



When Is a Current Account Deficit Bad?

Sharmila Devadas and Norman Loayza

A current account deficit is sustainable when its underlying drivers support a smooth correction in the future. It is unsustainable when symptomatic of macroeconomic imbalances that would eventually trigger disruptive adjustments. Although a current account deficit in itself is neither good nor bad, it is likely to be unsustainable and lead to harmful consequences when it is persistently large, fuels consumption rather than investment, occurs alongside excessive domestic credit growth, follows an overvalued exchange rate, or accompanies unrestrained fiscal deficits. Even though a current account deficit is often paralleled by deteriorating net foreign assets, it may not be as informative about immediate-term financial vulnerabilities as the size, maturity, and currency composition of gross financial stocks.

Waste not, want not

Current account imbalances remain a fixture of the international environment (Figure 1). Concerns about deficits revolve around insolvency (the potential inability to repay accumulated external debt without sharp economic adjustments in the future) and illiquidity (the financial stress from an increased risk of reversals or sudden stops in capital flows). This brief explores how a current account deficit (CAD) may (or may not) be bad from two angles: its sustainability based on underlying drivers, and the extent to which it heightens near-term financial vulnerabilities.

The first part of the brief provides an overview of the balance of payments, examines its link to the national accounts, and explains the concept of current account sustainability. It then explores the determinants of current account deficits and discusses how, based on the normative assessment of these determinants, an unsustainable deficit could be identified. Finally, the brief notes that deficits may be over-emphasized in assessing financial stability risks and domestic financing constraints, but nevertheless remain at the mercy of market perceptions.

What does a current account deficit indicate about the macroeconomy and when is it (un)sustainable?

A country's balance of payments – comprising the current account, the capital account, and the financial account – reflects the flow of transactions between domestic residents and the rest of the world (Table 1, Column B). The current account balance is also equivalent to the saving and investment gap in the national accounts (Table 1, Column A, row in blue) and therefore reflects residents' consumption and investment decisions. When a country runs a current account deficit, its saving (the sum of changes in tangible assets and changes in net financial assets) is less than its investment ($I - S = CAD$). That is, a country experiences a negative transfer of financial wealth across borders when purchases of goods and services from abroad and the income paid to nonresidents exceeds the amounts residents receive from the outside world. When is this a cause for concern?

Theoretically, from the perspective of external solvency over time, the present discounted value of future trade surpluses will need to at least equal current net foreign liabilities. This condition in itself does not provide outright guidance to policymakers because it does not impose restrictions on the nature or path of the current account balance. However, it does implicitly suggest that current and future policies and behaviors must be consistent with allowing a smooth adjustment toward servicing the debt with the proceeds from exports, remittances, and other income from abroad. Thus, a current account deficit is sustainable if policies and behaviors underlying it can continue without them undergoing drastic shifts or leading to a crisis (Milesi-Ferretti and Razin 1996). On the other hand, an unsustainable current account deficit could be generated by macroeconomic imbalances, with eventual sharp adjustments in domestic demand, real wages, and the exchange rate, among other factors, leading to a current account reversal (Forbes, Hjortsoe, and Nenova 2017). In practice, the empirical assessment of current account sustainability has involved comparing the current account to GDP ratio against a "norm" based on underlying drivers, and also assessing the ratio against a benchmark that would stabilize a country's net foreign assets (NFA) to GDP at some observed level. Both approaches can be considered as ways to measure the excess in current account deficits (Cusolito and Nedeljkovic 2013).

While a current account deficit may appear to be sustainable for the time being given its underlying drivers, it is also important to consider that it could become unsustainable if investors' perceptions about it shift, triggered by a domestic or external shock, and large corrections in financial flows and asset prices ensue. Servén and Nguyen (2013) distinguish two basic views on global imbalances. According to one view, such imbalances are unsustainable as some countries spend too much and others too little, requiring eventual correction. The other view is that such imbalances can be self-sustaining, given the demand for scarce, safe financial assets. The latter links closely to the exorbitant privilege of the United States given its reserve currency status. Imports and foreign liabilities are predominantly in its own currency, making it significantly – and uniquely – less vulnerable to foreign currency shortages and exchange rate depreciation.

Affiliation: Development Research Group, the World Bank.

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Determinants of a current account deficit

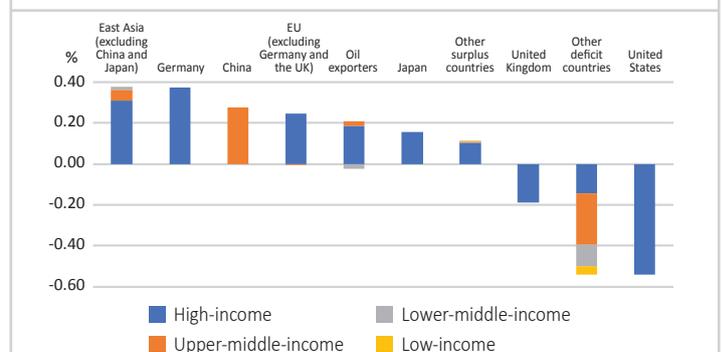
The first step towards evaluating whether a deficit is good or bad is to understand its drivers – what underlying conditions might explain a deficit? Some of the drivers reflect economic, social, and demographic characteristics that imply a benchmark for normal current account deficits; while other drivers include government policies and institutional features that may mitigate or exacerbate a departure from the benchmark. Empirical analyses typically map the current account, as a ratio to national income, to factors affecting saving and investment (for an extensive list of determinants, see Calderón, Chong, and Loayza 2002, and Cusolito and Nedeljkovic 2013).

Table 2 presents key fundamentals (income, demographics, trade and financial characteristics) and policy levers (macroeconomic policies and the institutional environment) that affect current account deficits. These determinants are used in several empirical studies and/or in the baseline External Balance Assessment (EBA) econometric model run by the International Monetary Fund (IMF) (IMF 2018; Phillips et al. 2013). These are discussed next.

Income. Higher average output growth or productivity may either reduce or increase a current account deficit. This depends on whether they signal a temporary or permanent increase in income. If temporary, saving would rise and the deficit declines, especially in the short term. However, with time to adjust, changes in investment could match that of saving when all the income shock is invested domestically given existing portfolio composition considerations between domestic and foreign assets (Kraay and Ventura 2000, 2002). If the income increase is permanent, consumption and investment would rise and the deficit increases. Empirical results suggest that on balance, deficits do tend to rise with higher average output growth or productivity. There is also a recognized relationship between the level of income and the current account deficit. According to the "stages of development" hypothesis, deficits in poor countries are high as their economies start to grow and import more physical capital; later, deficits fall as countries reach advanced status. Empirically, deficits and development status have a negative relationship.

Demographics. Population growth driven by rising birth rates results in a higher young dependency ratio (the number of persons under the age of 15 relative to the working-age population), which in turn is associated with lower saving, and thus higher deficits. Growth in the working-age population, however, can have ambiguous effects, driving up both saving and investment. A higher old-age dependency ratio (the number of persons aged 65 and above relative to the working-age population) would imply lower saving. On the other hand, a rapidly aging population is associated with higher saving and lower deficits, as it partially signals higher longevity

Figure 1. Current Account Imbalances (% of World GDP), 2013–17 Average



Source: Authors' calculations based on the World Economic Outlook (WEO) April 2018 database and World Development Indicators (WDI).

Note: Country income groups are World Bank classification based on gross national income (GNI) per capita. Oil exporters are countries with fuel exports that are at least 30 percent of merchandise exports. EU = European Union; UK = United Kingdom.

Table 1. Overview of National Accounts and the Balance of Payments

A. National Accounts	of which:	Domestic	External	B. Balance of Payments	
Supply of goods and services ($Y = Y_D + M$) Domestic output (Y_D) and import of goods and services (M)		Y_D	M		
Use ($Y = IC + C + I + X$) Intermediate consumption (IC), final consumption (C), investment (I) and exports of goods and services (X)		$IC + C + I$	X		
Gross Domestic Product ($GDP = Y_D - IC$)		$C + I$	$X - M$	TB	Trade balance ($X - M$)
Gross National Disposable Income (GNDI) = $GDP +$ Income balance (IB)		$C + I$	TB + IB		
Saving ($S = GNDI - C$) = Investment (I) + Financial saving (CAB)		I	TB + IB	CAB	Current account balance (TB + IB)
				KAB	Capital account balance
				- ΔNFA	Financial account balance (change in net foreign assets)
				0	CAB + KAB = ΔNFA

The double-entry bookkeeping system of the balance of payments means that the sum of CAB and KAB is equal to ΔNFA

Source: Authors' design, based on IMF (2009) and Lindner (2015).

See IMF (2009) for further details of the components and compilation methodology of the balance of payments.

• The supply of goods and services refers to all available final or intermediate products, produced domestically or imported.

• The income balance (IB) includes net income receipts on net foreign financial assets; and workers' remittances.

• The capital account (KAB) reflects disposals (positive sign) and acquisitions (negative sign) of non-produced, non-financial assets (such as leases, licenses and land for embassies). The change in net foreign assets (ΔNFA) reflects increases in financial assets (negative sign/outflow), and financial liabilities (positive sign/inflow).

risk among the current working-age population and future strains on pension systems (IMF 2017; 2018). Empirical evidence generally bears out these expectations. Deficits rise with higher dependency ratios, but decline with higher aging speed.

Trade factors. Higher terms-of-trade volatility and larger, more temporary oil and natural gas net exports can be linked to a precautionary saving motive and thus lower deficits. On the other hand, persistent positive terms-of-trade changes and increased trade openness can have an ambiguous effect on the current account deficit. Persistent positive terms of trade can incentivize saving through a precautionary motive, but they could also signal greater wealth and investment opportunities, leading to higher consumption and investment. Similarly, trade openness can induce both more exports and imports, and the better access to foreign financial markets associated with trade openness facilitates payments for international transactions and can lead to higher investment (Chinn and Prasad 2003). Empirically, trade openness, higher terms-of-trade volatility, positive terms-of-trade changes, and net exports of oil and natural gas appear to reduce deficits. Nascent investigations point to potential explanatory power from production and trade structures. Conceptually, upon joining global value chains (GVCs), downstream economies in the production process (countries with relatively low ratios of domestic value-added exports to gross exports) experience improvements in competitiveness that are temporary (as other countries eventually catch up), prompting a forward-looking saving motive in relation to the income boost from higher exports (ECB 2017). Empirically, countries that participate in GVCs appear to have lower deficits the more downstream they are and higher deficits the more upstream they are (ECB 2017; Haltmaier 2015). Other studies suggest that deficits can be partly explained by asymmetric trade liberalization favoring goods. The exports of countries focused on goods increases more than countries focused on services (Barattieri 2014; Joy et al. 2018). For some countries, therefore, current account deficits could reflect increased consumption (of cheap manufactured goods) today against a future increase in income from higher demand for services (Barattieri 2014).

Financial factors. The net effect of financial depth is conceptually unclear. It could lead to higher financial saving, but it could also significantly boost consumption and investment through looser borrowing constraints (Bandiera et al. 2000; Chinn and Prasad 2003). Empirical results, especially those based on credit expansion or excesses suggest a positive link to larger deficits (see, for example, IMF 2018 and Phillips et al. 2013). Meanwhile, larger negative net foreign assets (NFA) entail higher interest payments and a larger deficit, but through the erosion of wealth, may reduce imports. Empirical evidence supports a positive relationship – deficits rise with more negative NFA. However, this relationship may not hold for very highly indebted nations, possibly due to more heightened concerns about sustainability (Phillips et al. 2013). Having a reserve currency (proxied by the share of a country's currency in world international reserves) is associated with higher consumption and a larger deficit (Phillips et al. 2013).

Macroeconomic policies and institutional environment. A lower fiscal balance (government revenue less expenditure) could result in a bigger current account deficit, through government spending and its effects on aggregate demand. It could result in higher private consumption and investment, depending on the interplay of complementary versus crowding out effects of government spending (Chinn and Prasad 2003). On the other hand, a reduction of fiscal balances can prompt an increase in private savings, in the expectation of future tax increase (a possibility known as the Barro-Ricardian Equivalence). Empirical findings consistently show a significant link between lower fiscal balances and bigger current account deficits – more so through lower national saving than higher investment. Reserve accumulation appears

to have a causal link with higher saving and a smaller deficit, possibly reflecting the public sector's precautionary motive or focus on export-led growth, though this does not preclude reverse causality from surpluses to reserves. Conceptually, foreign exchange intervention that leads to an overvalued real exchange rate, typically under a peg, could contribute to a widening current account deficit, as exports are "priced out" of world markets and high domestic interest rates meant to support the peg encourage residents to substitute present for future consumption (Milesi-Ferretti and Razin 1996). Capital controls, on their own, tend not to have statistically significant net effects on current account deficits, but they may reinforce foreign exchange intervention while dampening financial depth effects (Chinn 2017; Phillips et al. 2013). When the quality of a country's institutions is better, conceptually, this should reduce uncertainty and promote economic growth. Both forces would increase investment but would have an ambiguous impact on saving (lower uncertainty reducing

Table 2. Determinants of Current Account Deficits

Determinant	Direction of Effect			
	Theory CAD/NY	Empirical CAD/NY	Channel	
			S/NY	I/NY
Income				
Average output growth	+/-	+	+	+
Stage of development (per capita income level)	-	-	...	-
Demographics				
Dependency ratio	+	+	-	-
Aging speed ^a	-	-	+	+
Trade Factors				
Oil and natural gas net exports	-	-	+	+
Terms-of-trade volatility	-	-	+/-	+/-
Trade openness (Sum of exports and imports/GDP)	+/-	-	+	+
Financial Factors				
Financial depth ^b	+/-	+	-	+
Initial net foreign assets (NFA)	+/-	-	+	...
Reserve currency status ^c	+	+	-	-
Macroeconomic Policies and Institutional Environment				
Fiscal balance	- / 0	-	+	+
Reserve accumulation	-	-	+	...
Capital controls	-	-	...	-
Institutional environment ^d	+	+	-	-

Source: Authors' tabulation of the majority outcome of statistically significant results from the studies listed under References in the section entitled "Empirical Results from Literature Survey" and the previous survey in Calderon, Chong and Loayza (2002).

Note: Estimated effect is based on an increase in the determinant (and lower risk in the case of institutional environment).

a. Projected change in old-age dependency ratio (20 years out/current).

b. Credit to the private sector/GDP. Result also reflects excess credit effects (measured by the change in the ratio or the detrended value of the ratio).

c. Own currency share in world international reserves.

d. Index based on International Country Risk Guide (ICRG) data.

Legend: Blue box = Decline in deficit; Red box = Increase in deficit; Grey box = Ambiguous

CAD = current account deficit; NY = national income; S = saving; I = investment.

+ = increase; - = decline. 0 = no effect. Bold + or - = relatively stronger effect.

... = no statistically significant results; color coding is based on the majority sign of statistically insignificant results.

saving and higher growth increasing it), thus having an ambiguous effect on current account deficits. Empirically, however, the evidence suggests that a better institutional environment is associated with bigger deficits.

From the above, we can see that a current account deficit can be an optimal response given a country's fundamentals, many of which signal strength (for example, higher average output growth, low terms-of-trade volatility, and financial deepening). A deficit can also be optimal in response to fundamentals that reflect structural factors (such as the development or demographic stage of a country) or cyclical conditions (notably, a positive output gap and a negative terms-of-trade shock). In the face of structural factors, the current account deficit would take time to adjust to a balanced state (Calderón, Chong, and Loayza 2002). In response to cyclical factors, the current account deficit may represent an appropriate buffer response (Ghosh and Ramakrishnan 2012; Kraay and Ventura 2002) and will likely rebalance (Cusolito and Nedeljkovic 2013). In either case, current account deficits may warrant consideration of corrective policies if the deficits are misaligned with respect to normal or expected values. Governments can have a beneficial effect if they implement such corrective policies. However, government policies can lead to abnormal current account deficits when they generate price and cost distortions, promote excessive risk taking, and reflect reckless fiscal and monetary regimes. It can be argued that unsustainable current account deficits can be traced back to a government failure in taking corrective policies or in inducing a proper economic environment.

Identifying an unsustainable current account deficit based on its determinants

Naturally, errors and omissions aside, the world must have a balanced current account; so, if some countries run deficits, others should run surpluses. Whether the previous determinants point to a deficit being sustainable depends on what they imply about meeting net external obligations over the long run, the presence of macroeconomic imbalances, and how policymakers respond to underlying fundamental changes. The potential for long-term growth is key. A deficit should be driven by this growth prospect as well as reinforce it – by way of quality investments.

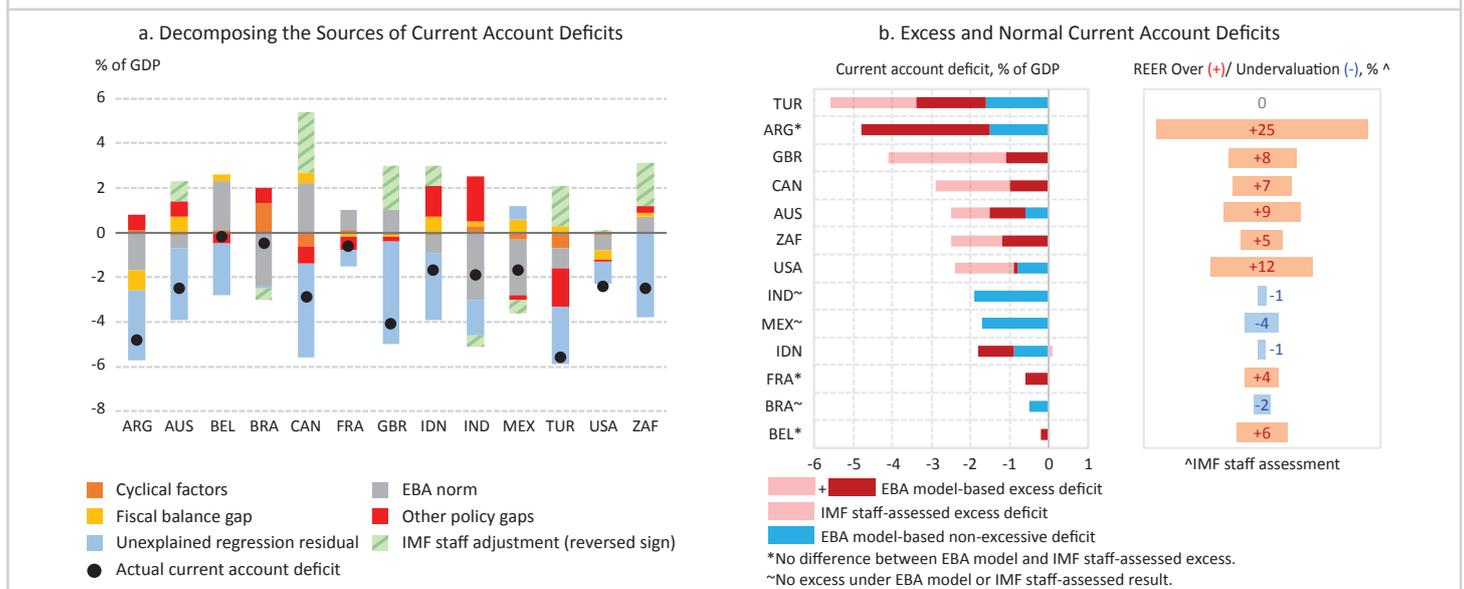
It matters then if fundamentals and policy settings are driving consumption and/or investment, and if they are reflecting distortions or problems elsewhere. As noted in the previous section, a deficit is optimal given certain income and demographic characteristics – higher productivity or average output growth, a low stage of development, and a high old-age dependency ratio. While the first two characteristics lead to higher investment, foreshadowing future increases in potential output, the third depletes saving, and thus, if a driving force of the deficit, ought to be occurring amidst an already strong net foreign asset position from past surpluses.

Deficits linked to production and trade structures, meanwhile, need not mirror domestic distortions but rather comparative advantages. Sound profit maximization motives are likely at play in firms' decisions to relocate abroad. Evidence suggests that innovating countries still earn most of the profits with the disaggregation of innovation and production (see Dedrik, Kraemer, and Linden 2009; and Xing and Detert 2010 for a discussion of the iPod/iPhone production network). Value-added trade also paints a different picture of competitiveness than gross trade. For instance, the United States continues to have robust comparative advantage in manufacturing industries (Dai 2013), and its bilateral trade deficit with China is significantly smaller in value-added terms than in gross terms (Johnson and Noguera 2012; Xing and Detert 2010). Further, global firms operate across geographical borders and this complicates the measurement of trade and income balances which are residency-based (Avdjiev et al. 2018). Some current account deficits may reflect this tension between the nature of global economic activity and its measurement, rather than outright excesses.

In terms of policy settings, a deficit coinciding with exchange rate overvaluation (that may be propped by intervention which prevents the exchange rate from being a shock absorber), excess credit, and relatively large budget deficits risks over-consumption and over-investment. Calling out such policy gaps that are resulting in suboptimal behavior, however, requires a normative stance and establishing benchmarks (see, for instance, Phillips et al. 2013 on identifying policy gaps under the IMF External Balance Assessment (EBA)).

The importance of establishing what drives current account deficits can be appreciated with the IMF's recent EBA results (IMF 2018) for those countries among the world's largest 29 economies that have deficits (Figure 2). The model-based assessment of excessive current account deficits is given by the sum of policy gaps and unexplained regression residuals after accounting for current account "norms" (reflecting most of the fundamentals and policies in Table 2, with the latter set at desirable levels) and cyclical factors. For some countries (Brazil, India, and Mexico), estimated norms (the gray bar in Panel a) established a deficit that went beyond the actual one (black dot in Panel a), given their lower income, higher growth potential, and faster population growth, resulting in no overall excesses. For the United States, which has the unique advantage of its reserve currency status, the current account norm suggests a larger deficit than its peers (IMF 2017); while the U.S. actual deficit was 2.4 percent, the excess amounted to about 1.5 percent. For several countries with relatively large deficits (Argentina, Canada, Turkey, and the United Kingdom), identified policy gaps (denoted by the negative yellow and red bars in Panel a) played a role in contributing to excesses. However, unexplained residuals (denoted by the negative blue bars in Panel a) were found to be more important. In some instances, the unexplained residuals were correlated with shortcomings in structural policies, though not explicitly modelled (for example, labor market

Figure 2. IMF Assessment of Current Account Deficits in 2017



Source: Authors' illustration based on data from IMF (2018). See IMF (2018) for further details on the current account and real effective exchange rate (REER) assessments.

Note: IMF staff-assessed excess current account deficit/surplus = EBA model-based gap - IMF staff adjustment; where EBA model-based gap = Policy gaps + Unexplained regression residual

= Actual current account deficit - Cyclical factors - EBA norm; where EBA norm comprises fundamentals and desirable policies.

Cyclical factors = output gap and commodity terms-of-trade gap. **Fundamentals** = output per worker, expected GDP growth five years ahead, lagged NFA, oil and natural gas net exports, institutional/political environment, old-age dependency ratio (OADR), population growth, prime-age population (45-64) to working-age population ratio, life expectancy at prime age (standalone and interacted with future OADR), demeaned VIX, reserve currency status. **Policy gaps** = the differences between actual and desirable policies. **Fiscal balance gap** = the difference between current cyclically adjusted fiscal balance and one desirable in the future at full employment. **Other policy gaps** are for public expenditure on health (versus benchmark from regression on GDP per capita, demographics and income inequality), foreign exchange intervention (against 0, or non-zero if deemed necessary to reach reserves adequacy), private credit/GDP (deviation from detrended value), and capital controls (against cross-country average or own level, whichever is lower).

IMF staff adjustment = outside-the-model adjustments for example, for measurement biases or special demographic features. If negative (positive), it reduces a negative (positive) EBA model-based gap. EBA = External Balance Assessment conducted by the International Monetary Fund (IMF); VIX = Volatility Index (Chicago Board Options Exchange).

ARG = Argentina; AUS = Australia; BEL = Belgium; BRA = Brazil; CAN = Canada; FRA = France; GBR = United Kingdom; IND = India; IDN = Indonesia; MEX = Mexico; TUR = Turkey; USA = United States of America; ZAF = South Africa.

distortions in Turkey and South Africa). Most deficit countries also had indications of currency overvaluation, and, revealingly, the percent of overvaluation (denoted by the numbers in red in Panel b) was more strongly correlated with the magnitude of excess deficits than with the size of the actual deficits.

Out-of-model judgment to account for country-specific characteristics (denoted by the green patterned bars in Panel a) led to overall IMF assessments of excess deficits that were less than the EBA-identified excesses. These corrections may at times seem rather arbitrary, including for characteristics such as large gold imports (Turkey), high mortality risk (South Africa), and mismeasurement (Canada and the United Kingdom). Although meant as a starting point for country-specific analysis and policy discussion and not to predict future events, the models nevertheless ought to be tested for their out-of-sample performance. This can not only improve their quality as assessment tools but also help dispel notions of arbitrariness.

What current account deficits miss regarding near-term financial vulnerabilities

Against the backdrop of large gross financial flows and stocks, current account deficits are insufficiently informative about the immediate risks to financial stability, for several reasons (Obstfeld 2012). First, there is a disconnect between accumulated current account balances and the net international investment position (NIIP) (NFA adjusted for valuation effects due to exchange rate and asset price changes), especially over shorter time spans. Valuation effects now account for a growing part of NIIP dynamics, given the size of financial stocks (Forbes, Hjortsoe, and Nenova 2017). Second, sudden stops are gross events (Borio and Disyatat 2015) that present risks even without imbalances in the current account or NIIP, depending on the type of gross financial liabilities, maturity and currency mismatches with respect to gross financial assets, and the potential significant impact on asset prices. Financial liabilities that are more stable (such as foreign direct investment (FDI)), that foster greater automatic risk sharing (such as equity), or that correspond to investors with a longer time horizon limits the fallout from a negative domestic shock and reduces the probability of contagion of an external shock (Forbes 2013). For instance, while Argentina and Turkey had been highlighted as having large excess current account deficits with some policy gaps, both have been especially vulnerable in recent times given the high share of short-term foreign liabilities in their NIIPs (IMF 2018). Aggregate NFA may also hide imbalances across different sectors. For example, despite previous current account surpluses, the Republic of Korea was badly affected during the global financial crisis. Banks and corporates with high external debts and negative net positions were hit by large financial outflows and sharp exchange rate depreciation (see, for example, Avdjiev, McCauley, and Shin 2016).

Meanwhile, the conflation of the real resource constraint in the national accounts (abstaining from consumption releases real resources for investment/exports) with domestic financing constraints exaggerates the adverse implications of deficits – the saving-investment gap is often taken to reflect a contemporaneous insufficiency of domestic funds to finance domestic expenditure. Contrary to the loanable funds theory (loans are limited by the amount of saving in the same period), however, saving does not constrain the creation of domestic credit by banks (Borio and Disyatat 2015; Lindner 2015).

The previous discussion suggests that differences in actual vulnerabilities between current account surpluses and deficits may not be clear cut. However, perceived vulnerabilities are undoubtedly greater for deficits, which are used to proxy reliance on foreign borrowing and exposure to shifts in risk aversion and sentiment. During the taper tantrum in 2013, Brazil, India, Indonesia, South Africa and Turkey, dubbed the “fragile five” by Morgan Stanley, came under the heaviest investor scrutiny but had little in common other than current account deficits (Forbes, Hjortsoe, and Nenova 2017).

Conclusion

A bad current account deficit is characterized by underlying consumption and investment drivers, including policies, that raise doubts about a country's long-term external solvency or are symptomatic of problems elsewhere in the economy. A good deficit supports smooth transitions – for instance, from building productive capacity while accumulating external debt to subsequently accumulating assets, and then drawing them down as the population ages. While traditional determinants continue to help explain deficits, the complexity of globalized economic activities requires a more careful consideration of measurements and frameworks for assessments (for example, residency-based versus consolidated economic units). Good deficits, or even surpluses, are not necessarily safe from financial stress at any moment in time. The vulnerability to stress depends on the characteristics of gross financial stocks, especially if large, and the balance sheets of different sectors.

Sound policies and institutional features can go a long way to attracting and sustaining a healthy demand for domestic assets. Australia, for example, has demonstrated considerable resilience, despite having sizeable current account deficits for much of its history- its vulnerability is less than what its headline negative NIIP might suggest because its foreign liabilities are mostly in Australian dollars, foreign currency debts are well hedged, macroeconomic policies are sound, and its economy shows no signs of major economic distortions (Belkar, Cockerell, and Kent 2007; IMF 2018).

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