end-2018. Nonresidents have also cut their holdings of ruble-denominated government debt to about 25 percent of the total stock from a peak of 34.5 percent in 2018:Q1 due to heightened geopolitical tensions.[1] There are no obvious maturity mismatches between the gross asset and liability positions. Historically, the NIIP position has not kept pace with CA surpluses due to unfavorable valuation changes and the treatment of "disguised" capital outflows.[2]

**Assessment.** The projected CA surpluses suggest that Russia will see a gradual rise of its positive NIIP, lowering risks to external stability. Moreover, official external assets have been increasing rapidly since the introduction of the new fiscal rule, despite the temporary suspension of the associated FX purchases between August 2018 and January 2019. The recent external deleveraging by the private sector further reduced risks.

| 2018 (% GDP) | NIIP: 22.4 | Gross Assets: 80.9 | Res. Assets: 28.3 | Gross Liab.: 58.5 | Debt Liab.: 18.9 |
|---|---|---|---|---|---|

**Current Account**

**Background.** On the back of strong energy exports and moderate import growth, the CA balance reached 6.9 percent of GDP in 2018, the highest level in more than a decade. However, the nonenergy CA remains in deficit (8.6 percent of GDP in 2018), reflecting relatively weak competitiveness in the nonenergy sector. In the medium term, the CA surplus is expected to taper off to about 3 percent of GDP on moderating oil prices and a pickup in imports.

**Assessment.** The EBA CA model yields a norm for 2018 of 3.1 percent of GDP, compared with a cyclically adjusted CA surplus of 6.6 percent of GDP. This implies an EBA CA gap of 3.5 percent of GDP, for which identified policies contributed 2.8 percent of GDP, mainly reflecting the lower-than-desirable health spending and the large fiscal surplus in 2018. However, given that the EBA model may be underestimating the cyclical effects related to the oil price increase in 2018, staff assesses the CA gap to be lower and about 1.6 percent of GDP in 2018, with a confidence interval between 0.6 and 2.6 percent of GDP. The large uncertainty also reflects difficulties in estimating the impact and duration of sanctions (protracted sanctions could lead to higher precautionary savings, lower investment, and a higher CA norm).

| 2018 (% GDP) | Actual CA: 6.9 | Cycl. Adj. CA: 6.6 | EBA CA Norm: 3.1 | EBA CA Gap: 3.5 | Staff Adj.: –1.9 | Staff CA Gap: 1.6 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The REER depreciated by 7.6 percent in 2018, despite higher oil prices, mainly reflecting sanctions, both those imposed in 2018 and the threat of new measures. As of May 2019, the ruble has appreciated by 3.4 percent in real terms relative to the 2018 average.

**Assessment.** EBA Level and Index REER models indicate an undervaluation of 20 percent and 15 percent, respectively. However, both approaches generate large residuals (about –10 percent). Among the model determinants, the most important contributor to undervaluation is health expenditure. Using an elasticity parameter of 0.27, staff assesses that the 2018 REER was undervalued by between 2 and 10 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Net private capital outflows continued in 2018 (lower net liabilities generated an outflow of US$38 billion, and the net acquisition of financial assets resulted in an outflow of US$39 billion). In the banking sector, outflows mainly took the form of a reduction in foreign liabilities, whereas the nonbanking private sector built up foreign assets during this period. Sanctions and the projected moderation of oil prices are expected to weigh on flows over the medium term.

**Assessment.** Whereas Russia is exposed to risks of continued outflows due to geopolitical uncertainties, the large FX reserves and the floating exchange rate regime provide substantial buffers to help absorb external shocks.

**FX Intervention and Reserves Level**

**Background.** Since the floating of the ruble in November 2014, FX interventions have been limited. International reserves rose to US$469 billion (more than 16 months of imports) by end-2018.

**Assessment.** International reserves at end-2018 were equivalent to 275 percent of the IMF's reserve adequacy metric, considerably above the adequacy range of 100 to 150 percent. Taking into account Russia's vulnerability to oil price shocks and sanctions, an additional commodity buffer of $65 billion is appropriate, translating into a ratio of reserves to the buffer-augmented metric to 204 percent. The ratio remains above the adequacy level but is justifiable given the high degree of geopolitical uncertainty. Large FX interventions should be limited to episodes of market distress.

## Table 3.21. Saudi Arabia: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately weaker than the level consistent with desirable medium-term fiscal policies.* The pegged exchange rate provides Saudi Arabia with a credible policy anchor. Given the close link between the fiscal and external balance and the structure of the economy, with exports dominated by oil and oil-related products and limited substitutability between imports and domestically produced goods, external adjustment will be driven primarily by fiscal policy.

The external balance sheet remains very strong. Reserves remain very comfortable when judged against standard IMF metrics, although external savings are not sufficient from an intergenerational equity perspective. Reserves are expected to decline over the medium term as the CA moves to broad balance and investments overseas by public sector institutions continue.

**Potential Policy Responses:** Fiscal consolidation is needed to strengthen the CA and increase saving for future generations. Fiscal adjustment should be based on further energy price reforms, non-oil revenue measures, expenditure restraint, and increased efficiency of spending, supported by reforms to strengthen the fiscal framework. Structural reforms that help diversify the economy and boost the non-oil tradables sector over the medium term can also support a stronger external position over the long term.

**Foreign Asset and Liability Position and Trajectory**

**Background.** Net external assets are estimated at 86 percent of GDP at end-2018, down from 91 percent of GDP in 2017 and 105 percent in 2015.[1] Projections suggest the NIIP-to-GDP ratio will increase slightly over the medium term (to about 91 percent of GDP by 2024) as the CA remains in surplus in the near term and moves to broad balance by 2024. No details are available on the composition of external assets.

**Assessment.** The external balance sheet remains very strong. Substantial accumulated assets represent both savings of exhaustible resource revenues for future generations and protection against vulnerabilities from oil price volatility.

| 2018 (% GDP) | NIIP: 85.5 | Gross Assets: — | Res. Assets: 63.2 | Gross Liab.: — | Debt Liab.: 28.3 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA balance increased further, reaching a surplus of 9.2 percent of GDP in 2018, up from a surplus of 1.5 percent in 2017 and a deficit of close to 9 percent in 2015. The trade balance improved by 7.5 percent of GDP, as the 36 percent increase in oil export revenues more than offset the 13 percent increase in imports of services. The terms of trade improved by 23.5 percent in 2018 as oil prices rose. The CA surplus is expected to decline to 6.9 percent of GDP in 2019 as oil revenues decline (the terms of trade are projected to decline by 4.4 percent) and import growth continues. Over the medium term, a gradual decline in oil exports and import growth should push the CA into broad balance.[2]

**Assessment.** The reliance on oil subjects the CA to wide swings and complicates the application of standard external assessment methodologies. The estimated CA gap varies with the methodology. The estimated CA gap in 2018 is –0.6 percent of GDP using the EBA-lite approach. The consumption-based allocation model suggests a CA gap of –0.2 percent of GDP and –3.4 percent of GDP for the constant real annuity and constant real per capita annuity allocation rules, respectively. The investment-needs model suggests a CA gap of 0.3 percent of GDP.[3] Staff assesses a CA gap of –1.7 percent of GDP with a range from 0 to –3.4 percent of GDP in 2018. Fiscal adjustment needs to be implemented to strengthen the CA over the medium-term.

| 2018 (% GDP) | Actual CA: 9.2 | Cycl. Adj. CA: 8.9 | EBA CA Norm: — | EBA CA Gap: — | Staff Adj.: — | Staff CA Gap: –1.7 |
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**Real Exchange Rate**

**Background.** The riyal has been pegged to the US dollar at a rate of 3.75 since 1986. The REER depreciated by 1 percent in 2018 (year over year) and was on average 7 percent above its 10-year average. As of May 2019, the REER had depreciated by about 0.7 percent relative to the 2018 average.

**Assessment.** Exchange rate movements have a limited impact on competitiveness in the short term as most exports are oil or oil-related products and there is limited substitutability between imports and domestically produced products, which in turn have significant imported labor and intermediate input content. Staff estimates an average REER gap in 2018 in the range of 5 to 10 percent. Fiscal consolidation will help narrow the REER gap as domestic absorption is restrained.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Recorded net financial outflows increased in 2018 as public sector institutions continued to accumulate external assets. E&O were small at about 0.6 percent of GDP in 2018 compared with 10.3 percent of GDP in 2016. FX reserves increased marginally. Reserves are expected to decline over the medium term as the CA moves to broad balance and investments overseas by public sector institutions continue as part of the diversification strategy under the government's Vision 2030 plan.

**Assessment.** Analysis of the financial account is complicated by the lack of detailed information on the nature of the financial flows and the large E&O in the balance of payments in some years. The strong reserves position limits risks and vulnerabilities.

**FX Intervention and Reserves Level**

**Background.** The assets of the Public Investment Fund are increasing, although most of the government's foreign assets are held at the central bank within international reserves. Reserves increased slightly to $490 billion (63 percent of GDP, 26.7 months of imports, and 414 percent of the IMF's reserve adequacy metric) at end-2018 but are down from $724 billion in 2014. The reserve coverage is expected to decline to 247 percent of the IMF's ARA metric by 2024, above the IMF's recommended range of reserves of 100 to 150 percent.

**Assessment.** Reserves play a dual role—savings for both precautionary motives and for future generations. Reserves are more than adequate for precautionary purposes (measured by the IMF's metrics). Nevertheless, continued fiscal adjustment is needed to strengthen the CA and increase savings for future generations.

## Table 3.22. Singapore: Economy Assessment

**Overall Assessment:** *The external position in 2018 was substantially stronger than what is consistent with fundamentals and desirable policies.* Singapore's very open economy and position as a global trading and financial center make the assessment more uncertain than usual.

**Potential Policy Responses:** Singapore's economy is undergoing structural transformation in light of a rapidly aging population and challenges posed by its transition to a new digital economy. Higher public investment addressing these issues, including spending on health care and investments in physical infrastructure and human capital, would help moderate the CA imbalances over the medium term by lowering net public saving. Structural reforms are also necessary to improve productivity, which would support a trend real exchange rate appreciation.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** The NIIP stood at 223 percent of GDP in 2018, after a gradual rise from 197 percent in 2013. Gross assets and liabilities are high, reflecting Singapore's status as a financial center (about 1,053 and 830 percent of GDP, respectively). The CA surplus has been a main driver since the global financial crisis, but valuation effects were material in some years. CA and growth projections imply that the NIIP will rise over the medium term. The large positive NIIP in part reflects the accumulation of assets for old-age consumption, which is expected to be gradually unwound over the long term. | | | | |
| | **Assessment.** Large gross non-FDI liabilities (427 percent of GDP in 2018)—predominantly cross-border deposit taking by foreign bank branches—present some risks, but these are mitigated by large gross asset positions, banks' large short-term external assets, and the authorities' close monitoring of banks' liquidity risk profiles. Singapore has large official reserves and other official liquid assets. | | | | |
| 2018 (% GDP) | NIIP: 223.0 | Gross Assets: 1,053.4 | Debt Assets: 504.0 | Gross Liab.: 830.4 | Debt Liab.: 354.2 |
| **Current Account** | **Background.** The CA surplus was 17.9 percent of GDP in 2018, up from 16.4 percent in 2017, largely driven by a narrowing of the deficit in the services balance. The CA balance is slightly higher than its average since 2013 but lower than the post-global-financial-crisis peak of 22.9 percent in 2010. Singapore's large CA balance reflects a strong goods balance that is partly offset by deficits in the services and income account balances.[1] The oil trade deficit widened in 2018. Structural factors and policies that boost savings, such as Singapore's status as a financial center, consecutive fiscal surpluses, and the rapid pace of aging—combined with a mandatory defined-contribution pension program (whose assets were about 80 percent of GDP in 2018), as well as relatively high productivity—are the main drivers of Singapore's strong external position. The CA surplus is projected to narrow on the back of increased infrastructure and social spending. | | | | |
| | **Assessment.** Guided by the EBA framework, staff assesses the 2018 CA as higher than the level consistent with fundamentals and desirable policies, by 1.1–7.1 percent of GDP.[2] This gap in part reflects tighter-than-desired fiscal balance. | | | | |
| 2018 (% GDP) | Actual CA: 17.9 | Cycl. Adj. CA: 18.4 | EBA CA Norm: — | EBA CA Gap: — | Staff Adj.: — | Staff CA Gap: 4.1 |
| **Real Exchange Rate** | **Background.** The REER depreciated by 0.5 percent year over year in 2018 due to relatively low inflation in Singapore, whereas the NEER appreciated by 1 percent year over year. This followed a depreciation of the REER by 1.4 percent and an appreciation of the NEER by 1.9 percent, both cumulative, between 2015 and 2017. As of May 2019, the REER had appreciated by 0.6 percent relative to 2018 average. | | | | |
| | **Assessment.** Notwithstanding the nonstandard factors that make a quantitative assessment difficult, staff assesses that the REER is undervalued by 2.2 to 14.2 percent. This assessment is subject to a wide range of uncertainty about both the underlying CA assessment and the semielasticity of the CA with respect to the REER. | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Singapore has an open capital account. As a trade and financial center in Asia, changes in market sentiment can affect Singapore significantly. Increased risk aversion in the region, for instance, may lead to inflows to Singapore given its status as a regional safe haven, whereas global stress may lead to outflows. The financial account deficit reflects in part reinvestment abroad of income from official foreign assets, as well as sizable net inward FDI and smaller but more volatile net bank-related flows.[3] In 2018, the deficit on the capital and financial account widened to 14 percent of GDP from 8 percent in 2017 (deficits ranged from 8 to 18 percent in 2015–17). This reflected resumed outflows in other investments (driven by the increase in bank asset flows). | | | | |
| | **Assessment.** The financial account is likely to remain in deficit as long as the trade surplus remains large. | | | | |
| **FX Intervention and Reserves Level** | **Background.** With the NEER as the intermediate monetary policy target, intervention is undertaken to achieve inflation and output objectives. As a financial center, prudential motives call for a larger NIIP buffer. Official reserves held by the MAS reached US$288 billion (79 percent of GDP) in 2018, of which S$45billion was transferred to the government in May for management by sovereign wealth fund GIC. Aggregated data on net FX purchases will be published beginning in 2020. | | | | |
| | **Assessment.** In addition to FX reserves held by the MAS, Singapore also has access to other official foreign assets managed by Temasek and GIC.[4] The current level of official external assets appears adequate, even after considering prudential motives, and there is no clear case for further accumulation for precautionary purposes. | | | | |

## Table 3.23. South Africa: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately weaker than implied by fundamentals and desirable policies.* In 2018, the current account gap remained broadly unchanged. Non-FDI flows continued to finance most of the relatively high current account deficit. REER depreciation in earlier years appears to have contributed little to CA adjustment due to unaddressed structural rigidities.

**Potential Policy Responses:** Reducing external gaps will require bold implementation of structural reforms to improve competitiveness and gradual fiscal consolidation while providing space for infrastructure and social spending (to improve education levels and skills). Efforts are also needed to improve the efficiency of key product markets (by encouraging private participation in power generation, transportation, and telecommunications) and the functioning of labor markets. These reforms will help attract durable foreign inflows such as FDI. Seizing opportunities to accumulate international reserves would strengthen the country's ability to deal with FX liquidity shocks.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** With large gross external assets and liabilities (respectively, 133 and 122 percent of GDP), South Africa is highly integrated into international capital markets. The NIIP improved markedly from –8 percent of GDP in 2014 to 16 percent of GDP in 2015, mainly on valuation changes, and declined to 10 percent of GDP in 2018. It is expected to continue moderating over the medium term as CA deficits are projected to remain relatively high. Gross external debt rose from 26 percent of GDP in 2008 to 47 percent of GDP in 2018 due mainly to public sector long-term debt. Short-term external debt (on a residual maturity basis) was slightly below 15 percent of GDP in 2018. | | | | |
| | **Assessment.** Risks from large gross external liabilities are mitigated by several factors, including South Africa's comfortable external asset position, as well as the fact that the bulk of the liabilities are in the form of equities and that about half of all external debt is rand-denominated. | | | | |
| 2018 (% GDP) | NIIP: 10.4 | Gross Assets: 132.5 | Debt Assets: 14.0 | Gross Liab.: 122.1 | Debt Liab.: 40.0 |

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| **Current Account** | **Background.** The CA deficit narrowed from 5.8 percent of GDP in 2013 to 2.4 percent in 2017, but widened to 3.5 percent in 2018 as the terms of trade declined and the trade balance weakened. The CA deficit is projected at 3.7 percent of GDP in the medium term owing to an elevated deficit in the income account—projected to remain at about 3 percent of GDP. | | | | | |
| | **Assessment.** Staff estimates a CA gap in the range of –0.8 to –2.8 percent of GDP in 2018, derived from a revised cyclically adjusted CA and an adjusted model-based norm. The revised cyclically adjusted CA (–2.4 percent of GDP) is obtained by subtracting 1.5 percentage points from the cyclically adjusted CA (–3.9 percent of GDP) for the statistical treatment of transfers and income accounts. The adjusted CA norm (–0.6 percent of GDP) is obtained by subtracting 1.1 percentage points from a surplus CA norm from the regression model (0.5 percent of GDP) to reflect the lower life expectancy at prime age relative to other countries in the regression sample.[1] The estimated CA gap is largely explained by structural factors outside the model. | | | | | |
| 2018 (% GDP) | Actual CA: –3.5 | Cycl. Adj. CA: –3.9 | EBA CA Norm: 0.5 | EBA CA Gap: –4.4 | Staff Adj.: 2.6 | Staff CA Gap: 1.8 |

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| **Real Exchange Rate** | **Background.** The CPI-REER depreciated during 2011–15 and recouped some of the losses through early 2018. In 2018, the REER strengthened about 2 percent after an earlier rally related to the appointment of the new president was unwound. |
| | **Assessment.** The two REER-based regressions (the REER approaches) point to undervaluation in a range of 1.8 percent (level approach) and 14 percent (index approach), but staff deems these results less reliable.[2] Staff assesses the REER to be overvalued by 2 to 12 percent, relying on the CA approach where the implied REER gap is estimated from the CA gaps.[3] |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** Net FDI flows turned positive in 2018 (0.8 percent of GDP). Portfolio investment, at 2.5 percent of GDP, remained the main source of financing the CA deficit. Gross external financing needs stood at 18 percent of GDP in 2018. |
| | **Assessment.** Risks from large reliance on non-FDI inflows and nonresident holdings of local financial assets are mitigated by a flexible exchange rate, a large share of local currency component in nonresident portfolio holdings, and a large domestic institutional investor base, which tends to reduce asset price volatility during periods of stress. |
| **FX Intervention and Reserves Level** | **Background.** South Africa's exchange rate regime is classified as floating. Central bank intervention in the foreign exchange market is rare. International reserves were about 14 percent of GDP, 77 percent of gross external financing needs, and 5½ months of imports in 2018. Reserves stand below the IMF's composite adequacy metric (63 percent of the metric without considering existing capital flow management measures and 68 percent of the metric after considering them). |
| | **Assessment.** If conditions allow, reserve accumulation would be desirable to strengthen the external liquidity buffer, subject to maintaining the primacy of the inflation objective. |

## Table 3.24. Spain: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately weaker than consistent with medium-term fundamentals and desirable policies.* In 2018, the CA remained in surplus for the sixth consecutive year, unprecedented in recent Spanish history. Despite the sharp improvement in the CA since the deficit peak in 2007, achieving both a sufficiently strong NIIP and further reductions in unemployment will continue to require a relatively high CA surplus and a moderately weaker REER for a sustained period.

**Potential Policy Responses:** Structural reforms in response to the global financial crisis—in particular labor market reform, with the resulting wage moderation and fiscal adjustment—supported the reduction in imbalances.
Sustaining this progress and further lowering external vulnerability will require restarting structural fiscal consolidation as well as additional reforms to address labor market duality. Boosting productivity and competitiveness will require faster implementation of product and service market reforms, and actions to enhance education outcomes, training of workers, and firms' innovation capacity.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP dropped from –35 percent of GDP in 2000 to –94 percent of GDP in 2009, driven mostly by high CA deficits but also by valuation effects. The NIIP remained elevated at –74 percent of GDP in 2018:Q4, yet has improved by 21 percentage points since 2014, partly due to sustained CA surpluses during the period and despite some negative valuation effects. Gross liabilities stood at 231 percent of GDP in 2018:Q4, with more than two-thirds in the form of external debt. Whereas the private sector has deleveraged since the crisis, NIIP accounted for by the general government and the central bank increased, raising its share from about one-quarter in 2010 to over three-quarters in 2018:Q4. Part of that increase is due to TARGET2 liabilities, which had reached 33 percent of GDP by end-2018.[1]

**Assessment.** The large negative NIIP comes with external vulnerabilities, including from large gross financing needs from external debt and potentially adverse valuation effects. Mitigating factors are a favorable maturity structure of outstanding sovereign debt (averaging seven years) and current ECB measures, such as QE, that lower the cost of debt.

| 2018 (% GDP) | NIIP: –74.3 | Gross Assets: 156.4 | Res. Assets: 70.8 | Gross Liab.: 230.7 | Debt Liab.: 143.6 |
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**Current Account**

**Background.** After a peak CA deficit in 2007 of 9.6 percent of GDP, corrected initially by a sharp contraction in imports, exports and imports have since grown strongly along with the economic recovery, leading to CA surpluses in 2013–18. Regained competitiveness from wage moderation and greater internationalization efforts by Spanish firms contributed to strong export growth and an increase in Spain's share of world goods exports. The CA surplus was estimated at 0.9 percent of GDP in 2018. The trade surplus declined relative to 2017, mostly reflecting movements in exchange rates, external demand, and oil prices. Moderate CA surpluses are projected to continue in the medium term.

**Assessment.** The EBA CA model suggests a norm of 1.1 percent of GDP for 2018, which is roughly equal to the cyclically adjusted CA balance (0.9 percent of GDP). However, given external risks from a large and negative NIIP, staff's assessment puts more weight on external sustainability and is guided by the objective of strengthening the NIIP to above –50 percent over the medium to long term. This yields a CA norm of about 2 percent of GDP, with a range of 1 to 3 percent of GDP, and a CA gap of –2.1 to –0.1 percent of GDP.[2] Another factor supporting a higher CA gap is a high uncertainty about the output gap against the backdrop of past structural reforms and large structural changes of the economy: if the output gap were still negative (for example, reflecting a structural level of unemployment closer to international peers), the cyclically adjusted CA would be lower and thus the gap with respect to the desirable level would be larger.

| 2018 (% GDP) | Actual CA: 0.9 | Cycl. Adj. CA: 0.9 | EBA CA Norm: 1.1 | EBA CA Gap: –0.2 | Staff Adj.: –0.9 | Staff CA Gap: –1.1 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** In 2018, the CPI-based REER appreciated by 2.1 percent from its average 2017 level, whereas the ULC-based REER was unchanged. The CPI-based REER is still moderately lower than its 2009 peak, partially reversing the significant appreciation from euro entry in 1999 until 2009. The ULC-based REER shows that the appreciation since euro entry has been substantially reversed, initially because of postcrisis labor shedding and, more recently, of wage moderation and enhanced output growth. After reaching its peak in 2008, the ULC-based REER depreciated by 18 percent. As of May 2019, the CPI-based REER and the ULC-based REER had depreciated by 1.3 and 0.7 percent relative to their 2018 averages, respectively.

**Assessment.** The EBA REER models estimate an overvaluation of 6.0 to 6.8 percent for 2018, whereas the CA model implies a close-to-zero overvaluation.[3] Taking into account also the need for sustaining postcrisis competitiveness gains, and the risks from NIIP sustainability, on balance, staff assesses a 2018 REER gap in the range of 1 to 9 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Financing conditions have continued to be favorable, with sovereign bond yields near historical lows. At the same time, the private sector has continued its deleveraging against the rest of the world. In 2018, the financial account balance was largely driven by net outflows of loans and other bank-related instruments (from sectors other than the central bank) and portfolio equity. The accumulation of TARGET2 liabilities, reflecting liquidity creation within the framework of the Eurosystem's asset purchase program, has moderated from close to 6 percent of GDP in 2015 and 2016 to less than 2 percent of GDP in 2018.

**Assessment.** The ECB's monetary accommodation, domestic reforms, and fiscal consolidation adopted in response to the crisis, and the strong economic recovery, have helped improve investor sentiment. However, large external financing needs both in the public and private sector leave Spain vulnerable to sudden changes in market volatility.

**FX Intervention and Reserves Level**

**Background.** The euro has the status of a global reserve currency.

**Assessment.** Reserves held by the euro area are typically low relative to standard metrics, but the currency is free floating.

## Table 3.25. Sweden: Economy Assessment

**Overall Assessment:** *The external position in 2018 was moderately stronger than the level consistent with medium-term fundamentals and desirable policies.* Subsequent developments do not point to a change in the external position.

**Potential Policy Responses:** A mildly expansionary fiscal policy stance—consistent with converging to the lower medium term surplus target—should support demand going forward. While overall investment is high, it remains important to implement reforms to help restore residential investment following the recent slump. Reforms to facilitate migrant integration into the labor market should be implemented to raise potential output and reduce household uncertainties around the sustainability of Sweden's strong social model. Over time, some appreciation of the krona is expected when inflation returns to target.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The Swedish NIIP reached 6.7 percent of GDP in 2018, up 2.5 percentage points in the year. It is expected to rise further in the medium term, reflecting the outlook for continued CA surpluses. It is worth noting that over the last decade, the average annual increase in the NIIP was about 1.5 percent of GDP, well below the average CA surplus of 4.6 percent of GDP. This gap may partly reflect negative valuation effects, but its persistence since 2000 suggests potential measurement issues. This is consistent with the large E&O, which have averaged –1.8 percent of GDP in the past decade.

**Assessment.** Gross liabilities reached 243 percent of GDP in 2018, with about two-thirds being external debt (168 percent of GDP). Although rollovers of external debt (which include banks' covered bonds) pose some vulnerability, risks are moderated by the banks' liquidity and capital buffers. Sweden's strong FX reserves and low public debt help ensure capacity to manage pressures.

| 2018 (% GDP) | NIIP: 6.7 | Gross Assets: 249.6 | Debt Assets: 88.8 | Gross Liab.: 243.0 | Debt Liab.: 134.8 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA balance is estimated to have fallen to 2 percent of GDP in 2018, from 2.8 percent in 2017 and well below its average in the past decade (4.6 percent). This CA balance decline is led by the trade balance, including a decline in the oil balance of 0.4 percent of GDP.

**Assessment.** The cyclically adjusted CA is estimated at 2.3 percent of GDP in 2018, 1.3 percentage points above the cyclically adjusted EBA norm of 1 percent of GDP. However, the estimated EBA norm for Sweden has been below the actual CA balance for the past two decades, suggesting that factors not captured by the model may also be driving Sweden's savings-investment balances. Overall, staff assesses Sweden's CA gap at 1.3 percent of GDP in 2018, within a range of ± 1.5 percent of GDP, reflecting uncertainty around the EBA estimated norm.

| 2018 (% GDP) | Actual CA: 2.0 | Cycl. Adj. CA: 2.3 | EBA CA Norm: 1.0 | EBA CA Gap: 1.3 | Staff Adj.: 0.0 | Staff CA Gap: 1.3 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The Swedish krona depreciated by 4.1 percent in real effective terms in 2018 relative to its average level in 2017, as underlying inflation remained low and political uncertainties developed around the September elections and extended government formation process. Through May 2019, the CPI-based REER depreciated by 5.2 percent.

**Assessment.** EBA analysis suggest a gap of –16.7 and –17.7 percent using the REER Index and Level approaches, respectively, for 2018. In contrast, in 2018 the ULC-based REER index is only 6 percent below its 25-year average, well within its ± 12.5 percent historical fluctuation range. Applying a 0.35 semielasticity of CA to REER to the CA gap of 1.3 percent ± 1.5 percent of GDP gives a valuation range for the krona of 1 to –8 percent. Given uncertainties related to the EBA's CA gap estimates for Sweden, staff gives greater weight to estimates from the EBA REER models and the ULC-based REER position and assesses the krona to be undervalued by 5 to 15 percent. This REER gap is expected to be temporary, with the krona likely to appreciate in the medium term as monetary policy eventually normalizes.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Given their size and funding model, Sweden's large banks remain vulnerable to liquidity risks stemming from global wholesale markets, even though banks have improved their structural liquidity measures in recent years.

**Assessment.** Macroprudential policies implemented in recent years (increases in capital buffers of domestic banks and mortgage amortization regulations on the household side) can help contain vulnerabilities and hence potential liquidity risks. Continuing to monitor an extended (three-month) liquidity coverage ratio in US dollars and euros will remain useful in ensuring the adequacy of the FX liquidity buffers of banks.

**FX Intervention and Reserves Level**

**Background.** The exchange rate is free floating. Foreign currency reserves stood at US$61 billion in December 2018, which is equivalent to 21 percent of the short-term external debt of monetary and financial institutions (primarily banks) and about 11 percent of GDP.

**Assessment.** In view of the high dependence of Swedish banks on wholesale funding in foreign currency, and the disruptions in such funding that have occurred at times of international financial distress, Sweden should maintain adequate foreign reserves.

## Table 3.26. Switzerland: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by medium-term fundamentals and desirable policies.* This assessment is subject to especially high uncertainty: REER overvaluation following the exit from the floor in 2015 had been unwound by 2017. Were real depreciation to resume, future assessments could be affected.

**Potential Policy Responses:** Macroeconomic policies should be geared toward ensuring balanced contributions to GDP growth from domestic and external demand. This requires moving to—and maintaining—a structurally neutral fiscal stance, which would also ease the burden on monetary policy that faces operational limits during periods of economic weakness or safe-haven appreciation pressures. Monetary policy should continue to be directed at maintaining inflation within the definition of price stability, with foreign currency intervention reserved for addressing large exchange market pressures. Macroprudential policies should be used to address excessive private credit (related to mortgage lending) and reduce financial sector risks. Meanwhile, reforming the corporate income tax would encourage small and medium-sized enterprise investment and reduce corporate net saving.

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| **Foreign Asset and Liability Position and Trajectory** | **Background.** Switzerland is a financial center with a positive NIIP of 128 percent of GDP and gross foreign asset and liability positions of 694 and 565 percent of GDP, respectively, as of end 2018. The NIIP reflects both CA surpluses, which average nearly 10 percent of GDP, and large, bidirectional valuation changes, although valuation losses tend to dominate.[1] These valuation changes reflect fluctuations in exchange rates and prices of securities and precious metals that interact with mismatches between assets and liabilities in terms of currencies and financial instruments.[2]<br>**Assessment.** Switzerland's large gross liability position and the volatility of financial flows present some risk, but these are mitigated by the large gross asset position and the fact that about two-thirds of external liabilities are denominated in Swiss francs. Nonetheless, given the large gross positions and compositional mismatch between assets and liabilities, relatively modest changes in exchange rates and asset prices can have a material effect on the NIIP. | | | | |
| 2018 (% GDP) | NIIP: 128.2 | Gross Assets: 693.6 | Debt Assets: 217.3 | Gross Liab.: 565.4 | Debt Liab.: 192.1 |
| **Current Account** | **Background.** Switzerland has run large CA surpluses, averaging nearly 10 percent of GDP since 2006. The CA balance is estimated at 10.2 percent of GDP for 2018, an increase from the downwardly revised surplus of 6.7 percent for 2017. Ex post CA revisions are frequent, mainly due to changes in estimated investment income. Surpluses on trade of goods and services (including merchanting) have been driving the overall positive CA balance.<br>**Assessment.** Based on a cyclically adjusted CA surplus of 10.4 percent of GDP and an EBA CA norm of 5.9 percent of GDP (which partly reflects demand for saving by the large share of prime-age savers), the overall EBA estimated CA gap equaled 4.5 percent of GDP in 2018. Domestic policy gaps account for –1.0 percentage points of the CA gap and consist of excessive private sector credit (1.3) and fiscal underspending (–0.4), while policy gaps in the rest of the world contribute 0.3 percentage point. Some Switzerland-specific factors not appropriately treated in the income account lower the CA gap: (1) inclusion of estimated retained earnings on portfolio equity investment and (2) compensation for valuation losses on fixed income securities arising from inflation.[3] After accounting for these factors, staff estimates a CA gap of about 0.9 percent of GDP (with a range of ±2 percentage points).[4] | | | | |
| 2018 (% GDP) | Actual CA: 10.2 | Cycl. Adj. CA: 10.4 | EBA CA Norm: 5.9 | EBA CA Gap: 4.5 | Staff Adj.: –3.5 | Staff CA Gap: 0.9 |
| **Real Exchange Rate** | **Background.** The CPI-based REER appreciated by 16 percent during 2008–18, including two episodes of rapid appreciation in response to safe-haven inflows. The first spike occurred in July 2011 and led the Swiss National Bank (SNB) to establish a floor of 1.20 for the Swiss franc–euro exchange rate in September 2011. After appreciating sharply following the exit from the floor in 2015, the REER moderated, initially on account of a partial unwinding of the overshooting of the nominal effective exchange rate and, subsequently, on lower inflation in Switzerland than in its trading partners. The average REER for 2018 weakened by 2.8 percent relative to the 2017 average. As of May 2019, the REER had depreciated by 0.1 percent compared with the 2018 average.<br>**Assessment.** The EBA REER Index and Level models suggest that the average REER in 2018 was 11 to 17 percent overvalued, with policy gaps accounting for a modest amount of the total gap. To a large extent, this finding reflects the "reversion to trend" property of the empirical model in the context of the prior rapid appreciation episodes. However, due to measurement issues, these results may not fully capture the secular improvement in productivity, especially in knowledge-based sectors. Based on the CA gap, staff assesses the REER gap to have been in the range of –6.5 to 1 percent in 2018.* | | | | |
| **Capital and Financial Accounts: Flows and Policy Measures** | **Background.** In recent years, Switzerland has experienced large inflows in the form of currency and deposits, in part due to its status as a safe haven. Since 2007, these cumulative net inflows amounted to about 75 percent of GDP. To reduce the attractiveness of these inflows, since 2015, banks' placements at the SNB (above a certain threshold) have been subject to a negative interest rate of 0.75 percent. These inflows stopped in mid-2017 and foreigners reduced holdings of currency and deposits in 2018. There are no restrictions on financial flows.<br>**Assessment.** Financial flows are large and volatile, reflecting Switzerland's status as a financial center and a safe haven, with inflows tending to accelerate during periods of heightened global and regional uncertainty. | | | | |
| **FX Intervention and Reserves Level** | **Background.** Foreign exchange reserves amounted to US$788 billion (114 percent of GDP) at end-2018, down US$24 billion (including valuation changes) since end-2017. About 75 percent of reserves were accumulated during 2009–15, including to defend the previous exchange rate floor. Since exiting the floor, the SNB has intervened periodically, purchasing sizable volumes in response to large appreciation pressures from safe-haven surges, as well as more frequently but in smaller amounts. Purchases dwindled since mid-2017, amounting to only Sw F 2.3 billion in 2018.<br>**Assessment.** Reserves are large relative to GDP but more moderate when compared with short-term foreign liabilities. The high level of reserves reflects monetary policy operations aimed at avoiding persistent undershooting of inflation (which averaged –0.15 percent during 2012–18) as a result of inflow surges and given the limited scope for significant further easing via other monetary policy tools. In particular, the supply of domestic assets available for purchase is very limited, and the marginal interest rate on banks' deposits at the SNB is –0.75 percent, which is the lowest in the world. Past interventions also helped to avoid potentially large exchange rate overvaluation. | | | | |

**The staff assessed REER gap of –3.75 percent is within the (± 5 percent) interval generally described as broadly in line with fundamentals.*

## Table 3.27. Thailand: Economy Assessment

**Overall Assessment:** *The external position in 2018 was substantially stronger than warranted by medium-term fundamentals and desirable policies.* While the CA surplus has narrowed since peaking in 2016, it remains sizable, continuing to reflect the tepid recovery of domestic demand amid political uncertainty.

**Potential Policy Responses:** Mutually reinforcing macro policy stimulus, led by a fiscal expansion and structural reforms, should support domestic demand and lower the CA surplus over time. Such a strategy would facilitate the needed REER appreciation through a growth-driven process, boosting real incomes. Higher public infrastructure within available fiscal space should crowd in private investment, whereas efforts to reform and expand social safety nets, notably the fragmented pension program, should reduce precautionary saving and widespread informality. Reforms to reduce barriers to investment, especially in the services sector, are also necessary.

The exchange rate should move flexibly as the key shock absorber. Intervention should be limited to avoiding disorderly market conditions. With reserves exceeding all adequacy metrics, there is no need to build up reserves for precautionary purposes.

**Foreign Asset and Liability Position and Trajectory**

**Background.** Thailand's NIIP continued to strengthen in 2018 to about –0.5 percent of GDP, compared with –9.1 percent of GDP in 2017 and –24 percent of GDP in 2014. Gross assets declined to about 96 percent of GDP (41 percent being reserve assets), whereas gross liabilities declined 3 percentage points to 97 percent of GDP (dominated by direct about half and portfolio a third investment). Net FDI continued to decline as outward investment (particularly by corporates) increased; portfolio (equities) and other investment also declined (by about 2 percentage points of GDP).

**Assessment.** External vulnerabilities have been reduced with the strengthening of the NIIP, which is projected to reach a small creditor position over the medium term. With external debt steady at about 32 percent of GDP, of which short-term debt (on a remaining maturity basis) amounts to 16 percent of GDP, external debt sustainability and liquidity risk are limited.

| 2018 (% GDP) | NIIP: –0.5 | Gross Assets: 96.4 | Res. Assets: 43.2 | Gross Liab.: 96.9 | Debt Liab.: 29.5 |
|---|---|---|---|---|---|

**Current Account**

**Background.** Thailand's CA surplus declined sharply to 7 percent of GDP in 2018, following the continued strengthening of the CA surplus since 2013, with an all-time high of 11.7 percent in 2016 (driven by favorable terms of trade and tourism). The reduction in the surplus in 2018 reflects a consumption-led strengthening of domestic demand and a decline in net exports. Exports slowed due to US-China trade tensions and a moderation in global external demand; imports remained robust, but with the broader regional trade slowdown weighing on imports of intermediate goods toward the end of the year. The services account contracted by about 0.1 percent of GDP relative to 2017, due to a temporary slowdown in tourism receipts.

**Assessment.** The EBA CA model estimates a cyclically adjusted CA of 7.0 percent of GDP and a CA norm of 0.1 percent of GDP for 2018. The CA gap of 6.9 percent of GDP consists of an identified policy gap of 1.5 percent of GDP and an unexplained residual of 5.4 percent of GDP, which partly reflects Thailand-specific features and structural challenges not fully captured by the EBA model. Political uncertainty continued to weigh on investment in 2018, although its effect has moderated somewhat (0 to 1.5 percent of GDP), including following the confirmation of the elections date.[1] Taking all of this into account, and recognizing uncertainties related to the output gap measure, staff assesses the CA balance to be about 3.8 to 7.0 percent of GDP higher than warranted by fundamentals and desired policies. This CA gap is expected to narrow over the medium term as policy stimulus is deployed, political uncertainty dissipates, private confidence recovers, and steps are taken to reform the safety net.

| 2018 (% GDP) | Actual CA: 7.0 | Cycl. Adj. CA: 7.0 | EBA CA Norm: 0.1 | EBA CA Gap: 6.9 | Staff Adj.: –1.5 | Staff CA Gap: 5.4 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** The baht has been on a gradual real appreciation trend since the mid-2000s, despite occasional bouts of volatility (such as the mid-2013 US Federal Reserve tapering talks and the domestic monetary policy easing cycle in early 2015). In 2018, despite some volatility through the year, with marked depreciations in 2018:Q2 and 2018:Q3, the REER appreciated overall by 3.0 percent relative to 2017. As of May 2019, the baht had appreciated an additional 4 percent relative to the 2018 average.

**Assessment.** Using an elasticity of 0.64, the 2018 REER would be assessed as undervalued by about 6 to 11 percent.[2]

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** In 2018, the capital and financial account weakened to –4.5 percent of GDP from –2.8 percent in 2017. This has been driven primarily by net portfolio flows, which strengthened to 1.1 percent of GDP. Nonresident holdings of Thai bonds declined in 2018:S1 and reversed in 2018:S2 as nonresident flows rebounded. This reflects increased gross capital inflows relative to other emerging market economies in the region during the broader emerging market selloff, with Thailand benefiting from its strong external position. Outward FDI remained robust at 4 percent of GDP owing to Thai firms' overseas investment. Net other investment outflows were about 1 percent of GDP. The authorities continued with their gradual and prudent financial account liberalization, encouraging outward investment by residents. The capital and financial account balance has been negative since 2013.

**Assessment.** Since 2013, Thailand has experienced episodes of volatility reflecting changes in external financial conditions continued political uncertainty, and more recently concerns about the impact of US-China trade tensions. Nevertheless, Thailand has been able to weather such episodes well, given its strong external buffers and fundamentals, which have supported the ability of investors to distinguish Thailand from others in the emerging market asset class.

**FX Intervention and Reserves Level**

**Background.** The exchange rate regime is classified as (de jure and de facto) floating. International reserves stood at 47.4 percent of GDP in 2018, standing at over three times short-term debt and 12 months of imports, and over 200 percent of the IMF's standard reserve adequacy metric (unadjusted for capital controls).

**Assessment.** Interventions were two-sided over the course of 2018, as proxied by the increase and then decrease in reserves over the course of the year (official intervention data are not published). Gross international reserves (including net forward position) remained stable during 2018. Reserves are higher than the range of the IMF's adequacy metrics, and there continues to be no need to build up reserves for precautionary purposes. The exchange rate should move flexibly to act as a shock absorber, with FX intervention limited to avoiding disorderly market conditions.

## Table 3.28. Turkey: Economy Assessment

**Overall Assessment:** *The external position in 2018 was broadly in line with the level implied by fundamentals and desirable policies.* This reflects the ongoing and lagged adjustment of external balances following the sharp REER depreciation in 2018, which is projected to gradually unwind. Large external financing needs and relatively low reserves make Turkey vulnerable to financial account reversals.

**Potential Policy Responses:** Despite a broadly in line external position, a comprehensive policy package is needed to strengthen external resilience and support a sustainable rebalancing of the economy to more balanced and properly financed growth.

To this end, monetary policy should aim to reanchor inflation expectations and strengthen central bank credibility, while rebuilding reserves. Meanwhile, fiscal policy should allow automatic stabilizers to operate and reorient spending toward the most vulnerable.

Focused structural reforms are necessary to enhance productivity and ensure more stable domestic funding sources. Specifically, efforts are needed to reduce labor market rigidities and improve the business climate, including by reforming insolvency and corporate restructuring frameworks.

**Foreign Asset and Liability Position and Trajectory**

**Background.** After peaking at –54 percent of GDP at end-2017, Turkey's NIIP narrowed to –48 percent of GDP at end-2018. This mostly reflected valuation effects from the lira's sharp depreciation in 2018, as a higher share of external assets relative to external liabilities are denominated in FX (a portion of the liabilities are in the form of Turkish equities and lira-denominated debt securities).[1] Total foreign liabilities reached 78 percent of GDP in 2018, dominated by debt, which, at 55 percent of GDP, remains sustainable over the medium term. Private external debt service is vulnerable to global financial conditions as much of the debt is in FX, a significant portion is short term (22 percent of GDP), and much of the long-term debt (about 40 percent) is at variable rates.

**Assessment.** The size and composition of external liabilities, coupled with low reserves, expose Turkey to liquidity shocks, sudden shifts in investor sentiment, and increases in global interest rates. The FX exposure of nonfinancial corporates is high, with the potential to worsen bank asset quality. Turkey's NIIP is projected to gradually fall to about –40 percent of GDP by 2021, driven by a decline in liabilities, mainly loans, as the economy rebalances.

| 2018 (% GDP) | NIIP: –47.8 | Gross Assets: 29.9 | Res. Assets: 12.1 | Gross Liab.: 77.7 | Debt Liab.: 55.1 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA deficit, after averaging 4 percent during 2014–16, widened sharply to 5.6 percent of GDP in 2017 as policy stimulus resulted in overheating. The CA deficit narrowed to 3.5 percent in 2018, supported by a steep lira depreciation and associated import compression in 2018:H2. The CA is expected to swing to a slight surplus of 0.5 percent in 2019, reflecting the continuation of these factors.[2]

**Assessment.** The EBA CA model estimates a norm of –1.6 percent of GDP, with a large standard error of close to 2 percent. With a cyclically adjusted CA deficit in 2018 of –2.5 percent of GDP, the CA gap is estimated at –0.9 percent of GDP. After taking into account the temporary large imports of gold (0.7 percent of GDP higher than normal), staff assesses the 2018 CA to be broadly in line with fundamentals and desired policies, with a gap in the range of –1.2 to 0.8 percent of GDP.

| 2018 (% GDP) | Actual CA: –3.5 | Cycl. Adj. CA: –2.5 | EBA CA Norm: –1.6 | EBA CA Gap: –0.9 | Staff Adj.: 0.7 | Staff CA Gap: –0.2 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** In 2018, the average REER depreciated by 14 percent relative to 2017, standing some 37 percent below its 2010 peak. After depreciating sharply in 2018:Q3, the REER appreciated in 2018:Q4, reflecting in part the lagged effects of exchange rate pass-through to inflation. As of May 2019, the REER had depreciated by 10.3 percent relative to the 2018 average.

**Assessment.** The EBA REER index and level approaches suggest the REER was undervalued in 2018 by 21 to 23 percent, albeit with large uncertainties. The staff-assessed CA gap suggests a REER gap close to zero, reflecting the ongoing and lagged adjustment of external balances to the REER depreciation. Giving more weight to the EBA REER approaches as the CA continues to adjust, staff assesses the REER to be undervalued in the range of 10 to 20 percent, with a midpoint around 15 percent.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Net capital flows switched from an inflow of US$38.5 billion (4.5 percent of GDP) in 2017 to an outflow of US$0.5 billion (0.1 percent of GDP) in 2018 (both excluding reserves and E&O). However, positive E&O, likely reflecting repatriation of foreign assets and unrecorded capital inflows, increased from US$0.6 billion in 2017 to US$17.2 billion in 2018, moderating the impact of the change in recorded flows. This slowdown of net inflows was driven by net portfolio outflows and a decline in banks' external loans, with spreads rising significantly and external rollovers of long-term debt by banks falling as low as 42 percent in September. Net FDI flows remained low at about 1 percent of GDP. High E&O, netting US$17.2 billion (2.2 percent of GDP) in 2018, suggest unidentified financing sources were tapped to meet financing needs. To address currency volatility, Turkey introduced a capital flow management measure in the form of limits to bank swaps and other derivative transactions with foreign counterparties in August. This measure was partially unwound as volatility receded.

**Assessment.** After deteriorating in 2017, the quality of financing worsened further in 2018 following the market turmoil in 2017:Q3, with the maturity structure of external debt shortening, rollover rates of external bank funding dropping, and financing dominated by E&O and reserve drawdown. With annual gross external financing needs of about 22 percent of GDP, Turkey remains vulnerable to adverse shifts in global investor sentiment, as was demonstrated in 2018.

**FX Intervention and Reserves Level**

**Background.** The de facto and de jure exchange rate is floating. Reserves were impacted by several measures to support FX liquidity, changes to required reserves and the Reserve Option Mechanism aimed at releasing FX liquidity, and accepting lira payments for US dollar–denominated export rediscount credit repayments. The central bank also provides direct sales of FX to energy-importing SOEs. While likely having a stabilizing impact in the short term, these measures have contributed to a decline in gross reserves to US$93 billion (12 percent of GDP) at end-2018, US$14.7 billion (1.9 percent of GDP) lower than at end-2017. Net international reserves stood at US$30 billion (3.9 percent of GDP) at end-2018, declining by US$0.8 billion (0.1 percent of GDP).[3]

**Assessment.** Gross reserves amounted to 76 percent of the IMF's ARA metric at end-2018, down from 80 percent at end-2017, whereas reserve coverage of external financing requirements dropped to 45 percent in 2018, from 51 percent the year prior. Accumulation of reserves over the medium term is needed given sizable external liabilities and dependence on short-term and portfolio funding.

## Table 3.29. United Kingdom: Economy Assessment

**Overall Assessment:** *The external position in 2018 was weaker than implied by medium-term fundamentals and desirable policies.* The CA deficit remained high in 2018, reflecting low public and private savings. Over the medium term, the deficit is set to narrow somewhat helped by ongoing fiscal consolidation. The uncertainty around this assessment is significant, reflecting both measurement issues and uncertainty about the future trade arrangement with the European Union and its possible effect on growth and trade flows.

**Potential Policy Responses:** The current fiscal consolidation plan implemented within a medium-term framework will appropriately continue to support the external rebalancing. Further structural reforms focused on broadening the skill base and investing in public infrastructure (within the budget envelope) should boost productivity, improving the competitiveness of the economy. Maintaining financial stability through macroprudential policies should also support private sector saving. These efforts are particularly important in light of expectations that access to the EU market will become more restricted.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP strengthened to –6.7 percent of GDP in 2018 from –8.1 percent of GDP in 2017. Over the past five years, the NIIP has strengthened by 11.3 percentage points, reflecting a negative CA contribution (–20.6 percentage points) more than offset by valuation and growth effects (28.9 percentage points and 3.0 percentage points, respectively).[1] The composition of assets roughly matches that of liabilities (about 80 percent of GDP for FDI; 65 percent of GDP for equity instruments, nearly 100 percent of GDP in derivatives; 200 percent of GDP for other investment), although liabilities in debt securities (95 percent of GDP) exceed assets in debt securities (55 percent of GDP). Investments in Europe, Japan, and the United States account for around 75 percent of total UK assets and liabilities, and external liabilities have a larger share denominated in sterling than assets.[2] Staff projects the NIIP to weaken over the medium term, although the importance of and uncertainty around valuation effects cast significant doubt around these estimates.

**Assessment.** The sustainability of the NIIP is not an immediate concern. Since 2000, valuation gains have offset about a third of the effect of CA flows on the IIP, partly reflecting CA measurement issues and sterling depreciation (the United Kingdom's external assets have a higher foreign currency component than its external liabilities). However, fluctuations in large gross stock positions are a potential source of vulnerability (including derivatives, gross assets and gross liabilities both exceed 500 percent of GDP).

| 2018 (% GDP) | NIIP: –6.7 | Gross Assets: 521.6 | Debt Assets: 256.2 | Gross Liab.: 528.4 | Debt Liab.: 272.0 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The CA deficit worsened to –3.9 percent of GDP in 2018 (from –3.3 percent in 2017) and is expected to worsen marginally to –4.2 percent of GDP in 2019, thus remaining significantly below its average historical values. The wider CA deficits since the global financial crisis reflect mostly weaker income balance, due in part to lower earnings on the United Kingdom's FDI abroad (especially in the euro area).[3] By contrast, the trade balance was broadly stable at about –1.5 percent of GDP in 2018, supported by relatively stronger growth in trading partners and a weaker sterling. Nonetheless, the widening of the CA deficit in 2018 was driven equally by a worsening in the primary income balance (–0.3 percent of GDP) and a deterioration of the trade balance (–0.3 percent of GDP), despite the weak currency. From a savings-investment perspective, the CA dynamics during 2018 reflect a reduction in gross national savings by 1 percent of GDP driven by a reduction in corporate savings (from 9.8 to 8.2 percent of GDP) that more than offsets an improvement in public savings.

**Assessment.** The EBA CA model estimates a CA gap of –4.4 percent of GDP for 2018 (a cyclically adjusted CA balance of –3.9 percent of GDP compared with a norm of 0.5 percent of GDP). However, the cyclically adjusted CA is assessed to be understated due to measurement biases reflected in the large NIIP valuation effects. Looking ahead, the recovery of global growth relative to UK growth is expected to translate into higher net income inflows. Uncertainty around the CA gap estimation is high, as evident from the results under different methodologies, partly reflecting measurement uncertainties (large and volatile NIIP valuation changes and other unidentified stock-flow adjustments). Overall, staff assesses the 2018 cyclically adjusted CA balance to be 1 to 4.8 percent of GDP lower than the CA norm, with a midpoint of 2.9 percent of GDP. This range takes into account the uncertainty in the assessment due to the Brexit negotiation process and possible measurement issues.[4]

| 2018 (% GDP) | Actual CA: –3.9 | Cycl. Adj. CA: –3.9 | EBA CA Norm: 0.5 | EBA CA Gap: –4.4 | Staff Adj.: 1.5 | Staff CA Gap: –2.9 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** Sterling appreciated by 1.8 percent in 2018 in real effective terms relative to its average level in 2017 but has depreciated since mid-2016 by about 7 percent. Sterling depreciation since 2016 may reflect an unwinding of past overvaluation, as well as market expectations of more restrictive access to the EU market in the future.

**Assessment.** EBA REER Level and Index approaches suggest a gap of –8.5 and –13.2 percent, respectively, for 2018. However, given uncertainties related to the United Kingdom's new trading relationship with the European Union, these model estimates might be less appropriate. Overall, staff assesses the REER to be overvalued by between 0 and 15 percent. This range is broadly anchored on the CA assessment.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Given the United Kingdom's role as an international financial center, portfolio investment and other investments are the key components of the financial account. In net terms, the CA was financed in 2018 by a recovery in net FDI inflows (driven by a fall in outward FDI flows from 5.2 percent of GDP to 1.4 percent of GDP in 2018) and by repatriation of portfolio assets (worth –4.1 percent of GDP) combined with an increase in portfolio liabilities of 6.8 percent of GDP, whereas other investments saw capital flows worth 7.8 percent of GDP in net terms.

**Assessment.** Large fluctuations in capital flows are inherent to financial transactions in countries with a large financial sector. This volatility is a potential source of vulnerability, although it is mitigated by sound financial regulation and supervision and a strong financial sector. An additional risk is that FDI and portfolio investment inflows may decelerate, driven by concerns about the United Kingdom's future trade relations with the European Union.

**FX Intervention and Reserves Level**

**Background.** The pound has the status of a global reserve currency. Despite uncertainty on the future relationship between the United Kingdom and the European Union, the share of global reserves in sterling has been unchanged since 2015, at about 4.5 percent.

**Assessment.** Reserves held by the United Kingdom are typically low relative to standard metrics, and the currency is free floating.

## Table 3.30. United States: Economy Assessment

**Overall Assessment:** *The external position was moderately weaker than implied by medium-term fundamentals and desirable policies in 2018.* A strong economy and the fiscal stimulus imply a sustained CA deficit in the coming years, moving it further from the level justified by medium-term fundamentals and desirable policies. The effects of actual and prospective changes in trade, taxation, and labor market (including, for example, immigration) policies continue to add uncertainty to the assessment.

**Potential Policy Responses:** Fiscal consolidation, aiming at a medium-term general government primary surplus of about 1.2 percent of GDP (a federal government primary surplus of about 1 percent of GDP), would be appropriate to put the debt-to-GDP ratio on a downward path and address external imbalances. Structural policies to increase competitiveness, while maintaining full employment, include upgrading infrastructure; enhancing schooling, training, and mobility of workers; and encouraging labor force participation. The recently imposed tariff barriers should be rolled back, as trade and investment disagreements with other countries should be resolved without resorting to the imposition of tariff and nontariff barriers.

**Foreign Asset and Liability Position and Trajectory**

**Background.** The NIIP, which averaged about –33 percent during 2012–14, is estimated to have decreased further from –39.6 percent of GDP in 2017 to –47.4 percent of GDP in 2018 (before accounting for valuation effects, which amounted to 2.9 percent of GDP through 2018:Q3). Under staff's baseline scenario, the negative NIIP is projected to expand by 4 percent of GDP over the next five years, on the back of sustained CA deficits.

**Assessment.** Financial stability risks from rising negative NIIP could surface in the form of an unexpected decline in foreign demand for US fixed income securities, which are the main component of the country's external liabilities. This risk, which could materialize due to a failure to reestablish fiscal sustainability, remains moderate given the dominant status of the US dollar as a reserve currency. About 64 percent of US assets are in the form of FDI and portfolio equity claims.

| 2018 (% GDP) | NIIP: –47.4 | Gross Assets: 123.9 | Debt Assets: 38.3 | Gross Liab.: 171.3 | Debt Liab.: 85.0 |
|---|---|---|---|---|---|

**Current Account**

**Background.** The US CA deficit was unchanged between 2017 and 2018 at 2.3 percent of GDP, compared with a deficit of 2.1 percent of GDP in 2014. The deterioration was led by the non-oil balance, which reached a deficit of 2.8 percent of GDP in 2018 compared with a deficit of 1.7 percent of GDP in 2014. The larger output gap did not result in an increase in the CA deficit in 2018 as these effects were offset by an improving oil balance and a stronger income account, and because of weaker-than-anticipated (import-intensive) investment. However, trade-balance outturns have been difficult to interpret as a result of shifts in the timing of exports and imports due to tariffs. Going forward, the US CA deficit is expected to rise to 2.6 percent of GDP by 2020 as US demand rises further above potential output, partly driven by the projected fiscal easing.

**Assessment.** The EBA model estimates a cyclically adjusted CA of –2.1 percent of GDP and a cyclically adjusted CA norm of –0.9 percent of GDP. The cyclically adjusted CA gap is –1.2 percent of GDP for 2018, reflecting policy gaps (–0.7 percent of GDP, of which –0.6 percent corresponds to fiscal policy) and an unidentified residual (about –0.5 percent of GDP). The External Sustainability Approach estimates a CA gap of –1.2 percent of GDP. On balance, and taking into account recent increases in oil production, staff assesses the 2018 cyclically adjusted CA to be 0.9 to 1.9 percent of GDP lower than the level implied by fundamentals and desirable policies.[1]

| 2018 (% GDP) | Actual CA: –2.3 | Cycl. Adj. CA: –2.1 | EBA CA Norm: –0.9 | EBA CA Gap: –1.2 | Staff Adj.: –0.2 | Staff CA Gap: –1.4 |
|---|---|---|---|---|---|---|

**Real Exchange Rate**

**Background.** After depreciating by about 7 percent in 2017 (eop), the REER appreciated by about 4 percent in 2018 (eop), yet as of end-2018 was about 18 percent higher than the average for 2014. Through May 2019, the US dollar appreciated 3.4 percent in real terms relative to the 2018 average.

**Assessment.** Indirect estimates of the REER (based on the EBA CA assessment) imply that the exchange rate was overvalued by 10 percent in 2018 (applying an estimated elasticity of 0.12). The EBA REER index model suggests an overvaluation of 8.0 percent, the EBA REER level model suggests an overvaluation of 11.9 percent, and the External Sustainability Approach estimates a REER overvaluation of 10.3 percent. Considering all the estimates and their uncertainties, staff assesses the 2018 average REER to be somewhat overvalued, in the 6 to 12 percent range.

**Capital and Financial Accounts: Flows and Policy Measures**

**Background.** Net financial inflows were about 2.3 percent of GDP in 2018, compared with 1.6 percent of GDP in 2017. Net portfolio investments and other investments decreased by 0.8 and 0.6 percent of GDP, respectively, in 2018 and were offset by stronger net direct investments.

**Assessment.** The United States has an open capital account. Vulnerabilities are limited by the dollar's status as a reserve currency, with foreign demand for US Treasury securities supported by the status of the dollar as a reserve currency and, possibly, by safe-haven flows.

**FX Intervention and Reserves Level**

**Background.** The dollar has the status of a global reserve currency.

**Assessment.** Reserves held by the United States are typically low relative to standard metrics. The currency is free floating.

# Technical Endnotes by Economy

## Australia

[1]For 2018, the REER index and level models imply an overvaluation of 2 and 11 percent, respectively, whereas the CA gap is consistent with an overvaluation of 5 percent (applying an estimated elasticity of 0.2). Lingering policy and structural distortions explain the larger REER gap range relative to the CA gap range.

## Belgium

[1]The Belgian CA estimates are subject to frequent and large revisions complicating the current assessment and comparison with past assessments.

## Canada

[1]The statistical treatment of retained earnings on portfolio equity and inflation is estimated to generate a downward bias in the income balance of the CA of the order of 1.7 percent of GDP.
[2]The EBA uses UN demographic projections. These differ from the authorities' projections due to methodological differences. The authorities' projections suggest slightly higher population growth and a slightly lower CA norm. The authorities' demographic projections also do not incorporate recent increases in immigration targets, which are assumed to be permanent. Together, these effects reduce the EBA estimate of the CA norm by about 0.3 percent.
[3]The price discount between Canadian crude (WCS) and the West Texas benchmark increased in 2018 to an average of US$26 a barrel (from US$13 in 2017). The estimated temporary effect on the CA is about 0.9 percent of GDP.
[4]The approach includes commodity terms of trade rather than oil prices as an explanatory variable, whereas Canada's REER has mirrored movements in oil prices much more closely than its commodity terms of trade.
[5]The semielasticity of the CA with respect to the REER is estimated at 0.27.

## China

[1]The CA norm for 2018 (–0.4 percent) is broadly similar to the one in 2017 (–0.3 percent), with a range of ± 1.5 percent of GDP.
[2]The EBA REER level model estimates a total REER gap of 12.6 percent, with identified policy gaps of –2.5 percent. However, the model fit of the EBA REER level model is very poor for China.
[3]Shifting expectations about trade tensions, monetary and exchange rate policy, reassessments of the government's reform agenda, or a desire by residents to diversify into foreign assets could trigger large changes in capital flows and exchange rate pressures, even in the absence of significant changes in fundamentals as captured by the EBA.

## Euro Area

[1]The reported NIIP reflects the euro area's position vis-à-vis the rest of the world.
[2]The IMF EBA analysis for the euro area covers 11 euro area members, which are Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, and Spain. The assessments of CA and REER gaps for the euro area are derived from the GDP-weighted and trade-weighted averages, respectively, of the assessments of the individual countries listed above.
[3]When applying GDP-weighted aggregation for the euro area, the CA norm is subtracted by 0.6 percent of GDP, which is the difference between the sum of the individual 11 countries' CA balances and the CA of the entire euro area.
[4]The EBA REER level model indicates an overvaluation of 0.8 percent, whereas the index model points to an overvaluation of 6.0 percent in 2018.

## Germany

[1]For Germany, the bulk of the EBA-estimated gap for 2018 reflects the regression's residual rather than gaps in the policy variables included in the EBA model.
[2]The estimated norm reflects changes in the credit gap estimates to better reflect the German financial cycle. Staff assesses the credit-to-GDP ratio to be currently lower than its long-term equilibrium, and that gradual closing of that gap will help support investment over the medium term.
[3]The EBA REER Index model implies that the REER is close to equilibrium. However, the EBA REER Index model has an unusually poor fit for Germany.

## Hong Kong SAR

[1]Hong Kong SAR is not in the EBA sample as it is an outlier along many dimensions of EBA analysis, thus one possibility—though with obvious drawbacks—is to use EBA estimated coefficients and apply them to Hong Kong SAR. Following that approach, the CA norm in 2018 is estimated to be about 16 percent of GDP, implying a CA gap of about –11½ percent, which is almost entirely explained by the model residuals. However, the EBA gap is overstated, as it does not properly reflect the measurement issues that are relevant for Hong Kong SAR. As such, three adjustments are made: (1) An adjustment of 5 to 7 percentage points is made to the EBA's implied contribution of the NIIP position. This is because the positive NIIP contribution in the EBA captures average income effects that are less rel-

evant for Hong Kong SAR, as the income balance relative to its NIIP is systematically lower than those of other economies. (2) The opening of the Precious Metals Depository has resulted in a decline of 4 to 4½ percentage points in the gold trade balance that does not reflect changes in wealth but rather the increased physical settlement of gold futures contracts. (3) Mainland China's increased onshoring has led to a decline in logistics and trading activities in Hong Kong SAR (1 to 1½ percent of GDP in CA), which did not result in lower consumption because it is viewed as temporary and to be replaced with increased provision of high-value-added services as Hong Kong SAR's own economy rebalances in response to changes in mainland demand. Adjusting for these factors, staff assesses the CA gap to be close to zero.
[2]The financial linkages with the mainland have deepened in recent years with the increase in cross-border bank lending, securities issuance in Hong Kong SAR by mainland entities, and the internationalization of the renminbi. As of end-2018, banking system claims, including those of foreign banks, on mainland nonbank entities amounted to HK$5.6 trillion, or about 198 percent of GDP, down by about 9 percentage points from a year earlier.

## India

[1]Reserves stand at about 187 percent of the ARA metric adjusted for capital controls. Whereas the adjusted reserve metric uses a composite index to measure capital account openness that is based on de jure capital control indices, staff analysis indicates that India's capital account is not as closed as suggested by traditional measures.

## Indonesia

[1]As Indonesia is among the few outlier countries regarding adult mortality rates, the demographic indicators are adjusted to account for the younger average prime age and exit age from the workforce. This results in an adjustor of –0.9 percentage point being applied to the model-estimated CA norm (–0.9 percent of GDP).
[2]A range of ± 1.5 percent is added to reflect the fact that the EBA regression estimates are subject to normal uncertainty (the standard error of the EBA norm is 1.4 percent).

## Italy

[1]The elasticity of the REER to the CA gap is estimated to be 0.26.

## Malaysia

[1]The ratios to GDP are based on staff estimates using US dollar values.
[2]Close to one-third of external debt is denominated in local currency and is largely of medium-term maturity, helping reduce FX and rollover risks. Malaysia's local currency external debt reflects holdings of domestically issued debt (mainly Malaysian government securities) by nonresident investors (about 13 percent of GDP as of 2018:Q3). Short-term FX-denominated debt largely belongs to the banking system, and a good portion is matched by short-term foreign currency assets, which are being closely supervised by Bank Negara Malaysia. Stress test analysis by staff suggests that the Malaysian economy would be resilient to a large capital flow reversal due to the depth of the domestic financial markets and the role of institutional investors.
[3]The estimated 2018 EBA norm is 0.8 percentage point lower than the 2017 norm, largely reflecting a decrease in the net foreign assets and a lower debt-stabilizing fiscal balance. The REER gap is based on the estimated semielasticity of CA to REER at 0.46.
[4]On December 2, 2016, the Financial Markets Committee announced a package of measures aimed at facilitating onshore FX risk management and enhancing the depth and liquidity of onshore financial markets. Two of these measures were classified as CFMs under the IMF's institutional view on capital flows. In addition, the authorities' strengthened enforcement of regulations on resident banks' noninvolvement in offshore ringgit transactions was considered enhanced enforcement of an existing capital flow management measure. Over the course of 2017, additional measures were announced to help deepen the onshore financial market and facilitate currency risk management.
[5]The IMF's composite reserve adequacy metric classifies Malaysia's regime as "floating" since 2016.

## Mexico

[1]The CA norm estimate has a standard error of 1.2 percent.
[2]Rules-based spot market intervention mechanisms were in place until February 2016. During this time, preannounced amounts were automatically offered for auction when the exchange rate depreciated by more than a threshold (for example, 1 or 1.5 percent) on a given day. Regular auctions with no minimum price were also used. Since February 2016, the authorities have moved to discretionary spot intervention and used it only once in 2016 and once in 2017 (US$2 billion). Data on intervention amounts are published weekly.
[3]In February 2017, the Foreign Exchange Commission announced a new FX hedging program, enabling the Bank of Mexico to offer up to US$20 billion in NDF settled in pesos with a maturity of up to 12 months. As of today, the US$5.5 billion in notional value outstanding has been continuously rolled over. The program adds to the authorities' toolkit to counter disorderly market conditions.

## Netherlands

[1]In comparison with last year, the EBA-estimated CA gap in 2018 (unexplained residual plus the contribution of identified

policy gaps) is higher, reflecting a higher CA and a slightly lower CA norm.
[2]The larger external balance sheet, presence of large international corporations, and issues related to the measurement of the CA add uncertainty to this assessment. According to the Dutch Central Bank, half of the positions in assets and liabilities are attributable to subsidiaries of foreign multinationals.

## Poland

[1]The 1.0 percentage point contribution from identified policy gaps mainly reflects the fiscal policy gap, with a too-loose domestic fiscal policy contributing –0.1 percentage point being more than offset by too-lax fiscal policies in trading partners. Small policy gaps in credit, public health spending, and reserves offset one another.
[2]The standard error for the 2018 CA norm is 0.6 percent of GDP. However, staff uses a larger confidence band to reflect potential measurement errors mainly related to the impact of remittances of foreign workers on the CA.
[3]The REER Level model for Poland suggests an undervaluation of 18.9 percent. However, the model's large residuals (–16.9 percent) suggest that it may not adequately capture changes in the equilibrium REER that occurred during the sample period.

## Russia

[1]Nominal GDP denominated in US dollars grew by only 3.3 percent in 2018, largely reflecting moderate growth and a weak ruble.
[2]Unfavorable valuation changes arise because the Russian stock market has performed very well in the past 15 years as the oil price soared, boosting the valuation of foreign-owned assets. "Disguised" capital outflows include transactions such as prepayments on import contracts whose goods are not delivered, repeated large transfers abroad that deviate from standard remittance behavior, or securities transactions at inflated prices. The central bank includes estimates of disguised capital outflows in the financial account but not in the foreign asset position of the reported NIIP. Hence, the actual NIIP position could be higher than the reported level, and this treatment of disguised outflows may explain part of the discrepancy between accumulated CA surpluses and the reported NIIP position.

## Saudi Arabia

[1]Despite an increase in the nominal value of external assets and liabilities, net external assets declined due to the large increase in nominal GDP driven by the oil price increase. The NIIP may be underestimated given the large E&O in the balance of payments over many years and inconsistencies between the BOP and IIP data.
[2]At current oil production, a US$1 change in the oil price results in a 0.5 percent of GDP first-round change in the CA balance. The oil price is assumed to be US$65.5 in 2019, declining to US$57.4 in 2024 (US$67.9 in 2018).
[3]EBA models do not include Saudi Arabia. Staff considered three methodologies, including two that incorporate the special intertemporal considerations that are dominant in economies in which exports of nonrenewable resources are a very high share of output and exports. The consumption-based model (Bems and de Carvalho Filho 2009) assumes that the sustainability of the CA trajectory requires that the net present value of all future oil and financial/investment income (wealth) be equal to the net present value of imports of goods and services net of non-oil exports. Estimated CA norms for the consumption-based model were 12.6 percent of GDP and 9.4 percent of GDP for the constant real per capita annuity and constant real annuity allocation rules, respectively. Using the EBA-lite approach, the cyclically adjusted CA norm is estimated at 9.4 percent of GDP under the EBA-lite approach. The investment needs model (Araujo et al. 2016) takes into account the possibility that it might be desirable to allocate a part of the resource wealth to finance investment, which was not explicitly considered by the consumption-based model and produced a CA gap of 0.3 percent over the medium term.

## Singapore

[1]Singapore has a negative income balance despite its large positive NIIP position, reflecting lower rates of return on its foreign assets relative to returns on its foreign liabilities, possibly due to the fact that the composition of Singapore's assets is tilted toward safer assets with lower returns.
[2]Nonstandard factors make a quantitative assessment of Singapore's external position difficult and subject to significant uncertainty. Singapore is not included in the EBA sample because it is an outlier along several dimensions (for example, large external asset and liability positions, highly positive NIIP position). Estimates are guided by the EBA CA framework, which suggest that Singapore's CA norm is mainly explained by its large NIIP position, the high level of income per working-age population, rapid population aging, and high public health spending efficiency. The staff-estimated CA gap is about 4.1 percent of GDP, although this carries a high degree of uncertainty. The fiscal policy gap contributed about 1 percent of GDP to the overall model-identified policy gaps.
[3]The latter is the result of considerably large gross inflows and outflows.
[4]The reserves-to-GDP ratio is also larger than in most other financial centers, but this may reflect in part that most other financial centers are in reserve-currency countries or currency unions. External assets managed by the government's investment corporation and wealth fund (GIC and Temasek) amount to at least 70 percent of GDP.

## South Africa

[1]The final CA gap estimate results from the CA regression and staff's judgment.

- As South Africa is among the few outlier countries regarding adult mortality rates, the demographic indicators are adjusted to account for the younger average prime age and exit age from the workforce. This results in an adjustor of –1.1 percent of GDP to the model-based CA norm.
- Net current transfers related to the Southern African Customs Union, assessed to have a net negative impact on the CA, are not accounted for in the regression model and warrant an adjustment to the cyclically adjusted CA. In addition, measurement issues pertaining to the income balance are likely to contribute to an underestimation of the CA.

[2]Gauging the appropriate REER for South Africa is challenging. The weakening of average REER levels from pre-2000 to post-2000 would likely lead REER regression-based model results to indicate undervaluation, unless the model can sufficiently attribute the observed weakening in average REER to weaker fundamentals.
[3]Applying an estimated long-term elasticity of 0.27 would suggest a REER overvaluation of 2 to 12 percent.

## Spain

[1]Based on data available through 2018:Q4.
[2]The EBA model suggests a CA norm of 1.1 percent of GDP, with a standard error of 0.7 percent of GDP. But the empirically based EBA norm does not fully account for the very negative NIIP, with about 30 percent of gross liabilities in the form of equity. Given external stability considerations, including potentially adverse NIIP valuation effects, a CA norm in the range of 1 to 3 percent of GDP is necessary to strengthen the NIIP by at least roughly 3 percent of GDP annually over the next 10 years. CA surpluses during 2013–18 of about 1.5 percent of GDP, on average, suggest that maintaining CA balances aligned with the staff-assessed norm of 1 to 3 percent of GDP would be feasible with adequate policies in place.
[3]The semielasticity of the CA to the REER is estimated at 0.22.

## Switzerland

[1]Other stock-flow adjustments include changes in statistical sources, such as changes in the number of entities surveyed and items covered, although their quantitative importance is not known.
[2]As a result, an appreciation (depreciation) of the Swiss franc has a negative (positive) effect on the NIIP, whereas a symmetric percentage increase in share prices in Switzerland and abroad would reduce the NIIP.
[3]The underlying CA is adjusted for (1) retained earnings on portfolio equity investment that are not recorded in the income balance of the CA under the sixth edition of the IMF *Balance of Payments and International Investment Position Manual*, and (2) the recording of nominal interest on fixed income securities under the *Balance of Payments Manual* framework, which compensates for expected valuation losses (due to inflation and/or nominal exchange rate movements), even though this stream compensates for the (anticipated) erosion in the real value of debt assets and liabilities. Adjusting for both of these effects and taking into account the lagged NFA contribution to the norm, the underlying CA would need to be reduced by about 3.6 percent of GDP.
[4]The CA gap range reflects the uncertainty inherent in the assessment.

## Thailand

[1]A big data approach (Baker and others 2016; Hlatshwayo 2016; 2018) reveals a significant negative correlation between uncertainty indices and private consumption and investment, albeit to a smaller degree relative to 2017. As in prior years, staff adjusts the cyclically adjusted CA for measurement biases in the EBA terms-of-trade estimates (about 0.5 to 1 percentage point of GDP).
[2]The EBA index REER gap in 2018 is estimated at 7.3 percent; the EBA level REER gap is estimated at –6.1 percent.

## Turkey

[1]Despite persistent CA deficits, the NIIP has fluctuated with no clear trend during 2009–18, due to a mix of positive valuation effects and large net BOP E&O.
[2]Gold imports increased in response to elevated uncertainty following the 2016 coup attempt and subsequent economic overheating. Staff estimates the additional cyclical contribution to the CA deficit due to gold imports in 2018 at 0.7 percent of GDP, based on the average annual 1999–2016 gold trade deficit of 0.4 percent of GDP compared with 1.1 percent of GDP in 2018.
[3]Net international reserves equal to gross international reserves minus the central bank's FX liabilities to banks, including the Reserve Option Mechanism.

## United Kingdom

[1]The official NIIP data might understate the true position—estimates of FDI stocks at market values imply a much higher NIIP. Bank of England estimates suggest that the NIIP based on market values could be close to 80 percent of GDP for mid-2017 (November 2017 inflation report). Market value estimates of FDI assets assume their valuations move in line with those of equity market indices in the United Kingdom and abroad. These estimates are highly uncertain, as actual FDI market values could evolve differently across different equity markets.
[2]A 2017 survey of firms by the Office for National Statistics found that 90 percent of FDI liabilities were in sterling, whereas about half of FDI assets were in foreign currency. However, the currency composition of cross-border banking positions reported

by the Bank for International Settlements is similar between assets and liabilities.

[3]The marked shift in recent years from FDI assets to portfolio equity assets implies a greater than historical underestimation of the income balance, as retained earnings on portfolio equity assets are not recorded on an accrual basis.

[4]Should Brexit lead to a significant increase in trade barriers, the equilibrium exchange rate could be weaker than suggested here.

## United States

[1]Small adjustor reflects correction to the terms-of-trade contribution, which does not include recent increases in oil production.

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