Now You See Them, Now You Don't: the Case of the Shrinking Global Economic Imbalances

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Key Points

- The size and pattern of global economic imbalances has changed since the mid-2000s; in particular imbalances have shrunk.
- Various factors may, in theory, have led to the imbalances shrinking.
- Empirical evidence suggests that most of the shrinkage has been brought about by reductions in expenditure in deficit countries, with exchange rate changes playing only a modest role.
- Avoiding unsustainably large global economic imbalances in the future requires appropriate policy reform.

Introduction

In the mid-2000s global economic imbalances were high relative to historical precedents. There were concerns that they threatened the stability of the world economy. The International Monetary Fund (IMF) responded by launching multilateral consultations with a view to encouraging countries to pursue policies that would reduce the imbalances. However, these meetings had little discernible effect. When the global economic crisis erupted in 2008/09 one theory was that the imbalances had reached unsustainable levels and that they had contributed significantly to causing the crisis. As part of a response to the crisis the international community began to discuss measures

that might better coordinate macro-economic policy to reduce the imbalances and keep them at a sustainable level in the future.

Since the mid-2000s the global imbalances have significantly narrowed. What has been going on? Has the narrowing been a direct consequence of the crisis and the related compression of aggregate demand? Has it resulted from automatic correction via market-induced changes in exchange rates? Does it reflect the successful coordination of macro-economic policy worldwide? The answers to these questions have implications for the future evolution of global imbalances and the design of the international monetary system. In particular, a key issue is whether the imbalances are likely to return to the levels observed in the mid-2000s or whether they have now been reduced for the foreseeable future. Moreover, it is interesting to consider whether closer coordination of macro policy is necessary to make sure that unsustainable imbalances do not re-emerge, or whether economic forces are sufficient on their own to ensure that the imbalances self-correct should they reach an unsustainable level.

This article sets out to examine these questions. It is organized in the following way. The next section discusses the meaning of the phrase 'global economic imbalances'. It provides empirical evidence on what has happened to global balance-of-payments disequilibria over the period 2000–2014. It then briefly analyzes why global balance-of-payments disequilibria may constitute a problem for the world economy. Up to a point, global imbalances are not a cause for concern, but beyond that point they can lead to significant problems. The third section presents a summary of the theory that helps to explain why balance-of-payments disequilibria widen and narrow. In particular, the section concentrates on why imbalances may shrink. The fourth section analyzes the extent to which these theoretical ideas can be used to account for the observed changes in the size of global economic imbalances, particularly in the period since the mid-2000s. Without undertaking a formal test of the theories, the section examines empirical evidence to see whether it appears to be consistent or inconsistent with the various theories. The fifth section ponders the future evolution of global economic imbalances and considers the implications for international

monetary reform. The final section offers some concluding remarks that seek to place the current situation in a broader historical context.

Global economic imbalances: what are they, what's happened to them and are they a problem?

Conventionally, global economic imbalances are interpreted to mean the existence of current account balance-of-payments deficits in some countries and surpluses in others. However, current account imbalances are the outward manifestation of other underlying macro-economic disequilibria. The simple open-economy formula, $X - M = (S - I) + (T - G)$, reveals that the balance of payments on current account reflects the sum of the balances or imbalances between domestic private sector saving and investment, and public sector taxation and government spending. Countries with private sector saving that is deficient relative to investment, or government expenditure that is excessive relative to tax revenue, will experience current account deficits, whereas countries with levels of saving that are relatively high relative to investment, and fiscal surpluses, will experience current account surpluses.

If, in all countries, domestic saving is exactly the same as investment, and tax revenue is completely matched by government expenditure, then there will be no current account imbalances. Indeed, this will also be the case if all private sector imbalances are perfectly offset by equivalent imbalances in the public sector. However, this would not be a desirable state of affairs. Up to a point, imbalances are globally beneficial and allow countries to improve their economic welfare. The objective, therefore, should not be to ensure that all countries individually have current account balances that stand at zero.

A current account deficit allows a country to have a higher level of consumption than would be the case with a zero balance. Deficits may merely reflect the inter-temporal smoothing of consumption. They may be cyclical rather than secular. Running a deficit should not be a problem if the country can conveniently finance it by decumulating international reserves or by international borrowing, provided that the accumulated debt is

manageable.[1] Running a surplus may in turn be desirable for countries that want to accumulate reserves and where the marginal benefits from the reserves are seen as exceeding the opportunity cost of acquiring them. It may also be the case that a current account surplus is desirable for countries that currently rely on exporting a non-renewable resource, that have previously depleted their reserves to a level that is inadequate, or where the probability of a future crisis involving high welfare costs is perceived to have risen.

In circumstances where the current account deficits that some countries want to run can be easily financed by borrowing from the countries that want to run surpluses and where the impact on net foreign assets and liabilities does not lead to problems, there can be a win/win situation. The world may benefit from the imbalances.

The potential problem for the world economy is therefore not associated with global economic imbalances *per se*. The problem arises when the imbalances become excessive and when the objectives of individual countries no longer dovetail. Thus, for example, suppose that deficit countries wish to reduce their deficits because they do not want to accumulate further external debt at the rate that has been happening. They see the costs of continued financing as being higher than the benefits from the enhanced consumption that is facilitated. But, at the same time, further suppose that surplus countries, say for mercantilist reasons, do not want to see their surpluses reduced. Now the objectives of individual countries will begin to conflict. It is here that the status quo with regard to imbalances becomes unsustainable. There is the danger that beggar-thy-neighbour policies designed to reduce deficits and defend surpluses will result in severe global costs in the form of falling economic activity, rising unemployment and shrinking trade. Or it may be that deficit countries encounter a financing constraint and are forced to pursue policies designed to reduce their deficits.

[1] The implications of current account disequilibria for net foreign assets and liabilities should certainly not be overlooked. A current account deficit may be financed by accumulating net foreign liabilities. There may be a threshold beyond which the building up of external debt is unsustainable. Running current account deficits will add to it. In these circumstances a relatively large current account deficit, against a background of net foreign assets may constitute less of a problem than a smaller current account deficit against a background of already substantial net foreign liabilities. The current account is a flow phenomenon whereas external debt is a stock one. Even where flow disequilibria diminish, stock disequilibria will continue to increase. For stock imbalances to fall, current account disequilibria need to be reversed.

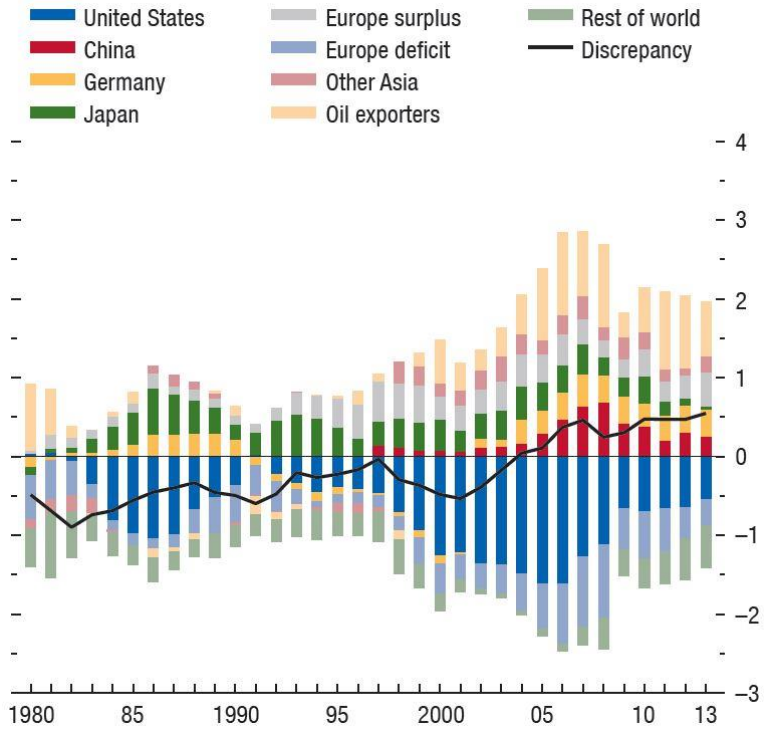
The issue then is whether the adjustment will be willingly accommodated by surplus countries.

Three questions arise from the above discussion. First, at what point do global economic imbalances move from being a 'good thing' to being a 'bad thing'? Second, does the transition occur gradually or suddenly and what impact does it have on the world economy? And third, by what process will the move back towards a more sustainable level of imbalances be achieved; will it have to be orchestrated in some way by a coordination of macro-economic policy at the global level and by spelling out the responsibilities of deficit and surplus countries?

Experience in the period since the mid-2000s offers an opportunity to investigate each of these questions, although as we shall see this does not mean that it is possible to provide a straightforward answer to any of them.

Figure 1 illustrates the rapid growth in global economic imbalances, as measured by the size of current account deficits and surpluses relative to GDP that occurred from the late 1990s to the mid-2000s. Table 1 presents further information on the size of current account deficits and surpluses in some of the most globally important economies. Although it is difficult to calculate exactly the point at which imbalances become problematic, a common rule of thumb is that current account deficits tend to become excessive when they are larger than about 3.5 per cent of GDP. On this basis, by the mid-2000s the deficit in the United States had certainly become excessive; even taking into account the fact that the financing options available to the USA as a reserve currency country are much greater than those available to non-reserve currency countries.

Figure 1. Global current account Imbalances (as a percentage of world GDP)



Source: IMF staff calculations.

Note: Oil exporters = Algeria, Angola, Azerbaijan, Bahrain, Bolivia, Brunei Darussalam, Chad, Republic of Congo, Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kazakhstan, Kuwait, Libya, Nigeria, Norway, Oman, Qatar, Russia, Saudi Arabia, South Sudan, Timor-Leste, Trinidad and Tobago, Turkmenistan, United Arab Emirates, Venezuela, Yemen; Other Asia = Hong Kong SAR, India, Indonesia, Korea, Malaysia, Philippines, Singapore ,Taiwan Province of China, Thailand. European economies (excluding Germany and Norway) are sorted into surplus or deficit each year by the signs (positive or negative, respectively) of their current account balances.

There is also the point made in footnote 1. The financing of a 'flow' current account deficit leads to an accumulating 'stock' of foreign liabilities. If there is a limit on the level of sustainable external debt, this will have consequences for the extent to which a current account deficit constitutes a problem.

Table 1. The current account balance of payments for selected countries (percentage of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2016*
United States	–5.9	–6.0	–5.1	–4.7	–2.7	–3.2	–3.1	–2.7	–2.4	–2.2	–2.6	–2.9
Germany	5.1	6.3	7.5	6.3	5.6	5.7	5	7.0	7.0	7.4	8.5	8.0
France	–0.5	–0.6	–1.0	–1.7	–1.5	–1.7	–2.7	–2.2	–1.3	–0.9	–0.2	–0.4
Italy	–1.7	–2.6	–2.4	–2.9	–2.1	–3.3	–3.5	–0.7	1.0	1.9	2.0	2.3
Spain	–7.4	–9.0	–10.0	–9.6	–5.2	–4.6	–3.8	–1.1	0.8	0.8	0.9	1.1
Netherlands	7.6	9.7	6.7	4.4	4.9	7.1	7.5	10.1	10.2	10.2	9.6	9.2
Greece	–7.4	–11.2	–14.4	–14.7	–11.0	–10.5	–8.4	–3.4	0.7	0.9	1.7	1.5
United Kingdom	–2.6	–3.4	–2.6	–1.6	–1.7	–3.2	–2.7	–3.8	–4.5	–5.9	–4.7	–4.3
Japan	3.6	3.9	4.8	3.2	2.8	3.6	2.5	1.0	0.7	0.5	3.0	3.0
Russia	11.1	9.5	5.9	6.2	4.1	4.8	5.5	3.7	1.6	3.2	5.0	5.4
China	5.9	8.6	10.1	9.1	5.2	5.2	5.2	2.3	1.9	2.1	3.1	2.8
India	–1.3	–1.0	–0.7	–2.0	–2.8	–2.6	–2.2	–4.8	–1.7	–1.3	–1.4	–1.6
Thailand	–4.3	1.1	6.3	0.8	8.3	4.6	4.8	0.0	–0.6	3.3	6.2	5.4
Korea	2.2	1.5	2.1	0.3	3.9	2.8	1.5	3.8	6.1	6.3	7.1	6.7
Argentina	2.6	3.2	2.4	1.5	2.1	0.8	–0.3	0.0	–0.8	–1.0	–1.8	–1.6
Brazil	1.6	1.2	0.1	–1.7	–1.5	–2.3	–2.3	–2.4	–3.6	–4.4	–4.0	–3.8
Chile	1.2	4.9	4.5	–1.9	1.6	1.9	0.1	–3.5	–3.4	–1.2	–0.7	–1.6
Mexico	–0.6	–0.5	–0.9	–1.5	–0.7	–0.5	–1.0	–1.2	–2.1	–1.9	–2.4	–2.0
Saudi Arabia	28.5	27.8	24.3	27.8	5.6	14.9	20.6	23.2	17.7	10.3	–3.5	–4.7

Sources: IMF World Economic Outlook, September 2011, October 2013, October 2014, October 2015
Note: * Figures for 2015 and 2016 are projections

Although in the mid-2000s some commentators raised the question of how much longer the financing option would be available to the USA, with a sudden loss of access to external financing forcing it to reduce its deficit, a greater concern was associated with the 'global savings glut' hypothesis. This argued that the high surpluses in China, Saudi Arabia and Germany that were related to excessive saving in these economies were driving down global interest rates. This was then leading to unsound borrowing and excessive debt accumulation in the deficit countries, and in particular in the USA, which would result in some form of, usually ill-defined, financial meltdown.[2] Given the key role of the dollar, a worry was that this could endanger the stability of the international monetary system by causing a crisis of confidence in the dollar, in much the same way that the confidence problem contributed to the dollar crisis in 1971 and the eventual demise of the Bretton Woods system. The argument was more generally that policies that were resulting in large current account surpluses in some countries were allowing unsustainable current account deficits to be run in others.

The fact that the financial and economic crisis occurred does not, of course, prove that this hypothesis was necessarily correct. There have been many other explanations of the crisis put forward. But the evidence is consistent with the argument that global imbalances had become unsustainable by the mid-2000s and that this had undesirable consequences for the world economy.

Figure 1 also suggests that there was no particular tendency for the growth in the size of global imbalances to slow down gradually until the crisis hit. For emerging economies that have managed to finance current account deficits by means of capital inflows, not infrequently has the pattern been one of the deficit becoming unsustainable as a consequence of a sudden stop

[2] An example of this line of argument may be found in an article in the *Economist* (Economist, 2009). A counter-view is expressed by Borio and Disyatat (2011), who argue that the vast majority of the international flows were between advanced economies, and that the savings glut hypothesis provides a very incomplete explanation of low interest rates. Other explanations of the crisis focused on what was argued to be excessively lax monetary policy by the Federal Reserve. A relatively large literature quickly built up dealing with the potential causes of the crisis. Most contributions listed similar factors but differed in the relative importance attached to them. Bird (2006) explains how imbalances could undermine confidence in the dollar and lead to a dollar crisis similar to the one that occurred in 1971.

in capital inflows. An implication that follows on from this is that beyond a certain point, an increasing current account deficit makes countries vulnerable to a crisis that is often associated with the hemorrhaging of capital inflows. In this sense as well, imbalances can become excessive and unsustainable.

After the global economic crisis in the late 2000s the size and pattern of global imbalances changed. The information in Figure 1 and Table 1 shows how global imbalances shrank in the post-crisis period after 2008. It is also interesting to note that the recorded deficits shrank by more than the surpluses did. Whereas in the period running from about 1997 to 2004 net current account deficits had been recorded for the world, in the period from 2006 there have been net surpluses. In principle deficits and surpluses must sum to zero given that the world is a closed economy. In practice they do not.

The changing pattern of global imbalances is more conveniently shown in Table 2 (borrowed from the IMF, 2014), which compares the size and identity of the largest current account deficits and surpluses in 2006 with those in 2013. In 2006 global imbalances were dominated by the deficit in the USA and the surplus in China. Discussions about global imbalances focused fairly exclusively on the USA/China imbalance. The deficit in the USA represented 5.8 per cent of US GDP and 1.60 per cent of world GDP. China's surplus represented 8.3 per cent of its GDP and 0.46 per cent of world GDP. By 2013, the US deficit had fallen to only 2.4 per cent of US GDP and 0.54 per cent of world GDP, while China's surplus was only 1.9 per cent of its GDP and 0.25 per cent of world GDP.

Table 2. Largest deficit and surplus economies, 2006 and 2013

2006				2013			
	Billions of US dollars	% GDP	% world GDP		Billions of US dollars	% GDP	% world GDP
1. Largest deficit economies							
USA	–807	–5.8	–1.60	USA	–400	–2.4	–0.54
Spain	–111	–9.0	–0.22	UK	–114	–4.5	–0.15
UK	–71	–2.8	–0.14	Brazil	–81	–3.6	–0.11
Australia	–45	–5.8	–0.09	Turkey	–65	–7.9	–0.09
Turkey	–32	–6.0	–0.06	Canada	–59	–3.2	–0.08
Greece	–30	11.3	–0.06	Australia	–49	–3.2	–0.07
Italy	–28	–1.5	–0.06	France	–37	–1.3	–0.05
Portugal	–22	–10.7	–0.04	India	–32	–1.7	–0.04
South Africa	–14	–5.3	–0.03	Indonesia	–28	–3.3	–0.04
Poland	–13	–3.8	–0.03	Mexico	–26	–2.1	–0.03
Total	**–1,172**		**–2.3**	**Total**	**–891**		**–1.2**
2. Largest surplus economies							
China	232	8.3	0.46	Germany	274	7.5	0.37
Germany	182	6.3	0.36	China	183	1.9	0.25
Japan	175	4.0	0.35	Saudi Arabia	133	17.7	0.18
Saudi Arabia	99	26.3	0.20	Switzerland	104	16.0	0.14
Russia	92	9.3	0.18	Netherlands	83	10.4	0.11
Netherlands	63	9.3	0.13	Korea	80	6.1	0.11
Switzerland	58	14.2	0.11	Kuwait	72	38.9	0.10
Norway	56	16.4	0.11	United Arab Emirates	65	16.1	0.09
Kuwait	45	44.4	0.09	Qatar	63	30.9	0.08
Singapore	37	25.0	0.07	Taiwan province of China	58	11.8	0.08
Total	**1,039**		**2.1**	**Total**	**1,113**		**1.5**

Source: IMF, World Economic Outlook database

At the global level, both deficits and surpluses had become much less concentrated as reflected by the percentage of world GDP represented by the ten largest deficits (1.2 per cent in 2013 compared to 2.3 per cent in 2006). Moreover, the identity of the largest deficit countries changed, with Spain, Greece, Italy, Portugal, South Africa and Poland disappearing from the list and Brazil, Canada, France, India, Indonesia and Mexico appearing. There

were also changes in the identity of the largest surplus countries; Japan, Russia, Norway, Singapore disappeared to be replaced by Korea, UAE, Qatar and Taiwan.

Two observations may be made at this stage regarding the changing pattern of global economic imbalances. First, to the extent that the problem of imbalances in 2006 was particularly associated with the size of the US current account deficit and China's surplus, this problem seems to have dissipated. Second, the changing constellation of deficit and surplus countries suggests that different things may be affecting the imbalances in different countries.

But what things may have caused the global imbalances to shrink and the pattern of imbalances to change?

Explaining the shrinking global imbalances; what does theory tell us?

In looking for an explanation of shrinking imbalances it is helpful to be guided by conventional balance-of-payments theory. The absorption approach stresses the relationship between domestic expenditure and domestic output. According to this approach a shrinking deficit reflects expenditure falling relative to domestic output and a declining surplus indicates a relatively rapid increase in expenditure. Other things constant, a current account deficit will narrow where there is an increase in saving relative to investment or an increase in tax revenue relative to government expenditure.

By contrast, the monetary approach points in the direction of changes in the size and nature of disequilibria in domestic monetary sectors. Here, a shrinking balance-of-payments deficit indicates increased monetary stringency and a declining surplus relatively rapid domestic monetary expansion.

The structural approach instead focuses on the real economy. Changes in the current account mirror changes in relative economic growth rates as well as differences in the income elasticities of demand for imports and exports. Moreover, changes in the current account reflect changes in the commodity

terms of trade. The approach also stresses the importance of changes in productivity and their effect on unit costs of production. This approach would anticipate a shrinking current account deficit where an economy's rate of economic growth declines and the income elasticity of demand for its imports is relatively high, or where economic growth in export markets is relatively rapid and the income elasticity of demand for exports is relatively high. Since one country's imports are other countries' exports, it is to be expected that, with other things remaining constant, declining economic growth in a deficit country will not only diminish that country's imports but also diminish exports elsewhere. The connection will be particularly strong where bilateral trade is important.

Changes in the current account may also reflect changes in the terms of trade, with improving terms of trade strengthening the balance of payments and deteriorating terms of trade weakening it.

The elasticities approach stresses the role of exchange rates in determining the current account. A current account deficit will tend to narrow in circumstances where the exchange rate depreciates and where the foreign trade price elasticities comply with the Marshall-Lerner condition. The J-curve effect suggests that the elasticities will be higher in the medium to long term than in the short term. Indeed, if they fail to comply with the Marshall-Lerner condition in the short term, the impact of changes in exchange rates will be lagged and a contemporaneous depreciation will initially make the current account deficit larger.

While the above approaches to the balance of payments focus directly on the current account, increasing financial globalization shifts attention towards the interconnections between the current account and the capital account. Weakness in the former may reflect strength in the latter. Increased capital inflows will tend to cause appreciation in the real exchange rate, either by driving up the nominal value of the currency or by leading to faster inflation. There will therefore be a loss of competitiveness. According to this approach, a shrinking current account deficit may be caused indirectly by declining capital inflows.

Finally, the relationship between economic growth and the balance of payments needs to be considered more fully. The nature of this relationship

depends on whether growth is driven from the demand side or the supply side of the economy and on whether increases in demand come from domestic consumption or from exports. Growth generated by increases in productivity and by increases in output capacity will tend to be associated with current account surpluses, as will growth that is based on foreign demand. In contrast, growth that is led by domestic consumption will tend to result in current account deficits. Global imbalances would be expected to narrow if countries that formerly experienced consumption-led growth shifted towards export-led growth while countries that formerly experienced export-led growth shifted in the other direction.

This brief review of balance of payments theory suggests that, in principle, shrinking imbalances may be connected with changes in the level of expenditure in deficit and surplus countries and with switches in the pattern of expenditure associated with changes in the real effective exchange rates. Variations in the terms of trade may also be important, although these may themselves be affected by changes in expenditure levels and changes in exchange rates. Finally, changes in the nature of economic growth may exert an influence.[3]

Empirical evidence: an informal examination of shrinking global imbalances

In this section the main focus is on the key changes in global imbalances noted in the previous section of this article.[4] In particular we shall examine the shrinking current account deficit in the USA and the shrinking surplus in China, but occasionally the section will also apply the theoretical ideas discussed in the previous section to other countries as well.

[3] Most of the theories discussed in this section were originally formulated in the context of an international monetary system based on quasi-pegged exchange rates (the adjustable peg system). Domestic macro-economic disequilibria therefore manifested themselves in balance-of-payments deficits and surpluses. In a world of flexible exchange rates theory would suggest that the disequilibria would result in changes in the relative values of currencies that would keep current account imbalances closer to zero. Given the size of the imbalances experienced in the mid-2000s this clearly was not happening.

[4] All the statistics quoted in this article are taken from IMF sources and primarily from the World Economic Outlook, Washington DC: International Monetary Fund (various editions).

In the USA, the economic crisis in the late 2000s led to a decline in domestic aggregate demand. As a consequence imports declined in some years after the crisis, and their rate of increase declined in other years. US exports held up because the effects of the crisis were less pronounced in many of the emerging market economies where US exports were sold. For example, over the two-year period 2008–9 US imports declined in volume terms by an annual average of 8.2 per cent, while exports declined by an annual average of only 3.1 per cent.

Turning to domestic imbalances, whereas during the period 1997–2006 investment in the USA exceeded saving by 3.3 per cent of GDP, by 2014 the excess of investment over saving was only 1.1 per cent of GDP. While final domestic demand in the USA rose at an annual average rate of 3.7 per cent during 1997–2006, it fell by 4.0 per cent during the two-year period 2008–9, and after that only rose annually at an average rate of about 1.6 per cent until 2014.

Over the period 1997–2006, the current account deficit in the USA had been fuelled by a rapid increase in both private and public consumption in relation to most other advanced economies and there was a fairly persistent decline in the savings rate relative to the investment rate. In the subsequent period the rate of growth in consumption slowed down significantly and private consumption fell in 2008 and 2009. The excess of investment over saving narrowed as the savings rate increased and the investment rate fell. Although the federal deficit increased in the immediate aftermath of the crisis, running at nearly 12 per cent of GDP, it declined thereafter, falling to 3.4 per cent by 2014. As the absorption approach suggests, with both the private sector and public sector imbalances narrowing, the current account deficit also narrowed.

While there is considerable circumstantial evidence that the reduction in the US deficit was the consequence of falling expenditure, there is little evidence to support a monetary explanation. Indeed, if anything, and taken on their own, monetary factors would appear to have worked in the opposite

direction with the growth of broad money exceeding the growth in the demand for money, as reflected by the very low rate of interest in the USA.[5]

Nor does it appear that much of the reduced current account deficit can easily be explained in terms of expenditure switching induced by a depreciation in the value of the dollar. The dollar's real effective exchange rate was almost exactly the same in 2014 as it had been in 2007. In fact, during 2009 the dollar had appreciated largely as a result of safe haven capital inflows. This would have militated against a strengthening current account.

Of probably greater relevance to the USA as a net commodity importer was the fall in the price of oil and many other commodities in the aftermath of the crisis. For major commodity exporters variations in commodity prices have also exerted an important influence on their current accounts. The disappearance of Russia from the list of the largest surplus countries, and the appearance of Mexico in the list of the largest deficit states, almost certainly has much to do with the price of oil.

For China, the decline in US aggregate demand had significant consequences for exports. In one sense therefore the crisis-induced contraction in the USA served to narrow both the US current account deficit and China's current account surplus. But there were other factors that also appear to have been at work, in much the way that balance-of-payments theory might have anticipated. In the period since 2006 there has been a large increase in China's investment rate combined with a smaller decrease in the savings rate. These changes taken together meant that, whereas in the period prior to 2006 domestic saving far exceeded investment, the gap between them narrowed thereafter.

In the advanced surplus economies the investment rate fell, but there was frequently an even greater decline in the savings rate. Taken together these changes contributed to a decline in the current account surplus. In Japan, for example, the savings and investment rates over the period 1997–2006 had averaged 27.1 per cent and 24.1 per cent of GDP. By 2014 they were 22.4 per cent and 21.9 per cent respectively. In China, not only did the private sector

[5] The argument put forward by some financial commentators, that quantitative easing in the USA has not resulted in a substantial increase in the money supply because the value of the money multiplier has been low, is more consistent with what has happened to the current account. Certainly the effects of monetary expansion could in principle have been neutralized by a fall in the velocity of circulation.

imbalance change, but also during the post-crisis period there was a substantial relaxation in fiscal policy, with a fiscal surplus often being replaced by a fiscal deficit. On top of this, the strongly expansionary monetary policy pursued by the Bank of China is also consistent with a weakening in current account balance-of-payments performance.

Unlike in the USA, it also seems to be the case that in China, along with some of the other surplus countries including Japan and Switzerland, changes in currency values played a significant role in reducing imbalances. Between 2006 and 2013 the yuan appreciated by 30 per cent in nominal terms against the dollar; an appreciation that was further enhanced in real terms by accelerating inflation in China. Assuming that the relevant foreign-trade price elasticities comply with the Marshall-Lerner condition, there can be little doubt that such a large appreciation contributed to the reduction in the current account surplus, even though the effect may have been lagged because of the J curve.

Where exchange rates have not appreciated, as in Germany where the appreciation in the real effective exchange rate (taking into account relative unit labour costs) was only just over 2 per cent between 2007 and 2013, there has been less reduction in current account surpluses. Moreover, in the German case, there seems to have been relatively little adjustment in either expenditure switching or the level of expenditure. In Germany over the period 1997–2006 saving exceeded investment on average by 1.3 per cent of GDP. In the subsequent period the savings rate rose and the investment rate fell, so that by 2014 saving exceeded investment by 7.4 per cent of GDP. The increasing frugality of the private sector was not offset by fiscal relaxation. In these circumstances it may be unsurprising that in the 2013 league table of surplus countries presented in Table 2 Germany overtook China at the top.

But what contribution has exchange rate flexibility made to reducing global economic imbalances across the board? In order to gain a more general picture regarding the extent to which the narrowing of global imbalances has been caused by changes in the level of expenditure or by switches in the pattern of expenditure the IMF undertook a regression analysis on a sample of 64 countries (IMF, 2014). This estimated the contribution of changes in

the level of relative domestic demand, in real effective exchange rates and in the terms of trade. The analysis yielded statistically significant coefficients with the expected sign for all the explanatory variables. Covering the entire period between 1970 and 2013 the R^2 was 0.41. When the aggregate demand term was dropped it fell to 0.10, whereas when the real effective exchange rate term was dropped it only fell to 0.39. For the period 2007–13, the results are even starker. Here the R^2 is 0.51. Without the relative demand term it falls to 0.02, whereas without the exchange rate term it does not fall at all.

The overall conclusion would seem to be that, even though changes in exchange rates made a contribution to reducing imbalances in individual (and sometimes important) cases, and even though there was a tendency during the post-crisis period for the currencies of deficit countries to depreciate and those of surplus ones to appreciate, these changes did not contribute much towards correcting global imbalances in general.[6] This implies either that the changes were not large enough to have an impact, or that the foreign-trade price elasticities turned out to be low. Alternatively, it could be that things happened to offset the impact of exchange rate changes on competitiveness. In the case of the euro area countries, intra-European disequilibria neutralized changes in the value of the euro *vis-à-vis* the dollar.

Most of the adjustment that led to the narrowing of global imbalances was achieved by changes in the relative levels of domestic expenditure in different countries. However, it does not appear that adjustment was equally distributed between contraction in deficit countries and expansion in surplus ones. With the notable exception of China, where both monetary and fiscal policy were broadly expansionary, the 'burden' of adjustment seems to have been carried primarily by the deficit countries.

It is in this regard that the shrinkage in global imbalances has been rather anachronistic. In the Bretton Woods international monetary system, the basic notion was that countries would endeavour to maintain the pegged values of their currencies and would adjust to balance-of-payments disequilibria by the appropriate management of domestic aggregate demand. Exchange rates

[6] In a similar vein Bird and Mandilaras (2015) find that, in the aftermath of the 2008/09 crisis, countries exhibited a degree of state dependence in their choice of exchange rate regime. To the extent that transitions occurred they were more often in the direction of greater fixity.

would only be altered in circumstances of 'fundamental disequilibrium' and after other measures had failed. The system collapsed in part because this adjustment mechanism did not work very well. One of its shortcomings was that the adjustment tended to be asymmetric and concentrated in deficit countries. This imposed a contractionary or deflationary bias on the system as a whole and therefore on the world economy.

The adoption of flexible exchange rates in 1973 was supposed to change all this. The idea was that adjustment would occur via changes in exchange rates enabling it to take place symmetrically in both deficit and surplus countries. It was envisaged that current account balance-of-payments disequilibria would be corrected through movements in exchange rates. The anachronism is that, when faced with one of the biggest challenges to the correction of balance-of-payments disequilibria in the period since the system of flexible exchange rates was introduced, adjustment seems once more to have been largely based *de facto* on expenditure reduction in the deficit countries.[7]

What will happen to global imbalances in the future?

If the post-crisis contraction in aggregate demand in current account deficit countries has been the primary cause of the shrinkage in global economic imbalances, it may seem reasonable to suggest that continuing recovery will lead to the imbalances growing in the future. A concern would then be that they could return to the size they were in 2006, prior to the crisis, and that this could again threaten the stability of the world economy. In a similar vein, if the factors that caused the imbalances to grow during the period from the late 1990s to the mid-2000s begin to re-establish themselves, there is likely

[7] There is no anachronism when looking at the post-2009 crisis in the Eurozone. In this case adjustment via exchange rate changes has been ruled out by the adoption of a single currency and it has not occurred via equilibrating changes in real effective exchange rates allowing for changes in unit labour costs. Therefore, when confronted with unsustainable balance-of-payments disequilibria, adjustment has been forced to take the form of manipulating the level of aggregate demand, and as might have been anticipated this has been asymmetric. Greater pressure has been exerted on deficit countries to reduce expenditure than on surplus ones to increase it. Moreover, with the European Central Bank setting Eurozone monetary policy, the emphasis has been placed on fiscal correction.

to be an increase in imbalances with the danger that these could again reach unsustainable levels.[8]

The key question is therefore whether these forces will come into play. The probability of this happening determines the probability of the global imbalances expanding. Have policymakers learnt from the mistakes that they made in the past? Conventional balance-of-payments theory provides some guidelines to policymakers in both the deficit and surplus countries. In deficit countries the policy guidelines would include the following. Do not allow the private sector imbalance to become excessive and the domestic savings rate to fall far short of the investment rate. Be mindful of the private sector imbalance in designing the stance of fiscal policy, and as part of this take into account the sustainability of external debt. Do not allow monetary growth to be too rapid. Do not allow capital inflows to mutate into credit booms and asset market and housing market bubbles. These guidelines imply that macro-economic policy will need to be finessed as recovery occurs and that an appropriate regulatory framework needs to put into place.

By the same token, in surplus countries macro-economic policy needs to be formulated in a way that does not allow private sector and public sector surpluses to become excessive, or monetary policy to be too stringent.

While global economic growth on its own does not guarantee that in future large and unsustainable global economic imbalances will be avoided, a rebalancing of economic growth will make a significant contribution. Growth needs to be rebalanced both within countries and across them. Deficit countries need to place less emphasis on consumption-led growth and more emphasis on export-led growth. Surplus countries need to place more emphasis on growth encouraged by domestic consumption as well as productive (as opposed to speculative) investment. To achieve this, exchange rates need to be maintained at appropriate levels. Deficit countries

[8] The Chinese current account surplus that declined fairly consistently after 2007 increased from 1.6 per cent of GDP in 2013 to 2.1 per cent in 2014. Similarly, the current account of ASEAN countries that had changed from a surplus of 4.6 per cent of GDP in 2007 to a deficit of 0.1 per cent in 2013 moved back to a surplus of 1.1 per cent in 2014. The deficit in the USA continued to shrink slightly in 2014, whereas the euro area's current account that had been in deficit in 2008–9 showed a surplus of 2.0 per cent of GDP in 2014. It is too early to say whether the shrinking of imbalances has come to an end and been reversed, although subsequent data for 2015 and projections for 2016 suggest that further shrinkage is unlikely and that it is more likely that the imbalances will again begin to widen. The important issue will be by how much.

need to avoid currency overvaluation and surplus countries need to avoid overvaluation.

All this seems very straightforward; it is just a matter of avoiding the problems that resulted in excessive global economic imbalances in the past. Surely things cannot be this easy. They are not.

In designing domestic macro-economic policies countries are unlikely to give substantial emphasis to the implications that such policies have for global imbalances. Domestic policymakers are more likely to be driven by what they perceive as their narrower and probably short-term national interest. With this in mind, the willingness of China to allow the value of the yuan to appreciate probably had more to do with counteracting domestic inflation than with reducing global imbalances. Similarly, the switch towards heavier reliance on stimulating growth from domestic demand was linked to the likely contractionary effects of exchange rate appreciation and a desire to spread the benefits of economic development more widely for political reasons. It may also be the case that China began to consider that the opportunity costs of further accumulating international reserves, facilitated by running current account surpluses, outweighed the benefits, and that surpluses could therefore be allowed to decline. In a different set of domestic circumstances other surplus countries, perhaps most notably Germany, made different policy choices. This means that it may be unwise to assume that just because policies have been pursued in the aftermath of the global crisis in a way that has helped to reduce global imbalances, this complexion of policies will continue. Countries cannot be relied upon to unilaterally pursue domestic policies that will ensure that global imbalances are kept at sustainable levels.

What about coordinating macro-economic policy internationally?[9] Experience in the post-crisis period confirms the difficulties encountered in establishing a framework within which this can be achieved. The G20's Mutual Assessment Process only involves 'indicative guidelines', and the closer coordination that is envisaged as part of the Eurozone has been widely perceived as ineffective. The IMF's experiment with multilateral

[9] A reasonably detailed examination of the difficulties in dealing with global economic imbalances by the closer co-ordination of macro-economic policy may be found in Bird (2012).

consultations also provided little cause for optimism about the prospects of undertaking effective coordination of macro-economic policy (Bird and Willett, 2007). For any formal system of coordination to work effectively there need to be widely agreed rules, as well as ways of monitoring and objectively measuring the extent to which countries follow the rules. There also needs to be some way of penalizing those that do not.

Historically, international monetary systems that have attempted to incorporate rule-based coordination, such as the gold standard and the Bretton Woods system, have broken down. There is a Catch-22 dilemma when it comes to rule-based coordination of international macro-economic policy; this has been illustrated during the period since the global economic crisis. In the immediate aftermath of the crisis, when there was a danger that all countries in the world would be adversely affected by it, and when there was broad agreement that global imbalances may have contributed significantly to it, there was also a willingness to consider ways of more formally coordinating macro-economic policy in the future. As the global imbalances have shrunk the motivation for closer, rule-based, coordination has evaporated. The imbalances have shrunk without it. If and when a coordinated response to a global crisis is needed, the consensus view amongst policymakers is likely to be that it can be put together in a discretionary way, as happened at the 2009 meeting of the G20. If 'necessity is the mother of invention', and better coordination is less necessary when imbalances are smaller and sustainable, then it follows that new improved mechanisms for coordinating macro policy are less likely to be invented.

The enduring lessons for the future are in some senses fairly familiar. First, it is extremely difficult to exert effective pressure either on countries with current account balance of payments surpluses, or on those with deficits but also with easy access to external finance, to adjust their macroeconomic policies in ways that they do not deem to be in their own best interests. Second, flexible exchange rates cannot be relied upon to ensure that current account disequilibria will be avoided. This does not mean that exchange rates have no role to play in bringing about adjustment, but that in a world with increased financial flows the value of some currencies may be determined more by the capital account than by the current account. This

implies that capital flows may need to be more closely managed to try to ensure that they do not drive exchange rates too far away from their long-run equilibrium levels. Since other adjustment mechanisms have shortcomings, it also means that ways need to be found for providing larger amounts of more stable global financing and for more effectively bringing about financial intermediation between surplus and deficit countries.

Concluding remarks

It is not uncommon for global economic imbalances, as measured by the size of current account balance-of-payments deficits and surpluses, to expand and contract over time. Normally imbalances receive little attention since up to a point they are generally beneficial for the world economy as they allow countries to have higher welfare than if those countries were constrained to run current account balances of zero.

However, during the mid-2000s the global imbalances were perceived to have reached a point at which they had become excessive. They were seen as reflecting economic distortions relating to fiscal imbalances, monetary policy, trade policy and exchange rates. They were also seen as endangering the stability of the world economy, either as a consequence of deficit countries coming up against a binding financing constraint, or as a consequence of the capital inflows to deficit countries leading to credit booms and financial bubbles that would eventually burst with potentially catastrophic economic effects.

A particular cause of concern was the historically high current account deficit in the USA and the large current account surplus in China. At this point attention focused on attempting to reduce the imbalances. The IMF launched a round of multilateral consultations with this in mind. These had little discernible impact on the imbalances, and during the late 2000s the world encountered the worst financial and economic crisis since the Great Depression of the 1930s. Some commentators placed a substantial part of the blame for the crisis on the unsustainably high global economic imbalances.

During the period after the global economic crisis at the end of the 2000s and up until 2013 the imbalances narrowed. While an appreciation in the

value of the yuan along with the pursuit of relatively expansionary monetary and fiscal policy contributed to China's falling surplus, in general most of the narrowing in the imbalances can be attributed to falling expenditure, particularly in the deficit countries.

In designing an international monetary system for the future, the challenges are to find a more effective and efficient adjustment mechanism and a better way of providing financial assistance to deficit countries. These were the challenges that existed at the time of the Bretton Woods conference in 1944. The fact that the global imbalances observed in the mid-2000s have shrunk should not be taken to mean that these challenges have been met satisfactorily.

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