



Global imbalances: build-up, unwinding and financial aspects

The 2007-09 financial crisis led to major corrections in global current accounts. However, “global imbalances” persist, raising concerns among economic policymakers. This article focuses on two key aspects of these imbalances. The first part describes how they have evolved over the recent period and how their correction has proved costly, given the required major adjustments in real exchange rates. The second part of the article provides detailed statistics on the size and composition of net and gross international investment positions. Due to the large size of gross positions, the income account has become more important for current account dynamics, contributing to the persistence of global imbalances.

Antoine Berthou
Microeconomic and Structural Analysis Directorate

Matthieu Bussière
Monetary and Financial Analysis Directorate

Laurent Ferrara, Sophie Haincourt, Francesco Pappadà and Julia Schmidt
Economic Affairs and International Cooperation Directorate

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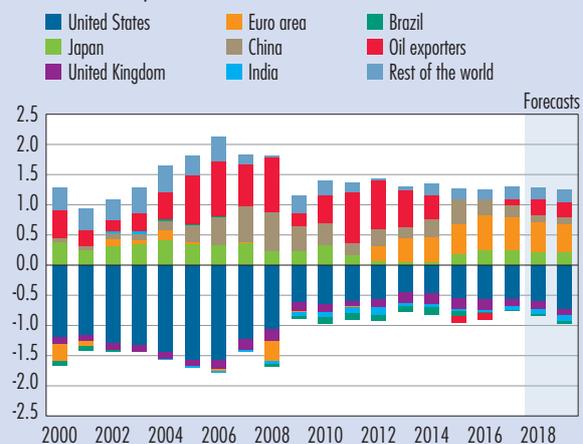
449 billion dollars
size of the US current account deficit in 2017

3.5 % of GDP
euro area current account surplus in 2017

3x-4x
increase in the gross international investment positions
of the main advanced economies since 1995

Global current account imbalances

(% of world GDP)



Source: IMF (*World Economic Outlook*, October 2018).



Since the late 1990s, the world economy has been characterised by a very substantial growth of global current account imbalances, in line with increasing globalisation. Despite a rebalancing process that started with the Great Recession in 2007-09, these global imbalances have remained large and persistent, in spite of short-term adjustments mainly related to commodity prices (see Chart 1).

Current account developments have been particularly striking in the euro area (see Chart 2). While countries such as Spain or Italy have rebalanced their current accounts, imbalances still persist, mostly due to the large surpluses of Germany and the Netherlands.

Should we care about these imbalances? After all, there is no reason why all countries in the world should be balanced at all times, as these imbalances simply reflect a gap between the savings and investment of economic agents operating within national territory. The financing capacities and needs of these agents give rise to capital inflows and outflows, which help smoothing consumption and investment over time.

However, excessive external imbalances are a source of concern because the funding of deficit countries by surplus economies may be subject to “sudden stops” (Milesi-Ferretti and Razin, 2000). Experience suggests

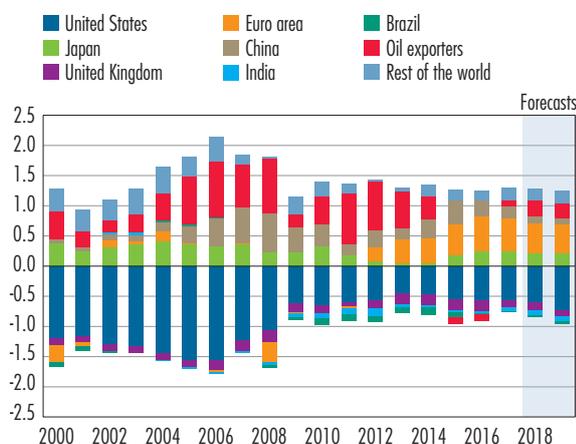
that large imbalances are often a leading indicator of subsequent crises and sudden stops (Bussière and Fratzscher, 2006). As Lane and Milesi-Ferretti (2017) show, current account balances prior to the great financial crisis exceeded levels consistent with underlying economic fundamentals and thus implied large and costly adjustments thereafter. These vulnerabilities are not confined to emerging market economies: large and persistent current account deficits may also precede banking crises in advanced economies such as European peripheral countries (Gourinchas and Obstfeld, 2012).

The recent economic history of the euro area provides an example of how excessive current account imbalances may be reversed – in an asymmetric way – due to a sudden stop in external funding of domestic agents. It turns out that the cost of the adjustment, which was mainly driven by a compression of internal demand in deficit economies, was substantial in terms of employment and economic growth, not only in the deficit countries but also at the global level.

In this paper, we first focus on the real costs of global imbalances and highlight the asymmetric role of exchange rate movements in the build-up and unwinding of global imbalances. We then explore the financial side of global imbalances as we look at the composition of external funding (flows of new external debt and stocks).

C1 Global current account imbalances

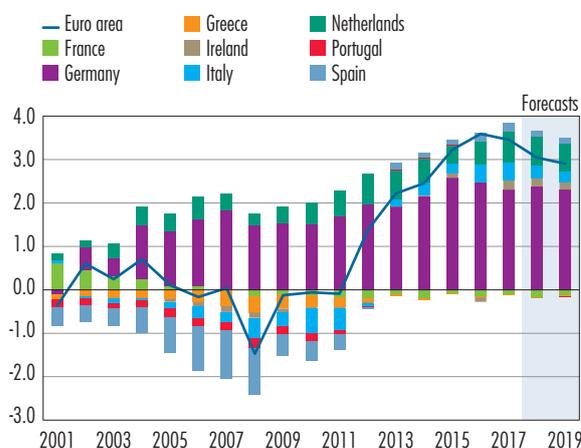
(% of world GDP)



Source: IMF (World Economic Outlook, October 2018).

C2 Euro area current account imbalances

(% of euro area GDP)



Source: IMF (World Economic Outlook, October 2018).



1 The economic costs of external rebalancing: the role of the exchange rate

The debate on the macroeconomic costs of global rebalancing has attracted renewed interest over the past decade. Obstfeld and Rogoff (2001, 2005 and 2007) pointed out in a series of papers that the basic mechanism of the adjustment results is a transfer of real resources from debtor countries to surplus countries regardless of the drivers of global rebalancing. In the debtor country, this transfer leads to (a) a decrease in domestic spending relative to production and (b) a real depreciation associated with the fall in relative prices.

The debate on these two channels of external rebalancing dates back to the 1920s and the controversy between Keynes and Ohlin about Germany's international obligations after World War I. Keynes pointed out that the macroeconomic costs of any given amount of war reparations – the “primary burden” of a transfer – were magnified by the adverse effects of deteriorating terms of trade and real exchange rates – the “secondary burden” of a transfer. Ohlin criticised Keynes' emphasis on relative prices, arguing that the income effects from unilateral transfers were the predominant ones, leading to small terms-of-trade adjustment.

This section focuses on the secondary burden of a transfer and looks at how movements in real exchange rates contribute to the build-up and rebalancing of global imbalances.

Assessing the role of the real exchange rate in current account imbalances: build-up versus unwinding episodes

In order to assess the costs of rebalancing, it is important to understand how variations in the current account are related to variations in the real exchange rate. The measurement of this relation is the subject of considerable debate among academics, and is also of interest to policymakers. Indeed, a weak relation between these two variables would mean that large variations in the real exchange rate are required to rebalance current accounts.

Chart 3 shows how current account variations and real exchange rate variations were related in the period 2002-2006 (left panel) and 2006-2010.¹ On the whole, there appears to be a negative relationship between real exchange rates and the current account balance: a real exchange rate depreciation indeed leads to the rebalancing of the current account. Nevertheless, the elasticity is weak, which implies that large variations of the real exchange rate are required to obtain a substantial adjustment of the current account.

Interestingly, there is also an asymmetry in Chart 3 between the build-up and rebalancing periods, as current account variations were more strongly related to the real exchange rate movements in the four years following the peak (rebalancing period) compared with the four years before the peak of global imbalances (build-up period).

While exchange rate misalignments and competitiveness gaps are not necessarily the main driver of rising imbalances, they represent a cost paid by deficit countries during the rebalancing period. For example, large current account adjustments were observed in European deficit economies in the early years of the global financial crisis, and this adjustment continued during the euro area crisis. In this process, real exchange rate variations have played a significant role. This is in line with Banque de France research showing that the Marshall-Lerner conditions – i.e. the trade elasticity required for a currency depreciation to have a positive impact on the trade balance – are largely fulfilled. In other words, exchange rate changes do play a role in reducing global trade imbalances, although the effect varies substantially across countries (Bussière et al., 2016).

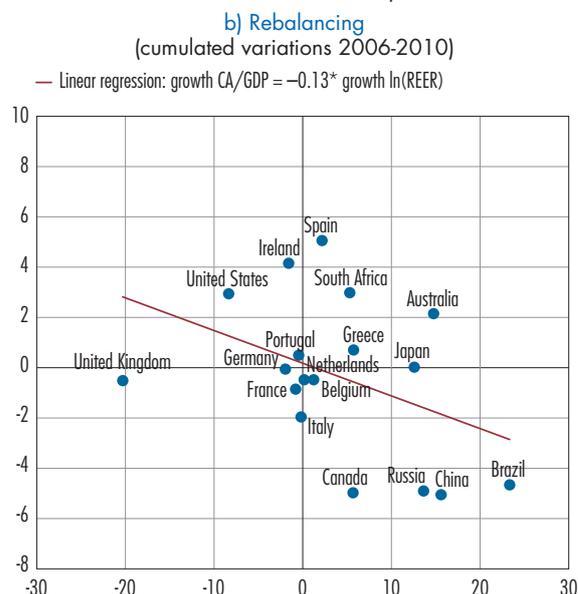
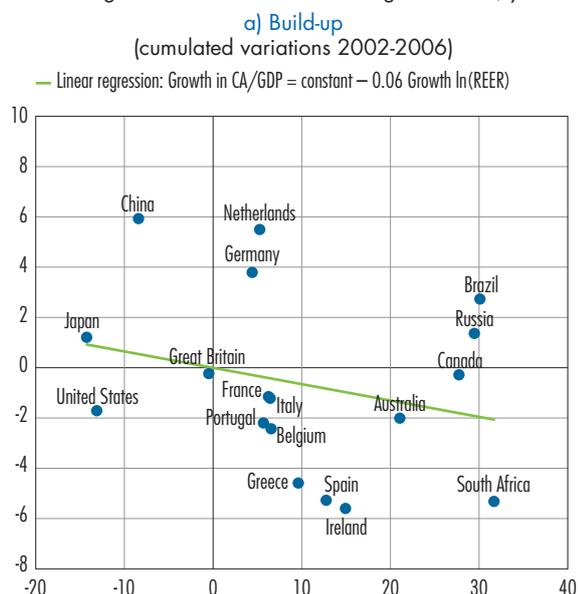
What are the factors affecting the magnitude of the real exchange rate elasticities? Recent research carried out at the Banque de France on this topic provides us with two pieces of evidence. First, Berthou and Dhyne (2018) show that very productive exporters react less to real exchange rate movements than small and weakly productive exporters. In each country, this tends to reduce the aggregate response of exports to exchange rate

¹ This study focuses on a sample of advanced economies and large emerging economies (Brazil, Russia, India, China and South Africa, or the BRICS). The current account is expressed as a percentage of GDP and data are from IMF balance of payments statistics. Real effective exchange rates are from IMF international financial statistics and are adjusted for the consumer price index.



C3 Different dynamics during build-up and rebalancing periods

(x-axis: change in the real effective exchange rate in %; y-axis: change in the current account balance in % of GDP)



Sources: IMF and Banque de France calculations.

Note: CA (current account); GDP (gross domestic product); REER (real effective exchange rate).

movements because highly productive firms account for a large share of aggregate exports. Second, Pappadà (2015) shows that the real exchange rate depreciation associated with the external adjustment is larger when the firm productivity dispersion is large. When new exporting firms are small with respect to incumbents, they contribute less to the increase in aggregate exports. In a deficit country populated with weakly productive firms, this tends to increase the real exchange rate adjustment needed for rebalancing the current account.

2 The financial side of global imbalances

In this second section, we examine the financial counterpart to current account imbalances. Using data for the United States, Germany, France and Spain, we

shed some light on the role played by the structure of current account financing in the dynamics of international investment positions.

A partial reduction in imbalances after the crisis

Following the 2007-09 global financial crisis, current account imbalances were reduced, but not sufficiently to reverse any of the large external positions that were accumulated prior to the crisis. Indeed, net positions, have widened by a factor of 5 to 10 compared to their level in 1995, even after 2010 (see right-hand panel of Table 1). A striking fact is also that gross positions have expanded and are now three to four times larger than their 1995-level, attaining 150% to 300% of GDP (see left-hand panel of Table 1).

T1 Gross and net positions

(% of GDP)

| | Gross positions | | | | Net positions | | | |
|------|-----------------|---------|--------|-------|---------------|---------|--------|-------|
| | United States | Germany | France | Spain | United States | Germany | France | Spain |
| 1995 | 55.2 | 63.5 | 86.3 | 53.8 | -3.6 | 5.1 | -2.3 | -18.9 |
| 2000 | 81.8 | 138.5 | 159.3 | 106.5 | -14.9 | 1.6 | 2.2 | -35.1 |
| 2005 | 109.1 | 169.2 | 211.5 | 135.7 | -14.2 | 12.6 | -1.5 | -55.9 |
| 2010 | 153.9 | 243.1 | 294.8 | 170.0 | -16.8 | 25.9 | -8.6 | -89.2 |
| 2015 | 149.5 | 229.4 | 296.5 | 194.7 | -41.4 | 47.7 | -15.4 | -88.0 |

Sources: IMF (balance of payments) and World Bank.

Gross positions are calculated as the mean of IIP assets and liabilities.



The current account is a flow measure whereas the net international investment position (NIIP) is a stock measure. As detailed in the appendix, changes in the NIIP are equal to the current account (CA) plus a valuation effect. The current account (CA) comprises the trade balance (TB) and the income balance (INC). Valuation effects (VAL) consist of the market revaluation of previously accumulated stocks, as well as the revaluation of stocks due to exchange rate changes.² Thus we have the following equality:

$$NIIP_t - NIIP_{t-1} = \underbrace{TB_t + INC_t}_{CA_t \approx FA_t} + VAL_t$$

The financial counterpart of current account flows is recorded in the financial account (see appendix for

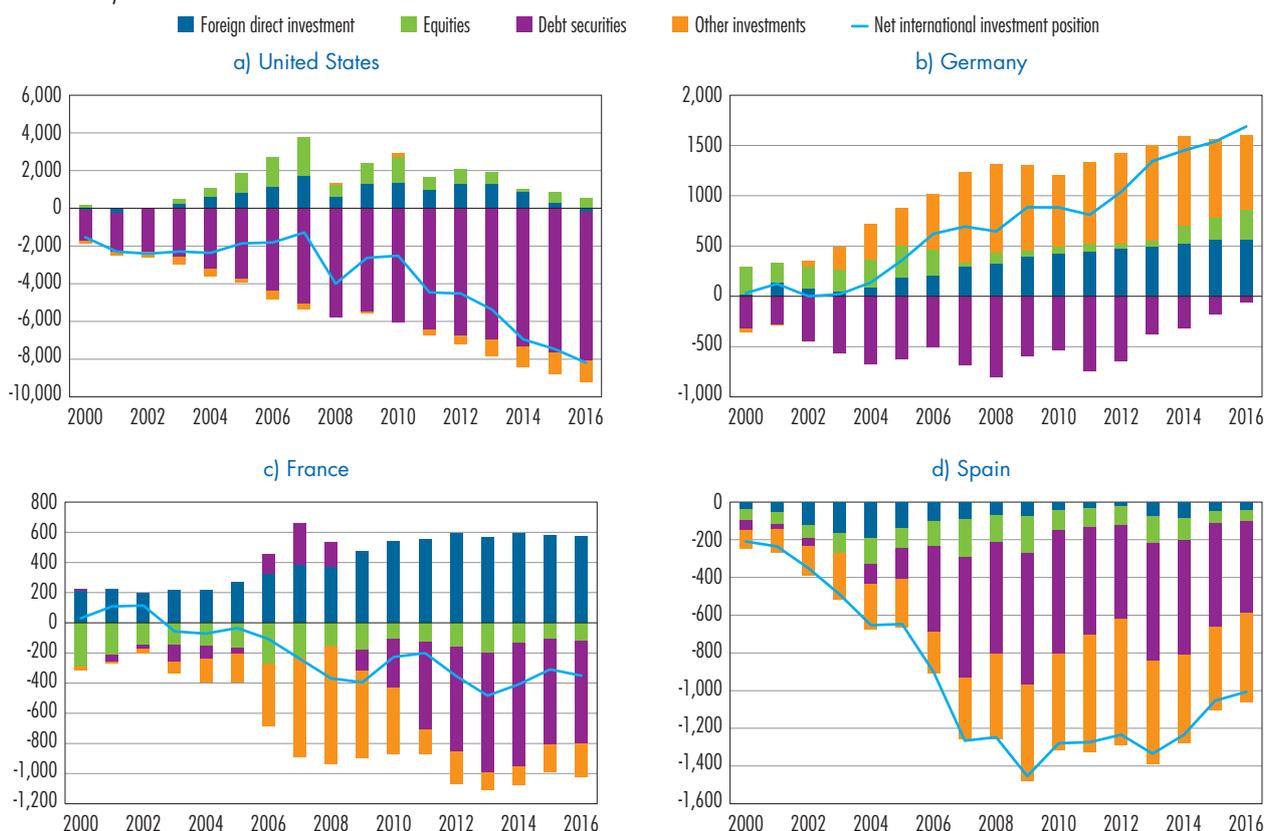
more details). Thus, persistent current account deficits (surpluses) result in the accumulation of net capital inflows (outflows), consisting of different financial instruments: FDI, equity, debt and other investment (which largely comprises banking flows).

There has been a major shift in the size and composition of these flows in recent years

In the 2000-16 period, inflows into the US consisted mainly of investments in debt securities, leading to the build-up of a large US liability position for this item (see Chart 4). Germany, on the other hand, has recently experienced considerable debt outflows, leading to a drawdown of its debt liability position into a net creditor position.

C4 NIIP and its components

(USD billions)



Source: IMF (balance of payments).

Note: The net international investment position shown in the chart is not equal to the sum of the four components as it includes other more minor items.

² Valuation effects are deduced from the reported stocks and flows and thus constitute residuals. Therefore, valuation effects as reported here constitute changes due to the revaluation of stocks as well as changes not accounted for in the "Other changes" category in the financial account. Despite this caveat, the issue is less pressing than in the literature on return differentials (see Curcuru et al., 2008, for an overview) where it is difficult to assign the total of "Other changes" in the financial account to each specific asset class.



The composition of gross financial flows has changed considerably in recent years. Prior to the crisis, the “other investment” category used to constitute the bulk of global flows, with a share of 44%, whereas this share is now about 14%. By contrast, whereas FDI used to represent less than a fourth of the total, in the post-crisis period FDI amounts to 48% of total flows. Within the portfolio category, the share of debt has fallen, from two-thirds to about one-half, compared with the share of equity, which has risen correspondingly.

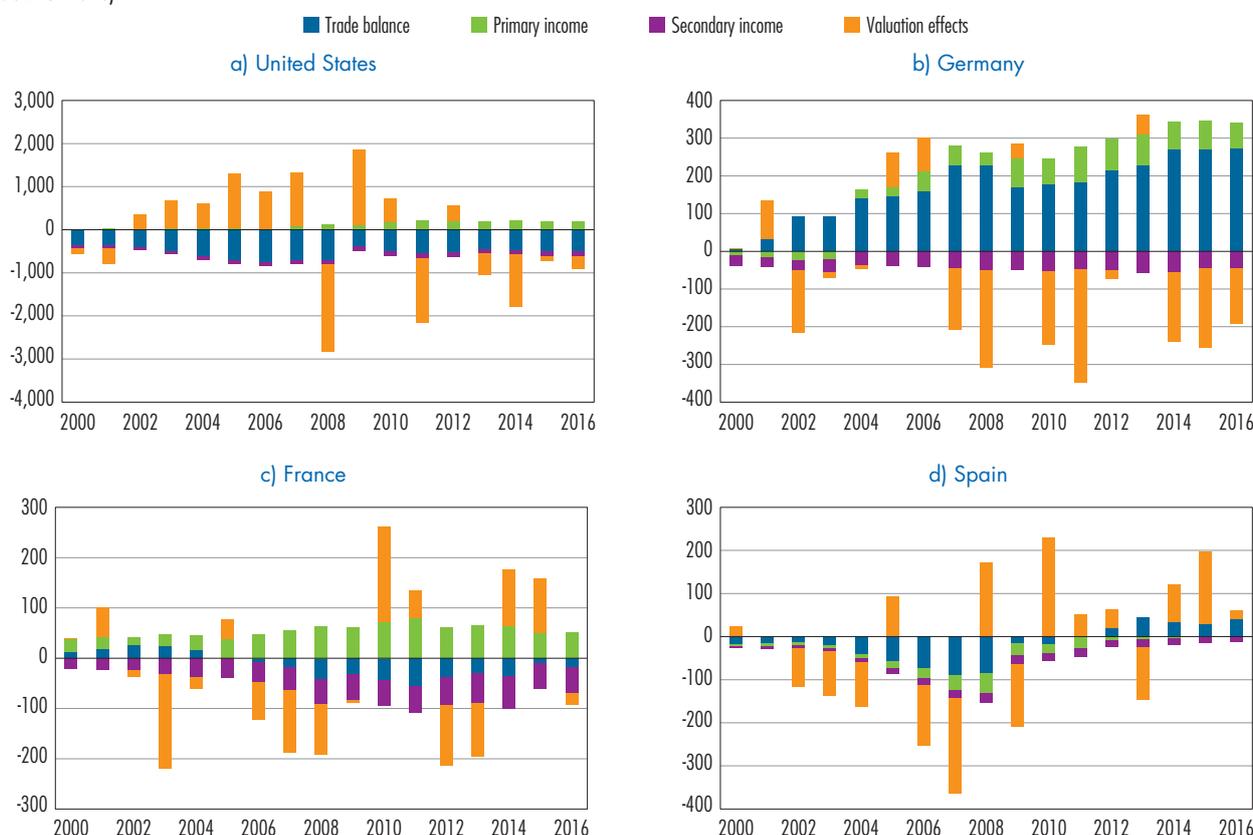
Why do financial positions matter? On the one hand, the size and composition of flows lead to a build-up of stocks which, in turn, may generate important valuation effects. On the other hand, capital income, as a component of the current account, can reinforce or attenuate current account imbalances.

Chart 5 breaks down annual variations in the NIIP into their driving forces: the trade balance, primary income

(stemming mainly from returns on external positions in the form of interest and dividend payments), secondary income (which is mainly personal transfers and payments between governments) as well as valuation effects, which are computed as a residual. The Chart shows that valuation effects are considerably more volatile than the trade balance or income flows: in some cases they moderate current account imbalances (US pre-financial crisis; Germany post-financial crisis), but in other cases they accentuate current account imbalances (France 2003-2013). Both movements in exchange rates and asset prices drive the IIP changes, which are due to valuation effects, but their respective impact varies according to the underlying currency and portfolio composition of each financial instrument. When the respective composition or the currency structure between assets and liabilities differ, any movements in exchange rates or asset prices will lead to large valuation effects.

C5 Contributions to changes in NIIP

(USD billions)



Sources: IMF (balance of payments) and Banque de France calculations.



Income flows play an important role in current account dynamics

Large gross positions and differences in the composition and returns of external assets and liabilities matter not only for valuation effects, but – more importantly – affect current account dynamics. Income from past investment behaviour is accounted for in the primary income. Given the large external positions, financial income has become an increasingly important component of the current account balance.

Table 2 shows the ratio of income flows over trade flows for different countries and years. Between 1975 and 2005 ratios rose steadily in all countries, climbing to 20% and 30% in some cases (a similar point is made in Forbes et al., 2017). While the global financial crisis and low interest rates have reduced this ratio to some extent, the numbers for 2015 show that income flows remain important. This is not surprising given that the financial crisis has put a stop to the expansion of gross positions, but has not led to a fundamental reversal.

Differences in the composition of net external positions matter to the extent that different asset classes have different returns. Thus, a country that borrows in debt and invests in equity can achieve persistently positive returns on its net assets as equity returns are, in the long term, higher than debt returns (see the discussion on the US “exorbitant privilege”, as documented in Gourinchas and Rey, 2007, as well as the “exorbitant duty”, Gourinchas et al., 2017). When gross positions are large, these income flows play an increasingly

important role and so does the relative composition of assets and liabilities. As a direct consequence, current account imbalances become more persistent.

In a number of industrialised countries, such as France and the US, income flows are largely driven by large yields derived from FDI. According to the literature (i.e. Curcuru et al., 2013; Blanchard and Acalin, 2016; Lane and Milesi-Ferretti, 2017), the fact that returns on industrialised countries’ external assets far exceed the costs of their external liabilities can be explained by tax avoidance incentives.³ These accounting strategies do not affect the overall current account dynamics (as the sum of the trade balance and net FDI income remains unchanged). However, they do increase the role played by income from other asset classes (equity, debt securities and other investment) in driving current account dynamics.

Conclusions

Excessive current account imbalances have been a long-standing concern for policymakers and a good case for policy coordination. At the global level, global imbalances have been a priority for the G20 since 2009. Its 2009 communiqué stated that “G20 members with sustained, significant external deficits pledge to undertake policies to support private savings and undertake fiscal consolidation while maintaining open markets and strengthening export sectors” and “G20 members with sustained, significant external surpluses pledge to strengthen domestic sources of growth”. As of today, this topic remains at the top of the G20 agenda as persistent imbalances provide incentives for protectionist behaviours. In addition, since 2012 the IMF has published its annual External Sector Report (ESR), in which staff members analyse global external sector developments and provide assessments of economies’ external positions, based on macroeconomic fundamentals. Although those assessments are subject to large uncertainty, this quantitative exercise is extremely helpful for putting forward policy recommendations accounting for global issues. For example, in the ESR published in 2017, the IMF noted that “overall excess

T2 Primary income flows

(% of trade flows)

| | United States | Germany | France | Spain |
|------|---------------|---------|--------|-------|
| 1975 | 15.13 | 5.59 | 7.72 | 4.41 |
| 1985 | 23.98 | 7.78 | 17.62 | 7.61 |
| 1995 | 23.71 | 16.75 | 14.26 | 12.57 |
| 2005 | 30.87 | 19.37 | 26.22 | 17.57 |
| 2015 | 27.54 | 12.58 | 20.42 | 15.80 |

Source: IMF (balance of payments).

Note: Sum of income receivable and payable as a percentage of the sum of exports and imports.

³ For example, tax shifting results in firms reporting their earnings abroad rather than in their home country. Transfer pricing, i.e. the price-setting of cross-border transactions between affiliates of the same multinational group, reduces the value of net exports. In the case of France, Vicard (2015) shows that the manipulation of transfer prices may have widened the trade deficit by 9.6% in 2008.



current account imbalances (...) represented about one-third of total global imbalances in 2016 (...) although increasingly concentrated in advanced economies”.

In Europe, the European Commission introduced the macroeconomic imbalance procedure (MIP) in 2011 by, at the height of the European crisis, in order to “identify, prevent and address the emergence of potentially harmful imbalances that could adversely affect economic stability in a particular EU country, the euro area or the EU as a whole”. As compared with the Stability and Growth Pact, which focuses only on budgetary policy, the MIP has a broader scope thanks to its multidimensional approach, but includes discretionary elements for measuring imbalances which introduces a greater degree of uncertainty. When a country is found to have excessive imbalances, it is subject to enhanced monitoring known as the excessive imbalance procedure (EIP) and may face sanctions.

Our analysis suggests that monitoring global imbalances calls for more emphasis on how they are financed. Even though important measures can be taken to reduce trade balances (sometimes at a high cost), the way these current account deficits have been financed continues to impact current and future current account imbalances, thus limiting the efficiency of demand rebalancing. Moreover, increasing stock imbalances may have negative implications for financial stability (as shown in Alberola et al., 2018). Attention therefore needs to be paid not just to net positions per se, but also to excessively large gross positions, as the latter can destabilise current account dynamics due to the income flows they generate. This implies (i) more detailed oversight of the types of financial flows that finance current account imbalances; (ii) close monitoring of the relative contributions of FDI, equity, debt and bank flows to the build-up of external imbalances; and (iii) heightened vigilance over exposure to currency risk, both on the asset and liability side.



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Appendix

Balance of payments and evolution of the international investment position

The Balance of Payments (BoP) records cross-border transactions between residents and non-residents. The BoP identity states that

$$CA = KA + FA + R$$

where CA denotes the current account, KA the capital account, FA the financial account and R the change in reserve assets. The current account is the sum of the trade balance TB (exports minus imports) and net income INC (income receivable minus income payable):

$$CA = TB + INC$$

The financial counterpart of current account flows is recorded in the financial account (outflows minus inflows), the capital account (which is negligible) and changes in reserve assets. The financial account is further divided into the categories of financial instruments: (1) foreign direct investment, (2) portfolio equity, (3) portfolio debt and (4) other investment (which comprises bank flows

and (5) financial derivatives. The financial account also included errors and omissions (other changes: OC).

The same functional categories can be found in the net international investment position (NIIP), which records the stock of net external asset holdings of residents. Variations in the NIIP are caused by the current account (CA) and by valuation effects (VAL) resulting from the revaluation of previously accumulated stocks at current market prices and exchange rates:

$$NIIP_t - NIIP_{t-1} = CA_t + VAL_t = TB_t + INC_t + VAL_t$$

Given the BoP identity, the change in the NIIP can also be expressed in terms of the contribution of net outflows of each asset category k. Assuming that changes in reserves and the capital account are very small ($KA = R = 0$), this can be written as:

$$NIIP_t - NIIP_{t-1} = \sum_k FF_t^k + OC_t + VAL_t$$

where FF is the net acquisition of financial assets of category k.

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