

### Box 1.5. From Deficit to Surplus: Recent Shifts in Global Current Accounts

The global current account discrepancy is a well-known anomaly in economic statistics (IMF, 1987; Annex 3 in the October 1996 *World Economic Outlook* (WEO); and Box 2.1 in the September 2002 WEO). In theory, global exports—the sum of all economies’ exports—should equal global imports, but in practice they do not.<sup>1</sup> In fact, the discrepancy has been large on occasion, reaching as much as ½ percent of global GDP in absolute value (figure, upper panel). The origins and behavior of this discrepancy have long been of interest to policymakers and academics who analyze current account developments and prospects. The issue has taken on added importance in light of the necessary rebalancing of global demand in the wake of the current crisis. Specifically, two inter-related sets of questions have arisen.

What factors explain the turnaround in the global discrepancy in recent years to a “surplus” after many decades of “deficit”?

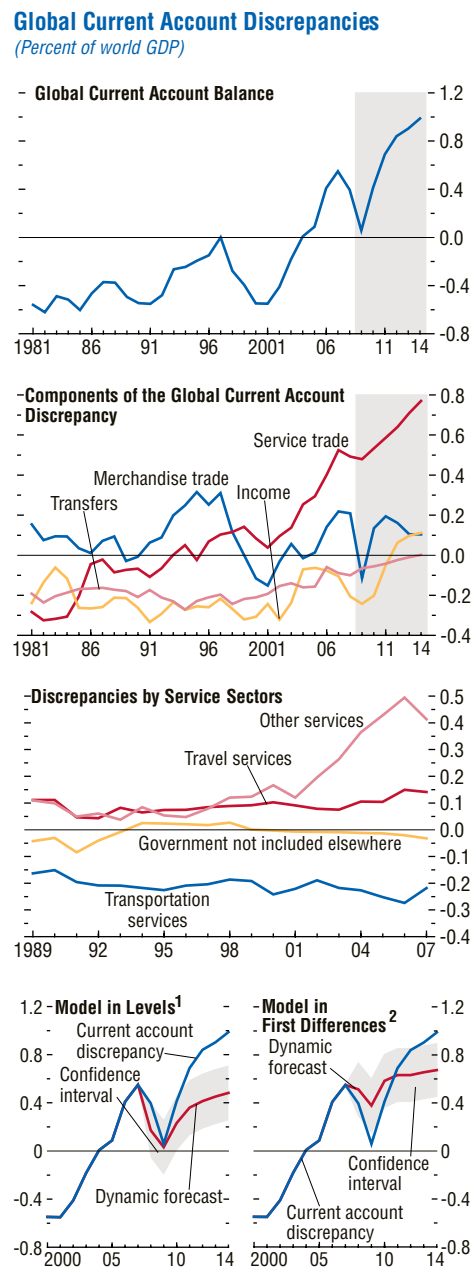
What are the prospects for the global discrepancy? Is the continued increase in the discrepancy implied by the WEO projections consistent with past trends?<sup>2</sup>

The analysis in this box suggests that movements in the discrepancy, including its recent

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<sup>1</sup>The transactions subsumed in the external current account of an economy are typically referred to as international trade transactions. These are referred to as “current transactions” in balance of payments statistics (as opposed to transactions in the capital and financial accounts). Specifically, current transactions include the following major categories: exports and imports of goods and services, receipts of income from assets bought from nonresidents, return payments on liabilities to nonresidents (including returns on human capital), and receipts and payments of current transfers.

<sup>2</sup>The WEO country forecasts are based on common assumptions and consider variables such as growth in trading partner economies, but they do not explicitly incorporate “adding up” constraints for international transactions at the global level. The discrepancy implied by the aggregation of the country trade forecasts has thus long been used as a measure of their global consistency.



Sources: WEO database projections; and IMF staff calculations.

<sup>1</sup>The model includes a first-order autoregressive term and a trend.

<sup>2</sup>The model includes a first-order autoregressive term.

**Box 1.5 (continued)**

turnaround from deficit to surplus, reflect changes in global economic conditions and a trend increase in measurement biases toward exports, which is mostly relevant for services. The deceleration in global growth during 2008–09 already resulted in some narrowing of the global current account discrepancy in 2008, and some further narrowing seems likely in 2009. Against this cyclical decline works a growing trend for a global services surplus. However, results from simple econometric models for the global discrepancy suggest that the continued large increases in the global discrepancy during 2013–14 implied by the WEO forecasts might be stronger than consistent with historical trends.

***What Factors Are behind the Recent Turnaround in the Global Discrepancy?***

As the figure shows, the discrepancy has generally been rising since 2001, became positive in 2005, and peaked in 2007. Based on preliminary data, the discrepancy narrowed from ½ percent of global GDP in 2007 to about ⅓ of global GDP in 2008. Quarterly data for a subset of economies suggest that the discrepancy narrowed sharply in the second half of 2008, when global trade collapsed, but that most of this decline was reversed in the first quarter of 2009.<sup>3</sup>

A breakdown of global trade into major categories, as shown in the second and third panels of the figure, suggests that the switch from a global current account deficit to a surplus reflects primarily increasing positive discrepancies (“surpluses”) in the trade of goods and of so-called other services.<sup>4</sup>

<sup>3</sup>The subset of economies accounts for about 93 percent of global GDP.

<sup>4</sup>As discussed in IMF (1987) and Annex 3 in the October 1996 WEO, the negative discrepancy (“deficit”) in the 1980s and 1990s was largely a result of deficits in transportation services and investment income. These deficits were attributed to the under-recording and/or failure to report credits by shipping nations (transportation services) and the underreporting by investment credit recipients (tax evasion, etc.).

The rising surplus in the global goods trade during 2001–07 likely reflects transportation-related lags in the recording of imports compared with exports at a time of rapidly expanding global trade.<sup>5</sup> With some exports recorded one period earlier in the source economy than the corresponding imports in the destination economy, a pickup in global trade growth can lead to an increase in the global trade surplus. With the fragmentation of production processes, trade has expanded at a much faster pace than value added (or GDP) in recent years. The observed decrease in the global trade discrepancy in 2008 could then be explained by the sharp drop in global trade, which was recorded in exports before imports.

The composition of the discrepancy in the trade of services has shifted in recent years.<sup>6</sup> In the 1980s and 1990s, a global deficit in transportation services was the main source of the negative discrepancy in this sector. Since 2001, however, a growing surplus in the trade of other services has more than compensated for the still-negative discrepancy in transportation services, implying a positive discrepancy in services trade overall.

<sup>5</sup>Other factors could also have played a role. For example, it is often argued that there is a greater incentive to underreport imports, because imports are taxed more heavily than exports. Hence, when global trade picks up, the recorded increase in imports could be systematically biased downward. Nevertheless, with trade in manufacturing components increasingly duty free, this factor may well have played a less prominent role in recent years compared with two decades ago.

<sup>6</sup>Measured international trade in services has been increasing rapidly in recent years. Although this expansion undoubtedly reflects rapid increases in underlying transactions, given the growing tradability of services, it also reflects important progress in measuring this type of international trade. An increasing number of economies have started to record and report trade in services over the past 50 years (Lipse, 2009). Moreover, the number of economies reporting different kinds of trade in services has increased significantly over the past 30 years. For instance, the number of economies reporting exports and imports of financial services increased from 10 to more than 100 between 1985 and 2005.

The rising discrepancy in other services likely reflects measurement problems associated with the rapid increase in international trade in nontraditional services, such as offshoring of business, financial, and communication services. The measurement problems include the fact that exporters are easier to identify than importers because they specialize partly in providing these services (whereas the need for imports is often more sporadic) and they tend to have larger overall transaction volumes than importers. For example, law firms involved in resolving cross-border legal issues typically are long-established specialist firms, whereas many clients do not have such legal needs on a regular basis. Exporters are thus more likely to be identified and exceed the threshold for participation in the surveys that underpin measurement of a large part of international trade in services.<sup>7</sup> As a result, exports are more likely to be recorded than imports, which can introduce a bias toward a positive discrepancy. And this discrepancy has risen relative to global GDP as such services have greatly increased in importance.

Other reasons for positive discrepancies in the trade of “other services” include policy-related incentive biases—policymakers are often interested primarily in services exports (as a means to stimulate growth), and measurement efforts therefore focus on exports rather than imports. There is also a lack of appropriate data collection systems in services trade in emerging and developing economies, which typically are net importers of services.

It remains difficult to forecast the likely evolution of the discrepancy in the global trade of other services. Rapid trend growth in the trade of other services is likely to continue, but statistical agencies are in the process of improving the related measurements. The extent to which

this will affect the magnitude and direction of the discrepancy remains highly uncertain at this point.

#### *What Are the Prospects for the Global Discrepancy?*

The current WEO forecasts imply that, after a further decline in 2009, the global discrepancy will again increase relative to global GDP during 2010–14 and will grow well beyond its peak in 2007. Such a pattern seems qualitatively plausible, given the recent trends discussed above, but it would also be desirable to quantitatively assess the consistency with past trends. In other words, the question is whether the fluctuations in the discrepancy implied by the forecasts are within historical margins of error.

Marquez and Workman (2001) examine this question with an econometric model of the global current account discrepancy, which they use to check whether the implied discrepancy falls within the 95 percent confidence interval of the model forecast. This approach was predicated on their finding that during 1972–98, the discrepancy fluctuated systematically with changes in global economic conditions and past values of the discrepancy itself. Building on this work, the IMF staff reexamined these features of the discrepancy, taking into account more recent data and, on this basis, estimated a somewhat modified econometric model.

Simple statistical analysis of the overall global current account discrepancy and its major components suggests the following (first table):<sup>8</sup>

The means of the global discrepancy and its major components are significantly different from zero. This implies that, despite the recent switch from deficit to surplus, the discrepancy has not been on average zero.

Another key property of the global discrepancy and its major components is that they are highly persistent time-series processes. In other

<sup>7</sup>Unlike in the trade of goods, there are no customs records available for many types of international trade in services. Indeed, in the areas where the recording of services trade has long been established—transportation and travel—there are at least related customs records available.

<sup>8</sup>The analysis runs from 1981 to 2007. Reliable data start for the early 1980s, and 2007 is the last year for actual data from the IMF’s *Balance of Payments Statistics Yearbook*.

**Box 1.5 (concluded)****Statistical Properties of the Global Current Account Balance***(1981–2007; in percent of global GDP)*

	Levels			First Differences		
	Mean	Standard deviation	Persistence	Mean	Standard deviation	Persistence
Merchandise trade	0.085** [0.036]	0.118	0.764*** [0.099]	0.003 [0.018]	0.083	0.236* [0.134]
Services trade	0.014 [0.069]	0.208	1.057*** [0.085]	0.029** [0.013]	0.062	0.289* [0.167]
Income	-0.219*** [0.024]	0.085	0.641*** [0.113]	-0.001 [0.010]	0.071	-0.038 [0.168]
Transfers	-0.186*** [0.013]	0.045	0.786*** [0.084]	0.003 [0.005]	0.033	-0.103 [0.130]
Current Account	-0.305*** [0.093]	0.300	1.080*** [0.124]	0.035 [0.034]	0.139	0.375*** [0.114]

Sources: IMF, World Economic Outlook database; and IMF staff calculations.

Note: Robust standard errors are reported in brackets; \*, \*\*, and \*\*\* denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

words, past levels of the discrepancies matter for their current levels, because the first-order autoregressive coefficients are generally significantly different from zero. The relatively large, positive values of these coefficients imply that the discrepancies at any point in time are typically quite similar to the levels in the previous period.

For services trade and the overall current account balance, the autoregressive coefficients are slightly greater than 1 in value, suggesting that these discrepancies have grown over time.

Simple econometric analysis also confirms the key finding of Marquez and Workman (2001) that the global discrepancies generally fluctuate with global economic conditions but also shows that the discrepancies can grow over time (second table). Two models are fitted to the data for the global discrepancy for the current account as well as its components: one model features a time trend as well as global output growth, oil prices, and the six-month U.S. dollar London interbank offered rate. The other model omits the time trend, working with the first differences of the discrepancy variables rather than the levels. The findings suggest first that the discrepancies tend to be procyclical. In other words, they increase when global growth

picks up and decrease when global growth slows. Second, the discrepancies tend to grow over time.

Hence, in assessing projections for the global discrepancy, the predicted changes in global economic conditions and its trend behavior should be taken into account. Doing this with the two models generates a forecast for the levels of the global current account discrepancy for 2008–14.<sup>9</sup> Comparing the model forecasts for the discrepancy during 2008–14 with the changes implied by the international trade forecasts in the current WEO projections shows that the latter are generally within the 95 percent confidence interval around the model forecasts through 2010 and 2012, respectively (lower

<sup>9</sup>Information criteria and in-sample forecast error comparisons suggest that a first-difference specification is preferable to a specification in levels. The estimation problems associated with highly persistent time-series processes would also argue in favor of such a specification. That said, on theoretical grounds, the global current account discrepancy should be a stationary process when it is scaled with global GDP (as in the analysis presented here). Comparing the model forecasts and the implied forecasts presented below shows that the implications of both specifications are the same. The forecasts for first difference of the global discrepancy were subsequently transformed into levels to allow for a comparison.

### Global Current Account Balance and Key Macro Variables<sup>1</sup>

(1981–2007; in percent of global GDP)

	Levels <sup>2</sup>			First Differences		
				Changes in		
	Output growth	Oil prices	Interest rate	Output growth	Oil prices	Interest rate
Merchandise trade	0.023*** [0.006]	0.000 [0.000]	0.003 [0.008]	0.020 [0.015]	0.000 [0.000]	0.000 [0.007]
Services trade	0.022* [0.012]	0.000 [0.000]	–0.009 [0.011]	0.016* [0.010]	0.000 [0.000]	–0.009 [0.006]
Income	0.030** [0.015]	0.000 [0.001]	0.012* [0.007]	0.016 [0.013]	0.000 [0.000]	–0.010 [0.009]
Transfers	0.008 [0.007]	0.000 [0.000]	0.002 [0.004]	0.013*** [0.005]	0.000 [0.000]	–0.001 [0.004]
Current account	0.057** [0.024]	–0.001 [0.001]	0.000 [0.014]	0.052*** [0.019]	0.000 [0.000]	–0.027*** [0.009]

Sources: IMF, World Economic Outlook database; and IMF staff calculations.

<sup>1</sup>These are ARMAX models. The lags for the autoregressive and moving average components have been selected using Akaike and Bayesian criteria, taking into account the usual parsimony considerations.

<sup>2</sup>Regressions include a trend.

panels in the figure). The implied increases in the global discrepancy in 2011–14 and 2013–14, however, are outside the 95 percent confidence interval for the model forecasts. The deviation of the global discrepancy from the upper ends of the confidence intervals on average amounts to 0.1 to 0.2 percent of world GDP. This finding suggests that the growth projections underlying the trade forecasts for individual economies may not be fully consistent with global trade equilibrium, pointing to collective excessive optimism

about growth of export shares. In the context of a need to rebalance global demand, this finding could be an indication that the forecast increases in national savings relative to investment in the economies that recorded current account deficits in recent years are not matched by commensurate declines in national savings in surplus countries at the assumed constant real exchange rates. However, these inconsistencies and their potential implications for the growth forecast are not likely to be large.

ized, this could lead to even tighter financial conditions. (These and other financial sector risks are discussed in the October 2009 GFSR.) More generally, many shocks that otherwise could be absorbed—for example, a virulent return of H1N1 flu or geopolitical tensions that remove excess capacity in the oil sector—may have a significant destabilizing impact, given the vulnerable state of the global economy and financial system.

However, there are some upside considerations, as evidenced by the recent, faster-than-expected improvement in financial conditions. In particular, the success of various policy

measures in allaying fears about a 1930s-style crash in activity and fostering a strong rebound in financial market sentiment could cause consumption and investment to surge in a number of advanced and emerging economies, just as the increase in uncertainty triggered their collapse in late 2008 and early 2009. In other words, just as the crisis in confidence was underestimated during the downward spiral, so too the restoration of confidence may be underestimated during the rebound.

This assessment of the short-term risks to activity is broadly consistent with that of the markets, as embodied in selected data on options