Box 2.2. How Have External Deficits Adjusted in the Past?

This box provides details of the authors' analysis of the historical experience with external deficits since 1973. It extends earlier work examining current account reversals (Milesi-Ferretti and Razin, 1998, and Freund, 2000) by also investigating the experience of countries with large deficits and by using regression techniques to examine the importance of various factors in determining the response to a large deficit or current account reversal.

More specifically, the authors examined the experience of 21 industrial countries over 1973–2001.[1] The first event studied was of countries whose current account deficits had exceeded 4 percent of GDP for three consecutive years.[2] These events are rare—only 12 cases were found—and all involved relatively small and open economies, underlining the unusual nature of the current experience in the United States.[3] In addition, following Freund (2000), the experience of industrial countries undergoing large and persistent current account adjustments or reversals was studied.[4] This yielded 33 episodes, and hence the possibility for a richer econometric specification, including events experienced by major economies such as France (1982), the United Kingdom (1974 and 1990), and the United States (1987).

For each country group, the staff's econometric analysis examined the determinants of the change in the current account balance as a ratio to GDP, annualized real exchange rate appreciation, and annualized rate of output growth between the four years culminating in the event and the three subsequent years. The explanatory variables were of three types.

- *Initial conditions.* The relationship between the subsequent adjustment and the size of the initial deficit, rate of real exchange rate appreciation, and level of output growth was examined. All variables were averaged over the four years culminating in the event, and hence were predetermined.
- *Structural factors.* The role of underlying structural factors, in particular a country's openness to trade, can also matter. A less open economy would appear to require a larger exchange rate adjustment to effect the same external adjustment as a more open one. These factors were also measured using the average over the four years culminating in the event, and were hence also predetermined.
- *Macroeconomic policies.* Changes in the fiscal balance and real short-term interest rates between the initial buildup to the event and the subsequent period were included to examine the role of policy in exacerbating or mitigating adjustment. This was done by taking the change in both variables between the average in the four years running up to the event and the three subsequent years. Potential biases due to the joint impact of activity on the current account and the policy response were examined by including the change in the output growth rate in the regressions. As the impact on coefficients was found to be small, the simpler regressions excluding the change in output growth are reported.

The econometric results support the view that initial conditions, structural factors, and fiscal policy response all play an important role in the adjustment of large external imbalances, while the impact of real short-term interest rates is almost always small and insignificant (see the table). The results are qualitatively similar for large current account deficits and reversals, although the coefficients tend to be smaller in the latter case. Given the small sample of countries with large deficits, the latter coefficients are likely to be more reliable (Goldberger, 1991).[5]

Note: The main author of this box is Marco Terrones.

[1]The sample comprises Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

[2]This criterion was selected to resemble the experience of the United States over recent years.

[3]Given the small sample, the staff also examined the 19 cases of countries with current account deficits of over 3 percentage points of GDP for three years in a row, which included the United Kingdom in 1990.

[4]See Freund (2000) for the definition.

[5]Indeed, the analysis of countries running deficits of 3 percent for three years in a row produced similar coefficients to those found when analyzing current account reversals.

Regression Results on the Adjustment of External Imbalances

	Dependent Variable					
	Change in the current account[1] *(Percent of GDP)*		Change in annualized real rate of appreciation[1] *(Percent)*		Adjustment of output growth[1] *(Percent)*	
Explanatory Variables	Large deficits	Reversals[2]	Large deficits	Reversals	Large deficits	Reversals
Initial conditions[3]						
Initial current account balance	–2.30*	–0.49*	. . .	. . .	. . .	. . .
Initial rate of real appreciation	. . .	. . .	–1.93*	–1.14*	. . .	. . .
Initial output growth	. . .	. . .	. . .	. . .	–0.36	–0.80*
Structural factors						
Openness[4]	–0.14*	—	–0.08*	0.02	–0.03	0.01
Policy responses						
Improvement in fiscal balance[1]	–0.37*	–0.15**	0.43*	0.51*	–0.08	–0.01
Higher real interest rates[1]	0.05	–0.01	0.01	0.01	0.02	0.01
Constant	–0.05*	—	–0.06*	–0.02	0.02	0.01
Memorandum						
R^2	0.89	0.37	0.98	0.54	0.22	0.54
Number of observations	12	32	12	32	12	32

Note: One and two asterisks represent statistical significance at 5 and 10 percent, respectively.
[1]Difference between the three-year annual average following the event with the previous four years.
[2]This regression equation also included the initial terms of trade growth, which was statistically significant.
[3]Annual averages of the four-year period running up to the event.
[4]Measured as the ratio of the sum of exports and imports of goods and services to GDP.

The following results stand out from the analysis.

- *Current account.* The current account improvement increases as the size of the initial current account deficit increases. In the reversals case, the coefficient of –½ implies that over the next three years countries with larger initial deficits still have a somewhat weaker external position than those with smaller initial deficits, although the gap narrows. Countries that are more open to international trade also tend to experience a more modest current account improvement. Turning to policies, countries that tighten their fiscal policy (that is, reduce their fiscal deficit as a ratio to GDP by a greater amount) generally experience a smaller current account adjustment. Apparently, the relative improvement in public net saving is on average more than offset by the opposite response in the private sector saving-investment balance.
- *Real exchange rate appreciation.* Countries with larger real appreciations in the run-up to an event have a larger real depreciation subsequently. Indeed, by the end of the full period, the earlier appreciation is basically offset. As expected, the rate of depreciation of the real exchange rate decreases the more open the economy. On the policy front, a tighter fiscal policy reduces the real exchange rate depreciation, while there is no significant effect from a tighter monetary policy.
- *Output growth.* The adjustment in output growth seems to depend only on the initial rate of economic growth, and to fall by more the faster the expansion in output before the event. The outcome appears largely independent of the other explanatory variables, including openness and the fiscal stance.

These results suggest that the adjustment process largely depends on the initial imbalance, the degree of openness of the economy, and the policy response. In particular, fiscal policy appears to be a potentially useful instrument for reducing the risk of a rapid and potentially disruptive adjustment in the current account and private sector net saving balance.