

The Dangers of Deficits: Trade Imbalances and National Development:

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Abstract

The historic magnitude of recent U.S. trade deficits has renewed interest in the developmental consequences of trade imbalances and the capital flows associated with them. A paucity of empirical scholarship on trade deficits leaves current analysts without an adequate frame to interpret their consequences. This paper reports on the growth experience of countries that have faced large and prolonged trade deficits.

Orthodox economists routinely equate trade deficits with the capital inflows thought to balance them, which they view as a positive sign for growth. The equanimity of liberal theorists rests on four inter-related premises. First, exchange rate movements render trade imbalances self-correcting and temporary. Second, since trade imbalances could not exist without compensating capital flows, the judgment of the investors that provide such capital certify that the imbalances should not be considered worrisome. Third, so long as capital inflows do continue, they generate growth but no other important consequences. Fourth, whatever liabilities are created by deficits can be easily unwound by future trade surpluses.

This paper revisits these assumptions with empirical data, establishing four points.

First, trade deficits are not short-lived cyclical phenomena. Trade deficits cluster in long strings that constitute “episodes”, which are the proper unit of analysis to study the consequences of deficits.

Second, in episodes of large, protracted trade deficits, trade balances are NOT balanced exclusively, or even largely, by market-based capital inflows, but instead by politically- and socially- motivated transactions. As a result, the consequences of these episodes cannot be fully captured by analyses concerning economic aggregates to the exclusion of the political dependence created by these other flows.

Third, countries do not grow appreciably faster during deficit episodes but they do suffer declines in exchange rates and mounting liabilities. Furthermore, deficit countries tend to grow more slowly after the episodes as the country deals with the liabilities created.

Fourth, the liabilities that result from trade deficit episodes continue nearly indefinitely. They are not easily unwound by the future trade surpluses implied by cyclical conceptions.

ROUGH DRAFT. Comments are welcome. Before quoting or citing, please contact the author for an updated version at bruce.moon@lehigh.edu or www.lehigh.edu/~bm05/bm05.html

Introduction

The historic magnitude of recent U.S. trade deficits has renewed interest in trade imbalances and the capital flows associated with them.¹ However, a paucity of scholarship on trade deficits leaves current analysts without an adequate frame to interpret them. This empirical study of the previous experience of countries that have faced similar circumstances seeks to identify the developmental consequences of episodes of large protracted trade deficits.²

Alternative views of trade deficits³

“Some things matter whether or not they exist. The Loch Ness monster is one. National trade deficits are another.” -Heyne (1983: 705)

Trade imbalances are largely overlooked as epiphenomenal by most conventional economic theory. From the time of David Hume’s (1752) popularization of the “specie flow adjustment mechanism”, theorists in the liberal tradition have regarded trade deficits as inherently short term and as innocuous manifestations of other economic forces.⁴ Thus, they have been considered unworthy of either theoretical analysis or government targeting.

Until the rapid deterioration of the U.S. trade balance in the late 1990s, only a handful of studies had appeared. Most were dedicated essentially to a denial that there was anything to worry about, largely on the grounds that trade deficits were inherently temporary and necessarily self-limiting.⁵ Three articles included a variant of the question, “Do deficits matter?” in their titles (Heyne, 1983; McGee, 1996; Edwards, 2001). Typical of the answer provided was that of the Heyne (1983) essay that produced the above quotation.⁶ In fact, Knight and Scacciavillani (1998:4)

¹In 2006 the U.S. gap was poised to reach \$800 billion, about twenty times greater than the largest trade deficit run in a single year by any nation in history except the United States. The U.S. now occupies places 1 through 25 on the all-time list of single-year deficits. That is roughly four times the entire GDP of all of sub-Saharan Africa, or about twice as much as the *entire annual investment* in all of Africa, South Asia, and the Middle East combined, home to about 40 percent of the world’s population. It is equivalent to more than \$2500 per American and about 7% of U.S. GDP.

² It is rightly argued that the U.S. case is *sui generis* and that the lessons of other nations do not fully apply to it. But it requires enormous hubris to assume that the experience of others offers *no* insight.

³ For a detailed treatment, see Moon (forthcoming, chapter2, “The enigma of trade deficits”).

⁴ Hume’s contribution was pre-dated by Locke (1691), North (1961), and Gervaise (1720), among others generally identified as mercantilists. Pepys seems to have been exposed to the argument as early as 1663.

⁵Edwards (2001) describes the evolution of the policy views of economists over the last twenty-five years as “from ‘deficits matter,’ to ‘deficits are irrelevant if the public sector is in equilibrium,’ back to ‘deficits matter,’ to the current dominant view ‘current deficits *may* matter.’” But this judgment is hard to square with the dearth of literature. The only significant concern – discussed in detail in Moon (forthcoming, chapter 5) – is with the sustainability of deficits, not with their consequences short of crisis.

⁶ It is impossible to read Heyne’s concession in the following sentences without characterizing it as “grudging”: “Trade deficits obviously matter to many people, because (whatever they are) they seem to have

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muse that the very question “Do current account imbalances matter?” seems odd at first glance. After all, the external current account balance is not a policy variable, like the monetary stock or the fiscal position. Nor is it an ultimate policy target like the inflation rate or the level of output or employment.”⁷

Instead, when deficits have been noticed at all, liberal theorists have focused on the capital flows that are thought to balance them. Assumed to be an indicator of investor confidence, capital inflows are postulated to swell the available pool of investment funds and thus generate future growth.⁸

The view is different from outside the neat world of economic theory, where trade deficits are more important for policy-makers than economic theorists (Knight and Scacciavillani, 1998). Policymakers, especially in the poor countries most likely to encounter them, see trade deficits as a planning constraint for states, an indicator of policy failure, and a conditionality criteria imposed by financial institutions. Development scholars and political economists have long recognized the balance of trade as a pivotal target of development policy in poor countries. They typically see trade deficits as the source of debt which can channel foreign dependence, trigger crises, and act as a drag on macroeconomic growth. Political economists in the structural tradition are more apt to see trade deficits as alarming in relation to several potential consequences: declining exchange rates, increasing debt and liabilities, stagnant long-term growth and development, the advent of crises, bias in policy choices and related distributional effects.

The equanimity of liberal theorists rests on four inter-related premises. First, that exchange rate movements are the heir to specie flows that render trade imbalances self-correcting and temporary. Second, since trade imbalances could not exist without compensating capital flows, the judgment of the investors that provide such capital certify that the imbalances should not be considered worrisome. Third, so long as capital inflows do continue, they generate growth but no other important consequences. Fourth, whatever liabilities are created by deficits can be easily

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significant consequences. They cause problems or create undesirable constraints or compel government policy changes. It is often extraordinarily difficult, however, to determine the precise consequences of trade deficits, real or alleged....It might even happen that, if I make my position unmistakably clear, some critic will be able to rescue me from error, and show me why those who speak of trade deficits are in fact making sense, not wandering in darkness and confusion. It isn't only backwoods editors or small-town journalists who treat deficits in merchandise trade as if they were more than they are.” And Heyne (1983: 716): “a government that tries to watch over the balance of trade has embarked upon a task that is intricate, embarrassing, and fruitless.”

⁷ Instead, “The current account is what policymakers often refer to as an ‘intermediate target,’ that is, a variable which is both a broad reflection of the stance of macroeconomic policies and a source of information about the behavior of economic agents.”

⁸While acknowledging that such flows *can* become excessive, there is little basis within this theoretical tradition for considering that eventuality to be common, and few grounds on which to identify the point at which it may occur. The sole exception is found in empirical analyses that have fixated on the sustainability of imbalances and their propensity to end in explosive crises, such as those that marked the late 1990s. However, these studies have not considered the desirability of flows *below* crisis-inducing magnitudes.

unwound by future trade surpluses.

This paper revisits these assumptions of the liberal perspective, probing the theory and evidence for them. The paper is organized into sections that address each assumption in turn. Alternative theoretical expectations are posed and then tests are reported that seek to establish whether these premises are warranted. The analyses establish four points.

First, trade deficits are not short-lived cyclical phenomena. Trade deficits cluster in long strings that constitute “episodes” and make deficits a country-level, not a country-year phenomena. This “stylized fact” has implications for choosing a research design to analyze trade deficits, especially pointing to episodes as the proper unit of analysis.

Second, in episodes of large, protracted trade deficits, trade balances are NOT balanced exclusively, or even largely, by market-based capital inflows, but instead by politically- and socially-motivated transactions. As a result, the consequences of these episodes cannot be fully captured by analyses concerning economic aggregates such as GDP growth unless they are accompanied by a recognition that dependence and the policy distortions they imply are also present.

Third, countries do not grow appreciably faster during deficit episodes but they do suffer declines in exchange rates and mounting liabilities. Furthermore, deficit countries tend to grow more slowly after the episodes as the country deals with the liabilities created.

Fourth, the liabilities that result from trade deficit episodes continue nearly indefinitely. They are not easily unwound by the future trade surpluses implied by cyclical conceptions.

Direct examination of the growth experience of deficit countries follows.

Assumption 1: The persistence of trade deficits

The earliest liberal theorists assumed that trade imbalances arose from short-term shocks that would quickly dissipate because of built-in adjustment mechanisms involving relative prices and exchange rates. The “elasticities” approach, which dates to the 1920s, used partial equilibrium analysis to estimate rudimentary supply and demand functions for imports and exports that were dominated by income and price considerations, the latter including exchange rates (Goldstein et al., 1980; Goldstein and Khan, 1978; Goldstein and Kahn, 1985). For example, relatively stable income elasticities of demand for imports – that is, the marginal propensity to import – imply that the relative growth rates of economies drive import levels. As a result, faster growing economies naturally tend to trade deficits, but the resultant currency depreciation returns trade to balance via a relatively stable price elasticity of demand for imports.⁹ Because trade deficits are inherently short-term in this account, they should have no substantial long-term impact and may be ignored as insignificant by policy-makers. Though no precise predictions are offered, the logic of the argument

⁹ For the contrasting theoretical accounts and the mixed empirical evidence concerning exchange rate movements and their relationship to trade deficits, see Moon (forthcoming, chapter 2).

implies that equilibrium should be restored quickly enough that we might expect that trade imbalances should seldom exceed the length of a business cycle.

A later and more sophisticated perspective, that of the trade deficit as an “inter-temporal phenomena”, lends itself to a broader range of views on the duration of deficit episodes. On one end, trade deficits are simply an expression of “consumption smoothing” in the face of temporary shocks (or “investment smoothing” in other formulations). In pure market models, trade deficits occur during negative income shocks, whereas trade surpluses arise when output is above trend, outcomes that are effectuated by changes in savings and investment rates (Baxter, 1995; Prasad, 1999). When yearly output falls below expectations, both individuals and society as a whole will attempt to maintain previous levels of consumption by reducing savings. Unless investment levels are to fall abruptly, this reduction in domestic savings requires an inflow of capital and a resultant trade deficit. When income is above trend, savings grow and trade surpluses arise. These accounts offer contrasting predictions of the sign of the relationship between income and the trade balance, but they share an expectation that the imbalance will be temporary.

Formulations that include a role for government anticipate counter-cyclical fiscal policy to play a similar role.¹⁰ In either case, when the shock has dissipated, balance is restored with a swing of roughly equal magnitude in the opposite direction. Freund (2005: 1280) concludes that “large and growing current account deficits in industrial countries are largely a function of the business cycle, i.e. symptoms of the economic and policy environment.” They may even be shorter in length for poor countries, where income shocks can be related to harvest conditions that fluctuate at yearly intervals or to terms-of-trade shocks that involve commodity prices.

On the other end of this continuum of orthodox views, “inter-temporality” extends over far longer time periods. Representative accounts in this genre would include the view of the current account as a consequence of age-related demands for investment and supply of savings (Lindh and Malberg, 1999; Lane and Milesi-Ferretti, 2001). The life-cycle theory of demographic effects builds on the observation that individuals go through a quite predictable periodicity in their consumption and saving behavior. At its crudest formulation, the young borrow to buy homes and finance education, whereas the old save to fund retirement. If so, waves of demographic phenomena at the societal level (such as the vaunted “baby boom” generation in the U.S.) translate this micro phenomenon to the macro-level (Feroli, 2006; Domeij and Floden, 2006). The consumption- and/or investment-smoothing of such age effects would seem to anticipate cyclicity of up to generational length.¹¹

¹⁰ As it turns out, both fiscal and monetary policy tend to be pro-cyclical in poor countries (Moon, forthcoming, chapter 6).

¹¹ A key conviction follows from the assumption that trade deficits are epiphenomenal, normal, and temporary: They are also benign. As Sinn (1990:33) puts it: “Ideally, the evolution [of net external asset positions] should be regarded by policymakers with equanimity...[It] records the net result of the past decisions of resident savers and investors.... Net external asset positions and current account balances are condensed macro results of a multitude of micro decisions. As such, they are a convenient shorthand for summarizing a mass of data. They do not possess a rationality of their own that is separate from their constituent parts, nor should their level be

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A final orthodox perspective emphasizes that trade deficits are longer-term, “structural”, (Diaz-Alejandro, 1963), and strongly related to “stages of development” (Eichengreen, 1990/92; Roldos, 1996; Chinn and Prasad, 2000; Sinn, 1990; Kindleberger, 1968; Genberg and Swoboda, 1988; Siebert, 1989; Crowther, 1957; Halevi, 1971).¹² A number of scholars have suggested that the balance of payments or net international investment position should follow a predictable time path most simply expressed as “the rich lend and the poor borrow”. Such a prediction is often based upon a view of the current account that focuses on the national demand for capital flows to augment domestic savings. For example, Kindleberger (1968: 483):

“In the early stages of growth when investment opportunities exceed savings, a country may make up the gap with international borrowing. At a later stage as its income and savings rise beyond its investment requirements, it pays back debt and accumulates foreign investments of its own. Still later, its propensity to save may shift again downward, as consumption rises through the demonstration effect but the productive drive flags. At this stage the country may choose to consume some of its accumulated capital.”

Theories that arise out of political economy traditions generate quite different expectations of the episodic character of trade deficits. First, trade deficits tend to be “sticky”— and increasingly so as deficits are prolonged and intense. In fact, orderly reversals of trade from deficit to surplus are expected to be rare. Stickiness arises from both the “real economy” (trade) and the financial (capital flow) side of the trade deficit complex. The former reflects the slow-moving and self-reinforcing character of the forces that drive both imports and exports, on both the supply and demand sides. For example, trade patterns and production patterns are inextricably linked, such that imports that prevent the development of domestic industry assure that imports will continue.

This hysteresis would be enough to cause trade deficits to cluster, but it is augmented by similar rigidities in capital flows. Incoming investment invariably generates future outward flows of income, which must be financed by further capital inflows. As a result, deficits are self-reinforcing rather than self-reversing, as a Humean or inter-temporal view would suggest. The forces that tend to re-create deficits are far stronger than those that tend to reverse them. That self-reinforcing character arises from the mathematics of deficits themselves, from the effect of markets that punish deficit nations, and from the effect of international actors that acquire influence as deficits mount and which ordinarily use that influence to push the country to policy actions that lead to more deficits. For example, when the debt induced by repeated deficits leaves a nation under the influence of the International Monetary Fund, the first impulse of the IMF is to enforce liberalization policies that are known to create wider trade deficits.

Second, recognizing the distinctive power considerations that surround investment and debt,

¹¹(...continued)
a target for economic policymaking.”

¹² For evidence that stages of development predict much better than demographic variables, see Moon (forthcoming, chapter 2).

trade deficits are more likely to respond to external and systemic forces than internal ones. Poor countries do not run trade deficits when they choose to, but when systemic factors allow or even mandate it.¹³ Thus, systemic variables like global growth and interest rates— not the national characteristics of deficit countries – should explain much of the “when” variation in trade deficits (Calvo et al., 1993).¹⁴ There is no particular reason to assume that the timing of national demands and global supplies will coincide. Thus, without the safeguard that trade deficits will be undertaken only where and when domestic economic actors judge them likely to be developmentally beneficial, there is no compelling reason to believe that trade deficits will have positive outcomes. As Phylaktis (2006) observes:

Capital flows to developing countries have gone through cycles in the last 30 years. Having reached high levels during the 1970s they practically stopped in the aftermath of the 1982 foreign debt crisis. In the early 1990s developing countries regained access to foreign capital following major restructuring of their economies and adoption of more liberal policies. As a result net private capital flows exceeded \$230 billion in 1996, nearly six times greater than what they were at the start of the decade, and almost four times more than the peak reached during the 1978-1982 commercial bank lending boom. The composition of capital flows changed also from bank lending to bonds, foreign direct investment and portfolio investment, while the private sector instead of the public sector did most of the external borrowing. During the late 1990s there was another reversal of capital flows following the Asian and Russian crises in 1997 and 1998, respectively. However, in recent years the interest by foreign investors in emerging markets has once again picked up.

Developed country banks make foreign loans when domestic demand slackens. Investors send capital abroad when opportunities flag at home. Tastes for foreign exposure and trends in risk analysis produce global waves of capital flows that vary over time even more than they vary over space. Eichengreen (1990: 3) addresses lending:

“Each cycle is initiated by financial innovation or a disturbance to the pattern of international settlements. The innovation or disturbance provokes excessive enthusiasm which raises lending to unsustainable heights. Eventually, a shock to financial or commodity markets curtails lending abruptly, revealing the difficulties the borrowing countries will face in servicing their debts. Reckless enthusiasm gives way to extreme caution. International capital markets remain becalmed for a decade or more, until another displacement reinitiates the process. Epochs of large-scale lending are those characterized by long, heated booms and short, shallow busts.”

¹³ See Jeanneau and Micu (2002) and references therein for the literature on “push” vs. “pull” factors in capital flows, especially FDI.

¹⁴ This is not to say that more conventional perspectives do not recognize the impact of external factors. For example, McKinnon (1989) and Bayoumi (1989) attribute the high investment flows of the 1880-1913 period to the fixed exchange rates that encouraged capital flows by minimizing currency risk. And Eichengreen, 1990/92 (implausibly) invokes the “stages” argument to explain period effects when he speculates that those eras marked by a greater divergence in stages of national economies would naturally manifest higher capital flows. Others see external factors as triggers – as when changes in investor sentiments transform a previously benign net external position into a dangerous deficit – but they do not accord them priority.

Does the empirical record bear out the expectation of relatively rapid adjustment and a high frequency of trade balance fluctuations? Or do sticky deficits produce long strings of deficit episodes?

Do trade balances cycle?

One way to test whether the trade balance cycles relatively rapidly between surplus and deficit is to examine the serial correlation between deficits at various lags.¹⁵ If deficits cycle, we should detect at least a strong diminution of the serial coefficient at the appropriate lag, if not an outright sign reversal. For example, if they cycle at yearly intervals – that is, if a deficit in one year is usually followed by a surplus in the next – we should find that the sign of the serial coefficient is negative at a one year lag. By contrast, if trade deficits tend to feed on themselves or if they reflect relatively persistent effects rather than temporary shocks, the serial coefficient should be positive and large.

We begin by estimating the simplest possible model of “sticky” and slowly changing deficits, an AR(1) process:

$$[1] TB_t = a + bTB_{t-1} + u$$

To highlight change *within* each national time-series rather than differences between nations, we employ a cross-sectional time-series design with fixed effects, which creates (an unreported) separate intercept for each nation. (The presence of the separate intercept, which proxies the long-term equilibrium trade deficit of each nation, allows us to interpret the lag coefficients as the speed of adjustment toward that equilibrium.¹⁶) That estimation, reported in the first column of Table 1, reveals a serial coefficient of +.64 – more than 41% of the variance in trade deficits is accounted for by its one year lagged value. (An OLS estimate yields a coefficient of +.90, explaining 81% of the variance.) That does not mean that there are *no* cycling effects, of course. If two-year and three-year lags are added to equation [1], cycling effects do appear. However, the coefficient of the TB_{t-1} term, the constant, and r^2 are virtually unchanged with the addition of longer lags. Cycling may occur, but it is swamped by the strength of the AR(1) process.

Table 1 - Serial coefficients in the trade balance

Lag	coefficient (t)	
TB_{t-1}	.64 (51.5)	.652 (37.88)
TB_{t-2}		-.084 (- 4.13)
TB_{t-3}		.070 (4.11)
Constant	-2.17 (-17.3)	-2.08 (-14.62)
R^2	.806	.806
N	3896	3531

As a result, the trade balance is much more strongly related to its own prior level than would be common for cycling variables. For example, of the 1932 cases in which a trade deficit exceeded 4% of GDP, in 1722 of them (89.1%), the trade deficit reached that same milestone in the

¹⁵ For alternatives, see Harding and Pagan (2006) and Blinder and Fischer (1981).

¹⁶ The assumption that the equilibrium trade balance is zero is unnecessary and unwarranted from several theoretical perspectives, though the early liberal theorists would have accepted it. In the simplest case, a steady stream of inward transfers from worker remittances would offset an equally steady trade deficit at equilibrium, but there are many other scenarios.

following year. Consider also the first column of Table 2, which shows the simple correlation coefficient of the trade balance with its lagged value. At five years, more than half of the variance is accounted for by the lagged value and at ten years it is still 43%.¹⁷ Contrary to the expectations of Hume, positive trade balances are *not* followed by negative ones within a few years. To interpret this pattern, contrast it with the second column of Table 2, which records the lagged coefficients for yearly growth in GNI (in constant U.S. dollars), the quintessentially cyclical variable. At one year, its serial correlation coefficient is +.27, but it drops to less than half of that value at two years, and diminishes quickly thereafter. Even with the power of nearly 4500 cases, the coefficient is insignificant at five years and negative in sign at ten. By contrast, far from exhibiting cycling behavior, trade balances are strongly and positively related to past values.

This has several implications. Theoretically, it is clear that adjustment mechanisms do not operate to negate the possibility of long-term trade deficits, at least at anything approaching business cycle durations. Trade deficits are not the result of temporary shocks that are quickly dissipated or reversed. The obvious absence of a discernable cyclical process also calls into question the assumption that the adjustment, whenever it occurs, will be benign, since the recovery from a multi-year, cumulative deficit implies a considerably larger dislocation than one that lasts only a single year. Furthermore, the fixed effect model reported in Table 1 reveals a very strong effect of country dummies; that is, the average trade deficits of individual nations differ significantly from zero and vary dramatically from one country to another. This suggests that trade balances may be more appropriately seen as attributes of nations, not nation-years.¹⁸

Table 2 - Correlation coefficients, lagged

	TB	Δ GNI
lag 0	1.000	1.000
lag 1	.898	.272
lag 2	.824	.140
lag 3	.790	.104
lag 4	.759	.036
lag 5	.741	.026
lag 6	.716	.060
lag 7	.697	.089
lag 8	.679	.033
lag 9	.662	.020
lag10	.657	-.010

Do trade balances smooth?

If trade balances are used to smooth consumption, as postulated by inter-temporal theories, it must leave a statistical record: A trade surplus should occur when output is high and a trade deficit when output is low. Is there a positive correlation between GNI growth and the trade balance? The previous finding that trade balances are not largely cyclical leads us to doubt that they will be found to correlate with income measures which *are* strongly cyclical. The evidence, displayed in Table 3, largely confirms that doubt. It is not completely clear as

Table 3 - Smoothing effects

DepVar:TB	OLS	fixed effects	random effects	AR(1) fixed	AR(1) random
Δ GNIpc	-.12 (-2.6)	-.03 (-1.3)	-.04 (-1.4)	.08 (4.2)	.07 (3.5)
Constant	-6.02 (-23.7)	-6.16 (-46.7)	-7.36 (-6.9)	-6.18 (-63.3)	-7.37 (-7.2)
N/r ²	3620/.002	3620/.002	3620/.002	3460/.001	3620/.002

¹⁷ This rate of decay is remarkably close to Eichengreen's (1987) estimate for lags between and 1 and 4 years in the U.S. series between 1952 and 1983: .912, .825, .798, and .789.

¹⁸From a testing standpoint, this high serial correlation also presents challenges to uncovering the effects of any given year's trade deficit.

to whether there is *any* smoothing effect, but it is certain that it is not large if present at all. Contrary to smoothing expectations, the OLS estimates in Column 1 produce a significant *negative* correlation between the contemporaneous trade balance and growth in per capita GNI, measured in constant international dollars that reflect purchasing power parity. That is, trade deficits arise when growth is high, not – as prescribed by smoothing theories – when growth is low. However, both the fixed effects and the random effects CSTS analysis presented in columns 2 and 3 reduce the negative coefficient below conventional significance levels.¹⁹ These findings are more consistent with expectations of the “elasticities” approach associated with Keynesian theory. The Keynesian logic emphasizes that when incomes grow, consumption of both domestic and foreign goods rises. The latter pushes imports higher without affecting exports, driving the trade balance toward deficit.

A weaker form of smoothing that recognizes the strong serial component of trade deficits could be modeled as an AR(1) process. According to this formulation, a decline in growth from one year to the next – regardless of whether the previous year’s growth was high or low – should be associated with a trade deficit. In columns 4 and 5, both designs show a statistically significant positive effect compatible with a smoothing interpretation ($t=3.5$ and 4.2), though the substantive effect is quite small: A GDP growth rate 1% of GDP above the previous year’s level is associated with a trade surplus of between .067% and .081% of GDP in analyses which explain less than 1% of the total variance.²⁰ However, this result is not at all robust to small variations in the sample of countries included.²¹ Clearly, smoothing cannot be the major explanation for trade deficits – and the theory that posits that it is cannot be an adequate frame to understand either their causes or consequences.

The analysis does offer some clues, however. The significant effect of including country-specific intercepts in the fixed effects analysis reiterates the conclusion reached above, that nations should be regarded as significant units of analysis because they have distinctive propensities to trade deficits. And, the effect of introducing an auto-correlation term suggests that smoothing responds somewhat more to yearly change than to the absolute level, a finding that strengthens the case for examining multi-year episodes of deficit experience as the unit of analysis.

Do trade balances cluster?

Rather than exhibiting short-term changes that cycle and/or smooth, trade balances may cluster over time into global eras or exhibit stickiness by clustering together within countries. Do trade deficits vary markedly across years as a global perspective suggests? The first cut, reported in

¹⁹ The existing literature generally finds the trade balance to be strongly counter-cyclical in developing countries, but pro-cyclical in developed countries (Aguiar and Gopinath, 2006).

²⁰ Coefficients of around .089 result if the growth variable is replaced with a deviation from growth trend. As in Eichengreen (1980), that deviation is the residual from a regression of the growth rate on a constant, time, and time squared.

²¹ For example, when the analysis is run excluding the 15 nations for which the age distribution data is missing (reducing the sample to 145), the t value moves from +4.2 to -1.2. Among 23 OECD countries (which exhibit greater serial correlation in their trade balance), the t is only .08.

Table 4, says “yes”. From 1965 until the advent of the oil shocks, the average trade balance was a little above 2% of GDP. It bounced to over 6% in 1975, peaked above 10.5% in 1981, stabilized around 6% until 2000, and averaged around 4% at the beginning of this century.²² The forces that generate trade deficits are certainly not exclusive to the national level.

Do trade deficits also cluster into episodes among particular nations? Yes. In fact, 58 nations – about one out of three – have run a trade deficit in every single year covered by the data. 38 countries have run a trade deficit exceeding 4% of GDP in every year and another 14 have done so in 90% or more of all years. 33 nations have run a trade deficit larger than 4% of GDP for more than 20 consecutive years, 8 of them for more than 30.²³ If not an attribute of nations, trade deficits certainly appear to string together in very long sequences which warrant greater attention.²⁴

Indeed, these findings strongly suggest that the remaining assumptions be addressed within a research design that considers protracted “episodes” of large yearly deficits the appropriate unit of analysis. To do so requires the identification of such episodes, the task to which we now turn.

Year	Mean	sd	Year	Mean	sd
1965	-4.12	5.66	1985	-6.07	15.06
1966	-2.17	5.25	1986	-6.26	14.01
1967	-2.35	4.75	1987	-5.44	13.96
1968	-2.49	5.12	1988	-5.96	13.91
1969	-2.88	5.72	1989	-5.66	15.12
1970	-3.87	8.69	1990	-5.63	14.31
1971	-2.40	10.52	1991	-7.77	15.74
1972	-2.32	11.08	1992	-8.15	16.22
1973	-1.76	12.87	1993	-7.42	14.06
1974	-1.29	17.08	1994	-6.12	14.62
1975	-6.15	18.79	1995	-6.13	13.81
1976	-4.69	18.22	1996	-6.39	15.83
1977	-5.39	15.00	1997	-6.05	12.18
1978	-7.40	13.56	1998	-7.86	14.01
1979	-7.30	17.19	1999	-5.70	14.04
1980	-8.59	17.45	2000	-3.70	15.72
1981	-10.54	16.52	2001	-4.49	13.79
1982	-10.24	16.03	2002	-4.46	14.23
1983	-8.38	15.00	2003	-3.27	13.51
1984	-6.49	15.93	2004	-3.06	13.15

Defining deficit episodes

Some criteria is required to initiate the study of potentially-dangerous deficit episodes. There has not been a lot of work on this, so the best method of identifying such episodes is probably trial and error after borrowing from existing efforts.²⁵ Freund and Warnock (2005) define persistent

²² For attempts to identify the global factors that drove these changes in trade balances, see Moon (forthcoming, chapter four), which seeks the causes of trade deficits broadly, and UNCTAD (2003:16), which links movements in FDI to growth rates in GDP.

²³ Also, most of the variation in trade balances is cross-sectional, not time-series. The standard deviation of the trade balance computed over every country for a given year averages about 14.7. By contrast, the standard deviation for a given country computed over time averages less than half as much, 6.8.

²⁴ It is not yet clear whether or not deficits are actually self-perpetuating – which would imply that they are authentic causal agents carrying important long-term consequences. Alternatively, they may be merely themselves the result of long-term causal forces which exhibit little short-term change.

²⁵ Freund (2005) ducks the problem by defining *ex post* deficits that proved to be unsustainable by detecting rapid current account reversals, which presumably result from such an episode. Also, DeBelle and Galati

(continued...)

deficits, but restrict the analysis to industrial countries. This is a significant difference that leads them not only to definitions that are inappropriate for poorer countries, but to conclusions that are severely constrained in scope. For example,

“We define deficits as persistent if they satisfy the following three criteria: i. The CA/GDP ratio was below 2 percent for five consecutive years, ii. There was no reversal (as defined above for five years), and iii. The CA/GDP ratio was below 2/3 of its initial level in each of the five years.”²⁶

This criteria netted them 14 episodes of persistent deficits. These same criteria would likely include nearly every country in the Third World for most of its history! They conclude that (:abs) “there is little evidence that deficits in economies that run persistent deficits, have large net foreign debt positions, experience greater short-term capital flows, or are less open are accommodated by more extensive exchange rate adjustment or slower growth [sic].” This conclusion may stem from their sample, which consists largely of countries with relatively modest deficits, since rich nations are usually too responsible to run large deficits. Poor countries face different conditions than do their richer cousins and are likely to experience deficits differently.

For this study, I initially took as a point of departure the oft-cited criteria of 5% of GDP being a danger point for trade deficits, and regarded five consecutive years as indicative of a protracted episode, definitely longer than a single business cycle. Moving the criteria down to 4% made a surprisingly small difference in the number of cases, but it did have the advantage of pulling together into one episode several stretches of 5% deficits separated by a year or two of -4.5% or so.

This “four percent by five years” criteria yielded 114 episodes for 99 nations, more than half the sample of 195 countries.²⁷ Protracted episodes of large trade deficits are obviously not uncommon. Nor are they brief, with an average length of nearly 15 years. Nearly two-thirds (72) persisted for ten years or longer – often, much longer. Thirty-eight nations have run a continuous deficit of 4% of GDP for the entire period for which data is available. Nor were these small deficits: the average in these 114 episodes was a trade deficit of 13.7% of GDP per year and a median of

²⁵(...continued)

(2005). Both begin from the premise that the point at which the current account deficit becomes worrisome is about -2% of GDP. This may be appropriate for the advanced industrial countries they study but such a figure is far smaller than the level quite common among poor countries. Adalet and Eichengreen (2005) use the same criteria but include a number of middle income countries.

²⁶“The first criterion ensures that we are examining persistent deficits. The second ensures that the deficit is not undergoing a reversal; this criterion effectively eliminates V-shaped deficits. The third eliminates slow improvements and highly variable deficits. Taken together, the criteria leave us with two types of persistent deficits, those that are continuously worsening and those that are flat but deep.”

²⁷An initial cut identified 126 episodes in 99 (including two that had 3 episodes each). Inspection revealed that many of these multiple episodes were better seen as a single continuous one because they were separated by only a single year in which deficits fell below 4% or in which data was missing. Since a single year could be the result of poor data, perhaps with respect to the timing of transactions, these episodes were combined.

10.8%. Current account deficits were considerably smaller, but still averaged nearly 8% of GDP, with a median of 6.8%. The list contained in Table 5, with the column “end?” containing a code of ‘1’ for an episode that has ended and ‘2’ for one still ongoing, provides the sample for the remaining analyses.

Assumption 2: The financing of trade deficits

From the standpoint of most theories of trade deficits, the frequency and magnitude of these episodes would seem to offer a major challenge to both the finances and the patience of foreign investors. The conventional story is that trade deficits are financed by foreign investors who expect repayment from the proceeds of future trade surpluses. Yet, continuous deficits measured in the decades must weaken the conviction that nations can easily repay liabilities by engineering future surpluses. This concern rests on an important pair of premises which we must now subject to greater scrutiny.

First, all of the discussions up to now have assumed that trade deficits are financed largely by capital inflows. That is not the only way to finance deficits, however, and an entirely different frame is required if other means are used to balance them. In principle, of course, it can occur in a number of ways. Trade deficits can be balanced within the current account by either transfers or net income. Within the reserve accounts, they can either be paid for by drawing down reserves or receiving exceptional financing. Finally, they can be balanced by capital inflows recorded within the financial account (as portfolio or direct investment, in the form of equity securities or debt instruments, etc.). Table 6 provides the first answer concerning how trade deficits, which average over 16% of GDP, are financed in the 114 episodes identified above.²⁸

Capital flows, which are recorded in the financial account, are usually assumed to be the main source of deficit financing, but Table 5 makes clear that they are not. In fact, the average level of capital inflows during these episodes - 6.07% of GDP – is only a little more than one third of the

Tã	bname	year	end?	CA	TB	bname	year	end?	CA	TB	bname	year	end?	CA	TB			
	Greece	2004	2	29	.	Bangladesh	2004	2	29	-1.5	-6.8	Rwanda	2004	2	29	-3.6	-15.9	
	Ireland	1982	1	9	-7.9	-9.6	Cambodia	2004	2	13	-9.2	-14.9	Sao Tome`e	1990	2	11	-26.2	-30.3
	Malta	2001	1	31	0.5	-10.9	Sri Lanka	2004	2	27	-5.3	-10.4	Sao Tome`e	2002	2	5	-38.3	-41.6
	Portugal	1984	1	10	-5.9	-11.8	Lao PDR	2001	2	18	-12.2	-12.0	Seychelles	1990	1	15	-10.9	-15.0
	Portugal	2004	2	18	-4.2	-8.4	Maldives	1984	1	5	-38.8	-34.8	Senegal	2003	2	30	-7.9	-9.5
	Bolivia	2002	1	8	-5.5	-7.1	Nepal	2004	2	28	-4.3	-10.0	Sierra L`e	1982	1	6	-12.5	-12.9
	Costa Rica	1981	1	5	-12.2	-7.7	Pakistan	1999	1	24	-3.7	-8.9	Sierra L`e	2004	2	12	-10.5	-18.0
	Dominica`c	1982	1	5	-6.9	-6.4	Philippi`s	1983	1	7	-6.1	-6.1	Somalia	1989	2	13	-16.0	-40.5
	Dominica`c	2002	1	14	-3.4	-6.8	Philippi`s	1998	1	7	-3.2	-8.1	Namibia	1999	1	10	3.4	-11.6
	El Salva`r	2004	2	24	-3.2	-12.0	Singapore	1982	1	11	-10.9	-8.5	Sudan	1999	1	6	-7.4	-8.8
	Guatemala	2004	2	13	-4.9	-8.9	Thailand	1981	1	5	-6.4	-5.9	Swaziland	1986	1	9	-16.8	-32.8
	Haiti	2003	2	30	-3.0	-13.1	Thailand	1996	1	7	-7.0	-6.1	Swaziland	2001	1	12	-2.0	-18.5
	Honduras	1981	1	8	-9.4	-6.6	Botswana	1983	1	9	-12.5	-18.1	Tanzania	2004	2	17	-9.9	-15.0
	Honduras	2004	2	14	-6.9	-10.4	Burundi	2003	2	19	-4.0	-14.6	Togo	2003	2	29	-8.7	-13.2
	Nicaragua	2004	2	25	-25.3	-22.9	Cape Verde	2003	2	18	-6.7	-33.5	Tunisia	1986	1	11	-7.2	-8.1
	Paraguay	1988	1	10	-7.4	-7.0	Central `c	1994	2	18	-4.2	-11.3	Tunisia	1995	1	7	-4.8	-6.1
	Antigua `a	1989	1	13	-19.3	-20.6	Chad	1994	2	13	-2.5	-14.9	Uganda	2004	2	18	-6.0	-13.4
	Bahamas, `e	2003	2	8	-11.7	-9.7	Comoros	1995	2	16	-7.5	-26.6	Burkina `o	1994	2	21	-2.5	-16.8
	Barbados	1982	1	13	-12.0	-14.5	Benin	2003	2	30	-7.4	-13.1	Solomon `s	1998	1	24	-6.7	-17.6
	Barbados	2004	2	6	-6.8	-6.3	Equatori`a	1993	1	7	-15.2	-33.1	Vanuatu	1991	1	7	-9.9	-16.1
	Dominica	2002	2	26	-13.0	-21.4	Eritrea	2000	2	9	-1.4	-61.9	Papua Ne`a	1989	1	10	-10.6	-11.3
	Grenada	2002	2	26	-13.7	-21.6	Ethiopia	2004	2	24	-2.3	-10.3	Samoa	1999	2	22	-4.1	-36.2
	Guyana	1985	2	7	-25.0	-15.4	Gambia, `e	1983	1	6	-21.3	-32.2	Tonga	1993	2	19	-1.9	-36.3
	Guyana	2004	2	7	-8.5	-6.5	Gambia, `e	1997	2	8	0.3	-11.6	Armenia	2004	2	12	-12.2	-24.1
	Belize	2004	2	21	-6.7	-9.2	Ghana	2004	2	18	-4.3	-12.7	Azerbaijan	1999	1	5	-21.9	-23.5
	Jamaica	1985	1	5	-11.5	-9.8	Guinea-B`u	1997	2	16	-35.0	-30.1	Albania	2003	2	14	-6.0	-27.4
	Jamaica	2004	2	10	-5.7	-11.4	Guinea	1996	1	7	-6.5	-7.1	Georgia	2004	2	8	-8.6	-17.2
	St. Kitt`s	2002	2	23	-18.4	-23.7	Kenya	1982	1	5	-9.1	-8.2	Kyrgyz R`c	2000	1	8	-13.6	-13.2
	St. Lucia	2002	2	24	-12.8	-14.3	Kenya	2004	2	8	-1.8	-5.9	Bulgaria	2004	2	6	-6.4	-8.1
	St. Vinc`s	2002	2	25	-12.2	-18.2	Lesotho	2004	2	30	-5.6	-91.5	Moldova	2004	2	11	-7.9	-21.1
	Suriname	1984	1	5	-10.7	-20.2	Madagascar	2003	2	26	-7.4	-7.3	Estonia	1999	1	6	-6.9	-8.3
	Cyprus	1985	1	10	-9.6	-13.4	Malawi	1983	1	7	-14.9	-11.3	Latvia	2004	2	9	-7.8	-10.4
	Israel	1997	1	33	-4.8	-12.9	Malawi	2002	2	15	-7.5	-12.2	Lithuania	2004	2	10	-8.0	-8.1
	Jordan	2004	2	33	-1.7	-30.6	Mali	2001	1	27	-9.1	-15.5	Mongolia	2004	2	7	-12.1	-16.5
	Saudi Ar`a	1989	1	7	-12.0	-13.5	Mauritania	1994	1	20	-15.5	-20.8	Croatia	2004	2	10	-6.9	-9.6
	Syrian A`c	1988	1	12	-1.5	-13.4	Morocco	1995	1	21	-5.8	-9.4	Macedoni`R	2004	2	9	-5.8	-16.6
	Egy..	2001	1	25	-2.4	-11.2	Mozambique	2004	2	25	-15.2	-21.6	Bosnia `a	2004	2	7	-15.5	-58.4
	Yem..	1998	1	9	-6.0	-17.6	Niger	2003	2	30	-7.2	-9.2	Romania	2004	2	10	-5.6	-6.8

²⁸ Missing balance of payments data for Greece in 1998 prevents its inclusion in several analyses.

average trade deficit. Furthermore, capital flows are not even the single largest source.

That distinction is held by the nearly 9% of GDP represented by current transfers, a current account category dominated by governmental aid and worker remittances. The division of transfers into those two constituent elements cannot be done reliably, precisely, or in perfect accordance with our own research interests, so they are not broken down in the table, but their relative magnitudes may be roughly estimated. Direct data on worker remittances is fragmentary, available from the IMF for only 50 of the 114 episodes.²⁹ For those cases it averages about 2.8% of GDP and it is reasonable to presume that it is far lower where it is not recorded. The categories used by World Bank data on foreign aid do not align very well with the balance of payments scheme but its reported value usually exceeds the IMF's total for current transfers.³⁰ Thus, we may safely assume that foreign aid represents the bulk of the transfer category for most nations and almost certainly exceeds private capital flows as a means of financing trade deficits in these episodes.

Table 6	N	Mean	SD	Min	Max
Current account	113	- 9.17	7.16	-38.8	3.4
Trade balance	113	-16.60	12.46	-91.5	- 5.9
Income	113	- 1.48	6.75	-10.8	58.2
Transfers	113	8.92	8.80	- 9.0	60.4
Financial acc.	113	6.07	4.87	- 6.9	27.0
Errors/Omissions	113	.42	2.47	- 7.0	11.6
Reserves	113	- .88	2.03	- 7.1	8.1
Exceptional Fin	113	3.56	6.56	- 1.2	36.0

The importance of transfers for the framing of our analysis may be conveyed by contrasting the description offered by two different sources. The World Bank's World Development Indicators characterizes them this way: "the provision or receipt of goods, services, income, or financial items without a quid pro quo." The IMF Balance of Payments manual adds this important qualifier: "Transfers often reflect benefits that cannot be quantified (e.g., improved political or economic relationships between parties)." The former may better convey the spirit of worker remittances to their families, but the latter certainly better captures the reality of foreign aid between governments. Neither form of transfer is a market-based economic transaction.

Official development assistance is thus a power relationship involving the exchange of an intangible, which is probably valued less highly as an asset (power) by the donor than as a liability (dependence) by the recipient. That liability of external dependence cannot be assessed within any monetary framework and it has been best treated within the radical tradition of political economy, where it has been a major theme for decades (Payer, 1970). To the extent that trade deficits are financed by aid (or the exceptional financing discussed below), they channel dependency that imposes real costs and forces trade-offs with values of autonomy, democratic responsiveness, and various social outcomes (Vernengo, 2004). Most obviously, they invite constraints to policy-making in the form of IMF and World Bank conditionalities that bias policy choices by restricting welfarist approaches (Kozul-Wright and Rayment, 2004). They increase external dependence and reduce

²⁹ Most worker remittances represent cash sent home by workers temporarily resident abroad, but the same payments made by workers who have not established foreign residence by virtue of a stay exceeding one year are included under income rather than transfers.

³⁰ The complications are numerous. For example, forgiveness of loans would be considered foreign aid by the World Bank. However, in the IMF's balance of payments parlance, it is a capital transfer, not a current transfer; hence, it must enter either the capital account or the exceptional finance component of the reserve account. Also, the concessional element of loans can be evaluated, and thus apportioned, differently.

autonomy, shifting the fate of the nation to external factors that cannot be controlled, such as international interest rates which both endanger floating rate debt and induce capital outflows by changing the rates of return available elsewhere (Moon, forthcoming, chapter 7).

The other element of the current account, net income, is sometimes large enough to provide a financing method for trade deficits, but it is ordinarily of the wrong sign. Most countries that run balance of trade deficits also accumulate net external liabilities, which generate deficits in net income as well. As a result, net income is much more likely to *add* to the current account deficit that will need to be financed, sometimes sizably. It is this net income category that is central to the understanding of trade deficits as inter-temporal phenomena and also central to political economy thinking concerning the stickiness of trade deficits. Trade deficits feed on themselves by creating liabilities that require even larger capital flows in the future.

In practice, most of the other financing sources are too limited in size to account for any significant percentage of deficits that are as large as those associated with these episodes. For example, the data of Lane and Milesi-Ferretti on the net external position of nations indicates that the average *stock* of reserve assets is equal to only about 11% of GDP. That is certainly adequate to buffer a small and temporary shock, but it is a literal drop in the bucket of deficits which average 14% of GDP for an average of 15 consecutive years. As a result, reserve payment *flows* average under 1% of GDP. Though they can be considerably larger for individual years, especially at the onset of the financial crises that often evolve from prolonged deficit episodes, they are very seldom significant over the long-term. Similarly, errors and omissions, which are usually thought to be the result of understatement in the acquisition of foreign assets, amount to less than half of 1% of GDP, on average, and are far too small to change the basic character of financing.

One additional source, the exceptional financing component of the reserve account, warrants mention because of its size, which exceeds 3.5% of GDP on average for these 114 episodes. Exceptional financing includes debt forgiveness, the accumulation of arrears, and short-term external borrowing explicitly motivated by the government need to finance deficits (which excludes project loans and normal government financing). Thus, even though it is located differently by IMF accounting rules that regard the distinction between current and capital transfers as important, exceptional financing has the same essential political characteristics as official foreign aid. It is not a market-based transaction in which the other party is economically motivated. Instead, the other party is an unwilling participant and/or a voluntary “donor”. We should not expect that trade deficits funded by either transfers or exceptional financing will exhibit the same economic qualities – especially the inter-temporal pattern of benefits – that we would associate with private capital flows. Indeed, it seems appropriate to differentiate episodes on the basis of their dominant form of financing and to study each within a different frame.

To that end, the form of financing utilized in each of the 114 episodes is displayed in Table 7, expressed as a percentage of the trade deficit incurred during the episode. To highlight the most significant factors, only the three largest financing categories – capital flows, transfers, and exceptional financing – are reported. The percentages do not sum to 100% – the actual average is

about 122% – for two reasons. First, the small accounts discussed above are omitted. Second, and far more important, when the income category is negative (the average among these episodes is about -1.5% of GDP) it too must be financed from the same sources as the primary trade deficit itself. The cases are sorted for convenience in answering our primary question: Are trade deficits largely financed by capital inflows?

The answer, mirroring the previous analysis is clear: sometimes, but not usually. In fact, on average, a higher percentage is financed by transfers – about 53% – than the capital flows recorded in the financial account, about 48%. Exceptional financing makes up another 21%. Only 14 of 114 were financed by the textbook method of capital inflows equivalent to the trade deficit.³¹ In fact, the financial account was the largest source and provided more than half the financing in only 40 of these 114 episodes.³² Apparently, it is *not* very easy to find foreign investors willing to continually invest in perpetually trade deficit countries – at least not in order to earn an economic return. Instead, there must be other motivations, social or political.³³ For a clear majority of deficit episodes, the coin of the realm is dependence on the charity of foreigners.

COUNTRY	END	CA	TB	TransExcept	Capital	COUNTRY	END	CA	TB	TransExcept	Capital		
Thailand	1996	-7.0	-6.1	7.4	0.0	167.4	Malta	2001	0.5	-10.9	48.8	6.3	38.4
Singapore	1982	-10.9	-8.5	-7.6	0.0	151.3	Comoros	1995	-7.5	-26.6	72.0	4.8	38.2
Honduras	1981	-9.4	-6.6	19.4	17.7	141.5	Macedoni~R	2004	-5.8	-16.6	71.0	3.4	37.7
Bolivia	2002	-5.5	-7.1	58.7	5.4	127.1	Georgia	2004	-8.6	-17.2	33.7	8.8	37.1
Guyana	2004	-8.5	-6.5	91.8	59.0	122.1	Israel	1997	-4.8	-12.9	89.9	14.0	37.0
Croatia	2004	-6.9	-9.6	45.6	2.8	121.6	Dominica~c	2002	-3.4	-6.8	123.5	23.4	36.7
Barbados	2004	-6.8	-6.3	50.5	0.7	116.0	Senegal	2003	-7.9	-9.5	47.2	51.1	34.5
Bulgaria	2004	-6.4	-8.1	41.0	11.2	115.9	Portugal	1984	-5.9	-11.8	70.2	0.3	34.4
Estonia	1999	-6.9	-8.3	30.2	0.0	108.7	Niger	2003	-7.2	-9.2	35.5	47.7	32.4
Ireland	1982	-7.9	-9.6	51.2	0.0	108.0	Pakistan	1999	-3.7	-8.9	83.2	9.2	32.0
Thailand	1981	-6.4	-5.9	5.8	0.1	107.1	Nepal	2004	-4.3	-10.0	55.1	11.7	31.7
Bahamas,~e	2003	-11.7	-9.7	16.7	-4.5	104.2	Swaziland	1986	-16.8	-32.8	36.3	-0.9	31.3
Kyrgyz R~c	2000	-13.6	-13.2	21.9	1.3	103.7	Cambodia	2004	-9.2	-14.9	56.3	17.8	29.7
Lithuania	2004	-8.0	-8.1	23.1	2.0	101.3	Uganda	2004	-6.0	-13.4	66.9	22.1	28.5
Costa Rica	1981	-12.2	-7.7	6.8	61.1	98.6	Sao Tome~e	1990	-26.2	-30.3	15.0	27.1	27.7
Romania	2004	-5.6	-6.8	36.4	11.4	95.1	Mali	2001	-9.1	-15.5	53.0	36.5	27.7
Azerbaijan	1999	-21.9	-23.5	8.6	-0.3	95.0	Central ~c	1994	-4.2	-11.3	71.7	14.5	27.4
Philippi~s	1998	-3.2	-8.1	14.5	0.0	87.8	Kenya	2004	-1.8	-5.9	87.2	17.3	27.3
Latvia	2004	-7.8	-10.4	24.5	3.8	86.3	Guinea	1996	-6.5	-7.1	59.4	52.9	26.5
Antigua ~a	1989	-19.3	-20.6	28.8	9.5	86.3	Syrian A~c	1988	-1.5	-13.4	69.0	0.0	23.5
Philippi~s	1983	-6.1	-6.1	22.1	12.6	85.7	Sierra L~e	2004	-10.5	-18.0	54.0	15.5	23.2
Jamaica	1985	-11.5	-9.8	63.6	9.2	85.6	Bangladesh	2004	-1.5	-6.8	83.6	4.2	23.0
Papua Ne~a	1989	-10.6	-11.3	54.7	-10.9	83.4	Honduras	2004	-6.9	-10.4	79.0	46.9	22.8
Tunisia	1986	-7.2	-8.1	55.2	-1.5	82.7	El Salva~r	2004	-3.2	-12.0	90.7	17.8	22.2
St. Lucia	2002	-12.8	-14.3	39.3	14.0	81.6	Mozambique	2004	-15.2	-21.6	48.7	70.4	21.3
Tunisia	1995	-4.8	-6.1	87.2	-0.1	81.2	Somalia	1989	-16.0	-40.5	66.4	11.5	20.1
Belize	2004	-6.7	-9.2	77.0	-0.4	79.6	Haiti	2003	-3.0	-13.1	82.8	2.8	19.7
Morocco	1995	-5.8	-9.4	77.1	1.2	79.0	Gambia, ~e	1983	-21.3	-32.2	43.1	14.5	19.6
Dominica~c	1982	-6.9	-6.4	47.4	24.3	78.3	Burundi	2003	-4.0	-14.6	83.6	25.6	19.2
Maldives	1984	-38.8	-34.8	18.8	5.7	77.6	Cape Verde	2003	-6.7	-33.5	81.8	5.9	18.7
Cyprus	1985	-9.6	-13.4	20.9	9.6	74.3	Jordan	2004	-1.7	-30.6	98.3	6.1	18.7
Saudi Ar~a	1989	-12.0	-13.5	-66.2	0.0	73.9	Equatori~a	1993	-15.2	-33.1	72.4	39.7	17.8
St. Kitt~s	2002	-18.4	-23.7	42.0	9.3	73.4	Chad	1994	-2.5	-14.9	86.5	4.9	16.8
Seychelles	1990	-10.9	-15.0	51.7	0.0	72.0	Rwanda	2004	-3.6	-15.9	81.2	6.9	16.5
Malawi	2002	-7.5	-12.2	63.3	2.5	70.6	Suriname	1984	-10.7	-20.2	49.4	-1.6	16.1
Kenya	1982	-9.1	-8.2	25.6	13.0	69.5	Moldova	2004	-7.9	-21.1	41.6	29.7	16.0
Paraguay	1988	-7.4	-7.0	4.3	11.0	66.5	Eritrea	2000	-1.4	-61.9	97.5	0.2	15.5
Gambia, ~e	1997	0.3	-11.6	114.0	10.5	65.6	Burkina ~o	1994	-2.5	-16.8	88.2	2.6	14.2
Jamaica	2004	-5.7	-11.4	95.9	-0.3	65.3	Sao Tome~e	2002	-38.3	-41.6	32.5	81.4	13.5
Malawi	1983	-14.9	-11.3	38.1	8.5	65.0	Guinea-B~u	1997	-35.0	-30.1	13.1	119.4	12.1
Botswana	1983	-12.5	-18.1	18.5	4.4	62.9	Tonga	1993	-1.9	-36.3	85.0	0.6	12.0
Guatemala	2004	-4.9	-8.9	57.3	3.9	61.5	Ethiopia	2004	-2.3	-10.3	82.1	29.0	9.7
Mauritania	1994	-15.5	-20.8	59.5	16.7	55.1	Samoa	1999	-4.1	-36.2	88.1	3.2	9.7
St. Vinc~s	2002	-12.2	-24.1	53.6	15.8	54.0	Lao PDR	2001	-12.2	-12.0	4.5	110.1	9.1
Sierra L~e	1982	-12.5	-12.9	25.9	29.4	49.3	Lesotho	2004	-5.6	-91.5	30.3	1.1	7.2
Portugal	2004	-4.2	-8.4	63.5	11.1	48.2	Benin	2003	-7.4	-13.1	50.9	51.8	4.4
Sri Lanka	2004	-5.3	-10.4	64.4	7.8	47.8	Swaziland	2001	-2.0	-18.5	56.3	0.8	3.7
Armenia	2004	-12.2	-24.1	38.6	6.3	47.1	Bosnia a~a	2004	-15.5	-58.4	53.6	29.8	-0.6
Mongolia	2004	-12.1	-16.5	29.5	38.8	46.3	Tanzania	2004	-9.9	-15.0	49.0	70.6	-0.6
Barbados	1982	-12.0	-14.5	17.3	1.8	45.8	Egy~.	2001	-2.4	-11.2	90.4	35.6	-1.5
Ghana	2004	-4.3	-12.7	81.2	2.7	44.6	Madagascar	2003	-7.4	-7.3	48.6	98.7	-2.1
Vanuatu	1991	-9.9	-16.1	96.7	79.7	43.4	Albania	2003	-6.0	-27.4	73.0	17.7	-2.8
Grenada	2002	-13.7	-21.6	56.4	26.2	42.9	Nicaragua	2004	-25.3	-22.9	36.7	134.7	-17.0
Togo	2003	-8.7	-13.2	53.7	32.3	40.6	Yem.	1998	-6.0	-17.6	119.6	85.4	-35.9
Dominica	2002	-13.0	-21.4	56.1	22.2	40.2	Namibia	1999	3.4	-11.6	108.3	14.8	-43.8
Solomon ~s	1998	-6.7	-17.6	85.7	11.0	38.5	Guyana	1985	-25.0	-15.4	-3.1	179.2	-45.0
Sudan	1999	-7.4	-8.8	18.0	-0.7	38.4	Greece	2004

³¹ It is about equally common (15 episodes) for capital inflows to finance less than 10% of the deficit, including 9 for which net capital flows were actually negative.

³² In another four (Mauritania, 1975-1994; Gambia, 1990-1997; Jamaica, 1995-2004; and Tunisia, 1989-1995), capital inflows were equivalent to more than 50% of the trade deficit, but transfers were larger still.

³³ Perhaps those optimistic about the American future and buoyed by the initial finding that some 99 nations had managed to sustain large deficits for an extended period, will want to rethink that optimism now. It seems unlikely that large amounts of foreign aid will be flowing to the U.S. any time soon – or at least none in more tangible form than the continued buying of U.S. Treasury bills by foreign governments.

Assumption 3: The developmental consequences of trade deficits

With this understanding now in place, we can better approach the question of the developmental consequences of trade deficits. The chief consequence of interest to us is future growth prospects, but one other is logically prior: the assumption that trade deficits imply rising external liabilities, especially high levels of debt. If accurate, we must further consider how to balance whatever growth may occur within deficit episodes against the future liabilities that are created in the process. Thus, to begin, we ask “Do large protracted deficits weaken the net external position?”³⁴

Trade/current account deficits and the net international investment position

A nation’s net external position (or, alternatively, the international investment position) is, in some respects, the national equivalent of a corporate balance sheet. It registers the balance between the overseas assets owned by the nation’s residents and the assets within the country that are owned by non-residents. The latter are referred to as the nation’s external liabilities. Not all liabilities take the form of debt (many are in stock or real estate ownership, for example), but nations with a negative net external position are deemed to be “debtor” nations because liabilities do represent a foreign claim on domestic assets. Because the NEP (or IIP) does not include domestic assets owned by domestic residents, however, it represents only the external component of a nation’s net worth. Still, a negative IIP reduces a nation’s net worth, its national wealth, and is generally regarded as undesirable for that reason (*ceteris paribus*). Furthermore, nations with a deficit in the NEP ordinarily exhibit net outflows in the income category of the current account, which represent investment returns to foreign ownership of domestic assets. This deficit, like the trade deficit that usually causes it, requires balancing inflows elsewhere in the balance of payments.

The relationship between the current account balance and changes in the NEP is conventionally thought of as an accounting identity.

Since the current account is usually dominated by its trade balance component, we would also expect a strong correlation between changes in the IIP and both the current account and trade balance. That thesis is surprisingly difficult to establish empirically, however, as demonstrated by the regressions reported in Table 8, which are estimated in OLS for 137 countries over time

DepVar: Δ NEP	1	2
Trade balance	.49 (24.7)	
Current account balance		.90 (44.8)
Constant	-.71 (-3.3)	.09 (.5)
N/r ²	3258/.158	3258/.381

³⁴A second issue concerns the role to be played by the exchange rate in translating growth in local currency units into a common metric. If trade deficits systematically lower the exchange rate, as is often assumed, this decision has enormous implications for the conclusions we reach. Among the 114 deficit episodes, nominal exchange rates declined on average by 2.9% annually when measured against the SDR (N=96) and 3.2% per year against the dollar (N=103). Only the 14 nations with capital financing that exceeded the deficits avoided such steep declines, averaging .4% per year depreciation against the dollar and 1.6 against the SDR. Real exchange rates declined by .5% per year during the deficit episodes, but data is available for only 18 of the 114.

series ranging from 2 to 34 years.³⁵ It appears that the relationship between changes in the IIP and annual balances in either the trade or current account are quite modest.

How could our theoretical understandings be so far off the mark? After all, the net international investment position is said to be the cumulative stock, over time, that results from the flow of annual current account deficits. This is true in concept, but to be fully accurate – and to reconcile real-world data – it must be added that it is so only net of changes in the valuation of the investments that make up the IIP.³⁶ The implications of this valuation channel, which has gotten increasing attention in recent years (Moon, forthcoming, chapter two; Tille, 2003), introduces an additional element that introduces greater volatility in the IIP.

The extent of that volatility is illustrated in Figure 1 for the U.S., using IMF data. It is obvious that the maroon line, which represents yearly change in the US IIP, fluctuates around the path created by the underlying flows in the current account, depicted by the blue line.

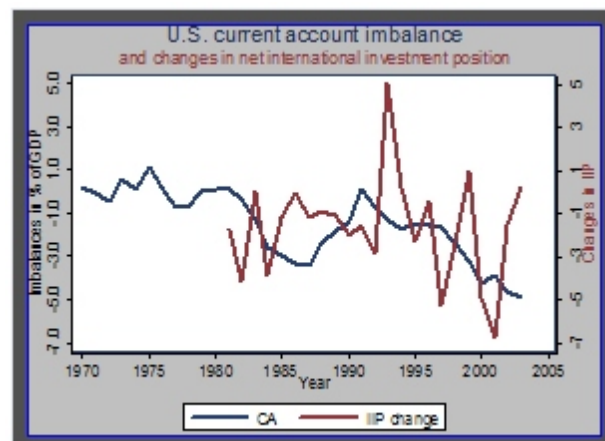


Figure 1 - Current account and annual changes in IIP, U.S.

³⁵The data on NEP are estimates from Lane and Milesi-Ferretti (2006) because the data collected by the IMF on IIP and published in *Balance of Payments Statistics* is very limited. Only 80 nations report data at any time point (in 2002) and only 48 of them as early as 1996. Even among this group, the methods of estimating IIP differ substantially across countries and no data is available at all prior to 1980. The chief difficulty is that the value of investment stocks – or even the country of residence of their owners – is notoriously difficult to establish. In addition, four different conceptions of the value of FDI are possible: (1) historical cost, which simply accumulates flows; (2) book value, which adjusts stocks for exchange rate changes; (3) replacement cost, which takes into account inflation; and (4) market value, which is priced at prevailing market prices. Conceptually, the fourth is clearly preferable, but it is also the most difficult to accomplish and, as a result, relatively few nations even attempt this method. We can achieve considerably broader coverage across nations and over time as well as a more consistent estimation method by relying on data generated by Lane and Milesi-Ferretti (2006). They construct a time-series estimate of the IIP from 1970-2004 for 145 countries. They begin by using various methods and sources to estimate the IIP as of 1970, an era when the magnitude of foreign investments was generally much smaller (Sinn, 1990). Thus, even relatively poor estimates of that initial value will be swamped by the larger size of subsequent flows. They then calculate annual values by examining cumulative balance of payments flows – which are much more widely available than IIP stocks – and adjusting them for known valuation changes, exchange rate movements, and debt reduction. In the process, they attribute “errors and omissions” to unrecorded changes in the stock of debt assets held abroad by domestic residents. For equity portfolios, they use stock market valuations. Lacking adequate data for the market value of individual FDI holdings, they use book value instead, a markedly more stable measure. For reserves and debt (assets and liabilities), valuation changes are mostly driven by exchange rate fluctuations. They exclude gold holdings since they do not constitute a liability of another country.

³⁶ Of course, either the current account or the financial account may be mis-stated – hence the relatively large category “errors and omissions” – but it is usually assumed that the current account is more accurately measured than either the financial or capital accounts and much more accurately than the net IIP.

There are three sources of valuation changes that create divergences between annual current account balances and change in the international investment position: (1) prices in financial asset markets, (2) exchange rate movements, and (3) debt reductions. First, if foreign stock markets should go up, American international assets held in foreign stocks will grow in value, even without any additional investment flows.³⁷ The IIP improves even with a current account completely in balance. Second, if the value of the dollar were to decline, existing American assets held abroad would translate into larger dollar-denominated totals even if their value in foreign-currency terms didn't change at all. In both cases, the net international position – accumulated assets and liabilities – would change without any new capital flows. In fact, the value assigned to those investment stocks would increase without any change whatever in the actual investments themselves. Finally, for poor countries, the net IIP is improved whenever their debts are washed away by debt forgiveness or reduced by debt restructuring.³⁸

These three valuation changes – from changing prices in financial asset markets, from exchange rate movements, and from debt reductions – are often considerably larger than the actual flows of new investment in any given year. Thus, in the short-term, they can easily obscure the close connection between international investment position and the accumulated trade (or current account) deficits that is more apparent over the long-term.³⁹ The leverage of valuation changes should not be surprising because of the massive stocks of investment whose values are continuously recalculated on the basis of financial and exchange rate markets. For example, the U.S. ownership of foreign assets amounted to more than \$10 trillion dollars at the end of 2004, and foreign ownership of U.S. assets amounted to more than \$12.5 trillion. Even the massive U.S. trade deficit – more than half a trillion dollars – is only about 5% of the investment stock held by non-residents.⁴⁰

The above results might supply fodder for those who would dismiss the significance of trade

³⁷The U.S. is hardly unique. Fifty one of sixty four nations show a statistically significant relationship in a time-series relationship, but in only three countries does the current account explain as much as 50% of the variance in IIP change. This result is broadly in line with Sinn's (1990: 55) analysis of the 1971-1987 period.

³⁸ To see why the latter is not reflected in the current account, the curious reader is directed to Moon, Appendix 1, which also provides a primer on the overall structure of the balance of payments accounts and its system of double-entry bookkeeping.

³⁹ For example, the net international investment position of the US deteriorated by only \$170 billion between the end of 2003 and the end of 2004, despite a current account deficit of \$585 (\$668 in transactions accounts minus errors and omissions). That is because relative price changes in asset markets caused the value of US investments abroad to increase more than the value of foreign investments in the US by \$147 billion. Also, the decline in the value of the dollar increased the dollar-denominated value of US investments abroad by another \$272 billion. Valuation changes have benefitted the U.S. IIP immensely from 2002-2004, but net value changes in the 1980s and 1990s were slightly negative. In addition to the above, valuation changes improved the IIP by 7.2% of GDP in 2002 and 2003 (IMF, 2005a: 51). IMF (2005: 48-65) provides a wealth of data on the U.S. IIP in relation to trends of various sorts and concludes that the evidence is mixed on whether it should be seen as excessive in *levels*. The *trends* are clearly alarming.

⁴⁰ This implies that the connection between the trade balance and the IIP should be far weaker for nations with higher levels of foreign investment, which invites the speculation that the U.S. is an exceptional case.

and current account deficits, but is that warranted? If the disconnect between annual trade deficits and annual changes in the IIP is a consequence of these short-term fluctuations in valuation, we might expect the true relationship to appear only over the long-term, as the annual volatility of valuation changes tends to even out. To uncover the real relationship between annual deficits and yearly changes in the IIP, Table 9 reports a series of cross-sectional regressions between national current account balances and changes in the IIP.⁴¹

The first three columns of Table 9 reveals that in every year the size of a nation's current account balance is significantly related to changes in its IIP: the countries with the largest current account deficits show the largest deterioration in the international investment position in that year. In some years, the relationship is very strong. In 1975, 1976, and 1991, for example, more than 80% of the variance in IIP change is explained by that year's current account balance. In others, such as 1983 and 1992, it is much weaker. These extreme results are readily interpretable. The years 1974-75 (the first oil price shock) and 1991 (the deep global recession and commodity price collapse) produced the largest trade imbalances in the modern era. It is not surprising that such large trade imbalances would dominate valuation changes. By contrast, 1983 (the Latin American debt crisis) and 1992 were years of mammoth financial market flux that drove valuation effects to prominence. The weaker relationship between 1997-2002 is probably explained by the very high incidence of exceptional financing, which reduces IIP deficits without affecting the current account balance: in those years, more than 100 nations were the recipients of exceptional financing which averaged more than 4% of GDP.⁴² Clearly, deficit countries tend to see a deterioration in IIP, but the effect is very far from the one-to-one correspondence which the accounting relationships would imply.

Year	One year change			Five year change		
	N	t	R ²	N	t	R ²
1975	52	16.9	.85	17	14.3	.93
1976	68	17.3	.82	20	8.9	.81
1977	86	13.4	.68	20	9.9	.84
1978	90	9.3	.50	31	7.3	.65
1979	91	14.9	.71	51	16.8	.85
1980	94	9.5	.50	67	18.5	.84
1981	98	7.9	.39	85	17.8	.79
1982	99	8.4	.42	89	16.2	.75
1983	100	3.6	.12	91	12.2	.63
1984	100	5.3	.22	94	7.6	.39
1985	102	7.4	.35	98	8.3	.42
1986	104	10.6	.52	99	10.7	.54
1987	105	9.4	.46	100	12.5	.61
1988	105	7.5	.35	99	15.6	.72
1989	105	10.8	.53	101	14.1	.67
1990	106	8.2	.39	103	11.8	.58
1991	108	21.5	.81	103	10.2	.50
1992	107	1.8	.03	102	12.7	.62
1993	111	5.2	.20	102	15.5	.71
1994	118	6.0	.23	103	13.8	.66
1995	119	9.6	.44	103	8.1	.39
1996	122	10.9	.50	103	3.6	.11
1997	123	4.7	.16	106	.9	.01
1998	124	5.4	.19	112	2.3	.05
1999	126	2.2	.04	116	3.7	.11
2000	126	5.2	.18	118	5.4	.20
2001	124	4.0	.12	117	7.2	.31
2002	124	3.6	.10	118	7.9	.35
2003	124	8.1	.35	119	7.5	.32

Table 9 - IIP and CA balances

If valuation changes tend to fluctuate in the short-term, but to even out over the longer term,

⁴¹ The IIP data consist of the estimates of Lane and Milesi-Ferretti (2006).

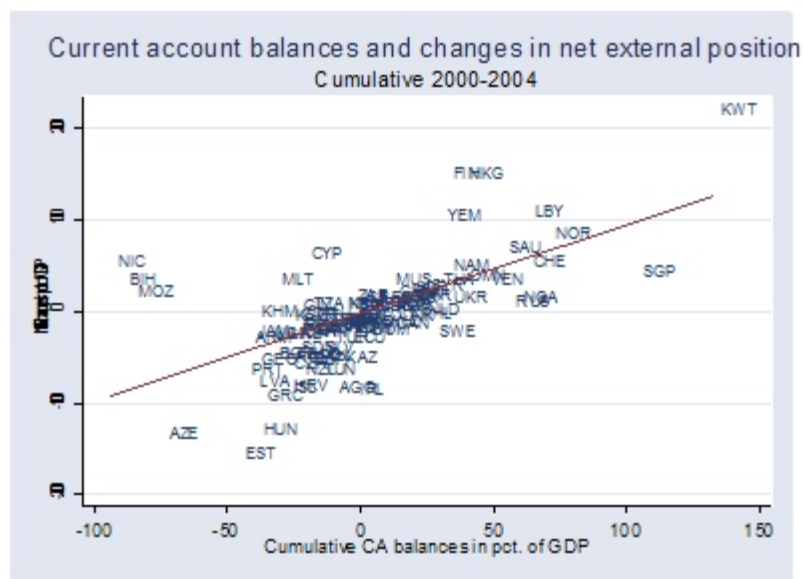
⁴²The effects of valuation changes are stronger in some countries than others. There is some indication in preliminary analyses not reported that exchange rate movements are responsible for much of this fluctuation, which raises the complexity of the relationship between trade/current account deficits and the exchange rate discussed further below. Because balance of payments disequilibria also imply disequilibria in foreign currency markets, the causal relationship between deficits and the international investment position is mediated by exchange rate movements.

an analysis of averages over several years should be able to reveal the underlying relationship that is obscured by annual fluctuations. The last two columns of Table 9 shows the result when annual measurements are replaced with five-year averages. In 22 of 30 years, the five year rate is better explained.⁴³ Figure 2 provides a similar picture of the medium term relationship for the 2000-2004 period.

Clearly, current deficits lead to declines in net international investment position over the medium term, even if they do not in the short run. The implications are clear: the effects of trade deficits must be judged within an evaluative framework that gives due weight to the deterioration in the international investment position that they inevitably – if belatedly – generate.

An examination of the 114 episodes of large, protracted deficits provides another picture. Most episodes began with countries already in a negative international investment position: the mean for the 74 nations for which data is available is -33.7% of GDP, an already dangerous level. The net external position at the end of the episode (although most were still ongoing), averaged -59.8% for the 79 nations with data.⁴⁴ That decline averaged 2.3% of GDP per year. At first glance, this seems surprisingly modest because the average trade and current account deficits are more than three times as high. But recall that the net external investment position necessarily declines only when capital flows are accumulating – and that is the dominant source of financing for only the more select group of 40 nations we identified above.

Among that group, which we know *ex post* to have been credit- and/or investment-worthy, the net external position was -22% of GDP at the beginning of the episode (for 29 nations with data) but it deteriorated to -60.3% some eight and a half years later. That decline of 5.0% of GDP per year was more than half the trade and current account balance, which averaged around -9.7% and -8.9% per year, respectively. By contrast, the NEP of nations unable to attract capital inflows declined only about .5% per year during which the trade deficit averaged nearly 15% and the current account more than 6% of GDP (with 44 of 74 episodes reporting NEP data). NEP actually improved by



⁴³ Current account balances were computed as the five year (lagged) average as a % of yearly GDP. To remove the substantial effect of fluctuating GDP, especially in the largest deficit countries, the external position was averaged in dollars and normalized by the GDP in the first year.

⁴⁴ Among the 80 countries with available data, debt increased 3.8% per year.

1.6% per year among the 15 with negative or negligible net capital inflows.⁴⁵

Trade deficits and growth, in theory

At least three alternative expectations concerning the deficit - growth nexus can be discerned from different theoretical positions: positive, negative, and indeterminate effects can all be derived from existing literature (Moon, forthcoming).

First, those working within frameworks that emphasize factors of production observe that capital flows can augment domestic savings as a source of investment, leading to growth. The value of capital inflows is plain. Since growth is driven by investment, and investment is constrained by domestic savings, future growth and current consumption require a trade-off in a closed system. That is especially painful economically and difficult politically in poor countries where near-subsistence incomes sharply limit savings under any set of policies. Capital inflows remove the constraint, allowing both current consumption and investment to grow unconstrained by current domestic savings. As Gourinchas and Jean (2003:1) note, "One of the main motivations behind the push towards the international financial integration of less developed countries has been to accelerate their growth by attracting foreign capital."⁴⁶

Capital flow optimism is justified theoretically by most versions of Solow's neo-classical growth model, at least in the short- to medium-term.⁴⁷ Empirically, growth accounting analyses generally find investment levels a dominant element of Cobb-Douglas production functions, though total factor productivity often vies with it for explanatory power. Several studies have considered the developmental effect of the various contemporaneous flows that finance trade deficits - especially distinguishing foreign direct investment, official aid and private transfers, portfolio investment in equity and debt instruments, and short-term capital (Milesi-Ferretti et al., 1996, 1998; Demirguc-

⁴⁵It appears that trade deficits have very different effects depending upon their means of finance. However, because those 40 financed largely by capital flows were different in a number of other ways from those 74 financed through transfers and exceptional financing, a more detailed analysis would be required to isolate the effect. For example, those financed by capital flows were richer per capita (\$5750 to \$3600), but they grew barely half as fast during the episode (1.5% to 2.7%). Their trade deficits were far smaller (11.2 to 19.5) and shorter-lived (an average of 10 years as opposed to 17 among those financed by transfers and exceptional financing). Strict comparisons are also complicated because, on average, the credit-worthy group ended their deficit episodes more often and five years earlier than those that were not.

⁴⁶Furthermore, "flows from capital-abundant to capital-scarce countries raise welfare in the sending and receiving countries alike on the assumption that the marginal product of capital is higher in the latter than in the former. Free capital movements thus permit a more efficient global allocation of savings and direct resources toward their most productive uses" Eichengreen and Mussa (1998:12). And "Free capital movements facilitate an efficient global allocation of savings and help channel resources to their most productive uses, thus increasing economic growth and welfare" Fischer (1998: 2).

⁴⁷Theorists part ways over questions of full and partial convergence, long-run steady states, and the length of the transition during which investment levels should matter.

Kunt et al., 1997; Dixon and Boswell, 1996). Most expect capital flows to speed development, but there are doubters (Gourinchas and Jeanne, 2003; Brooks, 2004).

Second, structuralists have borrowed concerns from both the orthodox and mercantilist camps. Since an excess of imports over exports implies that current consumption can exceed current production, trade deficits have not usually been regarded as a problem from the stand-point of immediate welfare. Indeed, they enhance it. Instead, the principal concerns over trade deficits have revolved around three other flows associated with them.

A net import of goods corresponds to a net “export” of employment opportunities, an effect thought to be more or less coterminous with the deficits themselves.⁴⁸ Of course, in the Ricardian world, which *assumes* full employment, employment effects do not arise, but policy-makers, following first the classical mercantilists and later Keynes, have universally seen trade deficits and unemployment as inextricably linked.⁴⁹ Modern protectionist impulses are almost always motivated to a considerable degree by unemployment concerns, for which trade deficits function as a convenient symbol of potential state policy action. Furthermore, if imports displace domestic production, domestic production may atrophy – and with it growth prospects.

Trade disequilibrium also implies a corresponding imbalance in the supply and demand for external currencies, a perspective associated with so-called “two-gap” models that address the potential for development to be derailed by a foreign exchange “bottle-neck” (McKinnon, 1964; Chenery and Strout, 1966; Mills and Nallari, 1992). A trade deficit usually signifies a shortage of the hard currency required to import the foreign capital goods and technology necessary for long-term growth.⁵⁰ This is often portrayed in the context of concerns about luxury imports because it is feared that the scarce foreign exchange is being wasted.

Finally, structuralists worry that removing the *current* savings constraint via capital inflows simply introduces a different trade-off, this time with *future* savings. Current capital inflows create a liability that strongly predict future capital outflows, which must be financed by future savings. Riding the tiger in this way assumes that growth induced by capital flows will be sufficient to generate marginal savings that make the process self-financing.

But will it?⁵¹ In economic theory, the critical determinants are the social rate of return on

⁴⁸ Closely related to the employment question is concern over the growth of productive capacity, especially in industry, which has implications for long-term growth. However, this is usually seen in terms of the *composition* of imports and exports, as in List (1837), rather than the *balance* between their volumes.

⁴⁹ Employment concerns arise with all factors of production, not just labor.

⁵⁰ The constraints of the two-gap model are cited explicitly by Esfahani (1991) and implicitly by Riezman et. al. (1996) as a motivation for encouraging export growth. Exports ease the bottle-neck, by increasing the volume of imports possible given any particular sustainable trade deficit.

⁵¹“Among economic topics on which a large gap exists between theory and empirical evidence, financial
(continued...)”

invested foreign capital (which must be high enough to promote marginal savings at or above the private cost of foreign capital) and the dampening effect on domestic savings by the capital inflow (which must be very low).⁵² It may not be. Capital inflows do not create a one-to-one initial increase in investment, as a substantial portion is diverted to private consumption and reserve accumulation by government (Bosworth and Collins, 1999). The magnitude of that portion varies with conditions and the form of the capital flow itself. Moreover, most capital inflows should be expected to eventually reverse – with interest – so that the benefits from investment-spurred growth are always in a race to exceed the costs of the capital acquisition (i.e., interest on loans or repatriation of profit). There is no free lunch, except in the very narrow sense that it is always possible that you will die before the check arrives.

Clearly, the variables determining the net effect are so many and varied that the outcome is better evaluated empirically than assumed theoretically. But the effects of adverse capital flows have generally been thought to lag deficits, which complicates the task of identifying them. Most likely, the costs will be felt most heavily as the debt comes due, considerably lagging the benefits. Deficit nations are said to be consuming future goods in the present, suggesting that measures of the current income and welfare of such countries systematically overstate their actual performance. (Of course, the net growth effect would still be positive if the social rate of return, including invisible externalities, exceeds the cost of capital, as capital flow optimists assume.)

Political economists seeking escape from the narrow confines of liberal thinking on such questions are naturally drawn to theoretical perspectives more encompassing of political and policy considerations. Mercantilists and development scholars have long been wary of trade deficits, not least because they have generally identified less with pure theorists and more with policy-makers seeking to navigate the straits of the dangers represented by deficits.⁵³ Both see the balance of trade as a pivotal target of development policy because it creates pressures which must be managed by policymakers as well as by private actors. Trade deficits impose stress on all systems, institutions, and actors.⁵⁴ They expose all to greater perturbations, magnifying risks. The greater stress, perturbations, and risks induce mistakes in responding to them: markets become more volatile, less

⁵¹(...continued)

integration is certainly well ranked” (Kharroubi, 2003: 1).

⁵² The return must also be transformed smoothly to a form that facilitates repatriation of profits or repayment of loans.

⁵³The concern is hardly new: 2,000 years ago Emperor Tiberius, concerned over Rome's increasingly adverse balance of payments with India, complained that "the ladies and their baubles are transferring our money to foreigners." For a brief history of the mercantilist view, see Moon (2000a, 2001). More broadly, we can see this view as an internationalization of Shakespeare's aphorism from Hamlet: "Neither a borrower nor a lender be, for loan oft loses both itself and friend, and borrowing dulls the edge of husbandry." Keynes' concerns about the impacts of trade deficits led him to propose an International Clearing Union that would operate on the problem by also pressuring surplus countries to act to remove the imbalance.

⁵⁴Of course, Tornell and Lane (1994) remind us that trade *surpluses* also permit (bad) policies that could not otherwise arise.

predictable, and inefficient while governments make policy errors when the strains of competing goals and pressures exceed institutional capacity.⁵⁵ It is an empirical question whether the management arrangements made are usually sufficient to contain those pressures. It is the hunch of mercantilists and radicals that they are not.

Institutions under great pressure will sometimes respond badly or miscalculate the uncertainties. Of course, responses of states and private actors will differ across countries.⁵⁶ No particular path can be defined, because “there are such a rich array of things that can go wrong”. For example, Kaminsky et al. (2004) cite repayment pressures to explain pro-cyclical fiscal policy, which exacerbates capital flows that are ordinarily strongly pro-cyclical as well (Gavin et al., 1995). Fiscal deficits are least available when they are needed most: capital outflows are contractionary, but in that environment governments can’t borrow money to balance it. (Monetary policy to support the exchange rate is also pro-cyclical.) Where regulatory structures are strong and the financial sector well-developed, of course, the threat is less. Outcomes are not certain, but the scope for failure widens under the pressure of deficits. Prospect theory also offers suggestions about how governments will respond to decisions under risk. The reference frame will likely be loss-avoidance – the more so the greater the risk – and the potential losses are large, both of which would tend to drive decisions to the risk-accepting option (prospect) and to lower expected utility than would otherwise occur.

A third position, largely agnostic on growth effects lies in between. Most modern treatments of the current account in the monetary vein largely ignore the question, but others doubt that any relationship is stable across the range of forces that produce deficits, the various means of financing them, and the circumstances within which they occur. In empirical terms, several approaches have been taken to adjudicate the “good” vs. “bad” interpretations (Moon, 2005). Many of these turn on the theoretically-important distinction concerning whether the capital inflows are funding consumption or investment.

Testing the effects of trade deficits on growth

Do trade deficits lead to development outcomes that are more positive or more negative than would have occurred without them? Previous studies which shed light on this question have utilized very different research designs originating in quite distinct literatures. One set borrows various models from studies focused on the positive growth effects attributed to trade volumes. The only

⁵⁵Trade deficits constitute a significant constraint on national planning that places pressure on governments to do things they would not otherwise do. Some of those things may be beyond the capacity of governments – especially the kinds of governments that experience high trade deficits. Without adequate government regulation and without strong private financial institutions, volatile capital flows may be quite destabilizing. When not sterilized by competent and adequately financed monetary authorities, capital inflows can increase the money supply and induce inflation, appreciate the currency to the detriment of export and import-competing competitiveness, weaken the finance sector, increase debt and/or other liabilities, and induce crisis by creating uncertainty, risk, and vulnerability to both investor-generated or speculator-generated panics.

⁵⁶ See, for example, Goh et al. (2005) for the unusual coping mechanisms of Korean households.

two previous papers directly formulated to address the dangers of trade deficits have been built upon existing models of export-induced growth (Moon, 2000b, 2001) . They identified influential and persuasive studies in the liberal tradition and then demonstrated that the same data also offered evidence for the negative role of trade deficits suggested by the mercantilist and dependency traditions. Essentially the analyses consisted of adding trade deficits (imports *minus* exports) to models already containing trade volumes (imports *plus* exports).

A second relevant literature contains studies that deal with the stocks that trade deficits accumulate over time, namely debt and other liabilities (Erturk, 2003; Reisen, 1998; Pattillo et al., 2002).⁵⁷ They cite debt overhang theories that postulate that at high levels of debt, the risk of non-payment will discourage future investors, fearing that actions taken to repay the debt (or outright default) will harm the investment climate and undermine future returns. They suggest that the negative effect of debt on growth could occur either through reduced investment or reduced total factor productivity, but they offer little unpacking of what the latter might mean in this case. It seems probable that one component of the latter is the sub-optimal policy mix of actors put under stress by trade deficits. Uncertainty about the dispensation of debt (perhaps by taxation of capital, reducing government investment, or inflating it away) reduces investment, particularly long-term growth-producing investment, while also mis-allocating the investment that does occur toward short-term trading activities (Alesina & Tabellini, 1989; Tornell & Velasco, 1992) .Most studies have found that debt does indeed reduce subsequent growth (Moon, 2005). For example, Pattillo et al. (2004) find that doubling debt will reduce output growth by about 1 percentage point for high debt countries.

A third source of templates consists of several studies that have considered the developmental effect of the various contemporaneous flows that finance trade deficits - especially distinguishing foreign direct investment, official aid and private transfers, portfolio investment in equity and debt instruments, and short-term capital (Milesi-Ferretti et al., 1996, 1998; Demirguc-Kunt et al., 1997; Dixon and Boswell, 1996; Borensztein et al., 1998; Bosworth and Collins, 1999; Soto, 2000; Loungani and Razin, 2001; Razin, 2002). Most expect capital flows to speed development, but there are doubters (Gourinchas and Jeanne, 2003; Brooks, 2004; Rodrick, 1998).⁵⁸

Though these studies strongly suggest a negative growth effect, none have adopted a research design consistent with what we now know about trade deficits: (1) they tend to cluster into

⁵⁷ Of course, if trade deficits do contain adverse future consequences, analyses which use short- to intermediate- term growth in *gross* domestic product as the adjudicator of the relative benefits of alternative policies may overstate the welfare effect. Better would be a measure of *net national* product that discounts accumulated future liabilities. Also, deficits may promote growth but not real development if they generate inequality and weaken the public sector.

⁵⁸ The gravest concerns cite Kindleberger's observations that financial crises have appeared at roughly ten-year intervals for the last 400 years or so (1984, 269) – “the record [in financial markets] shows displacement, euphoria, distress, panic and crisis occurring decade after decade, century after century...” (1984, 273). Rodrick (1998) opines, “Boom-and-bust cycles are hardly a side show or a minor blemish in international capital flows; they are the main story.” See Moon (forthcoming, chapter 7) for the role of trade deficits in banking, currency, and macro-economic crises.

protracted deficit episodes, (2) they induce currency declines, (3) to the extent that they expand external liabilities, their total effect can be assessed only in the long-term, and (4) because they are financed by capital flows in some cases but not others, their effects will vary.

Before we proceed, however, we must pause to take note of the implications of the findings that the net external position (NEP) affects future growth in the long-term (Erturk, 2003; Reisen, 1998; Pattillo et al., 2002, 2004; Moon, 2001). The simple analysis of Table 10 introduces both the trade balance and the net external position in a regression that seeks to account for growth rates in a large sample. While the specification is far from complete, it does include as controls the global growth rate, changes in the terms of trade, and trade openness, all factors often included in growth regressions. It illustrates one pattern indicative of lagged effects frequently found in the literature: growth is positively related to trade deficits but negatively to liabilities in the net external position. Since trade deficits lead to liabilities, such a result seems to suggest that a short-term positive effect is also accompanied by a long-term negative effect. If debtors grow more slowly than creditors, as these first cut analyses suggest, ignoring the effect of NEP risks distorting the picture of the longer-term consequences of trade deficits. Because development policies which produce large deficits in the net external position compromise future growth, using short-term GNI growth as a performance measure presents a misleading impression of their full effect – and one which could bias the analysis toward showing trade deficits as growth-inducing.

Table 10 - Predicting future (annual) growth

DepVar: Δ real GDPpc	OLS
Trade balance	-.04 (-3.31)
Net external position	.01 (4.09)
Global growth	.43 (4.64)
Δ terms of trade	.03 (3.69)
Trade openness	.00 (6.91)
Constant	-.71 (-3.3)
N/r ²	1923/.050

Assumption 4: Recovery from trade deficits

The obvious solution to the problem is simply to evaluate growth over an interval during which the change in NEP is zero. It is commonly assumed that liabilities grow during a deficit episode and then are paid down during a balance sheet recovery period. Optimistic assessments of trade deficits are predicated on the assumption that the liabilities they create can be relatively easily unwound by the future accumulation of trade surpluses. If accurate, there should be many cases that fit the ideal research design, which would involve comparing the growth performance of trade deficit nations with those that have not experienced a prolonged trade deficit episode.

We begin by asking how many cases fit the assumption. That is, what countries have concluded a trade deficit episode and subsequently returned the external balance to its status before the episode began? These are the countries that can be used to probe the assumption that balance sheet recovery is relatively easy and that trade surpluses are the principal mechanism for achieving it. They can also be used to assess growth rates of trade deficit countries over the full cycle - the periods before, during, and after trade deficit episodes.

Sixty five of the 114 episodes defined above were still in effect when data ended, providing

no opportunity to examine the subsequent adjustment.⁵⁹ Thus, only 49 episodes offer any prospect for examining the subsequent adjustment period. That number, only 42% of all episodes, is itself a little sobering. Most deficit episodes not only don't end easily, apparently they don't end at all! In a very real sense, the evidence is not yet in on what will become of the majority of cases of prolonged deficit episodes.

In 23 of those 49 cases, trade deficits were not financed largely by capital flows and, as a result, their net external positions did not deteriorate during their trade deficit episodes.⁶⁰ For this group, the principal liability is political, not financial, and requires an entirely different analysis (Moon, forthcoming, chapter 7). They are excluded, leaving only 26 trade deficit episodes that were largely financed by capital flows, involving 24 countries (Philippines and Thailand, twice each). These we designate "credit-worthy" on the basis of these capital inflows. Three were small states lacking data on Net External Position (Antigua, Maldives, and Seychelles). The remaining 21 countries / 23 episodes constitute a sample to compare with non-deficit nations. We begin by confirming that the iconic picture of the international investment position is accurate: As expected, all 23 deficit episodes showed a deterioration of the NEP, most sizable. All but Saudi Arabia, Cypress, and Singapore began the episode with a negative IIP and all but Saudi Arabia ended that way.

But were these NEP liabilities easily eliminated after the episode ended? No. In 2004, only *four* nations (Botswana, Singapore, Jamaica and Thailand) had returned to the NEP level prevailing at the *beginning* of their deficit episode. Eleven others had made a partial recovery in that they had a more positive NEP in 2004 than at the *end* of their deficit episode, meaning that their liabilities had at least not grown further. However, the remaining one-third had not adjusted even to that limited extent as of 2004, though some had reached that level once.

Unfortunately, this sample is far too small to offer any definitive resolution of controversies over the growth propensities of trade deficit nations, but it does provide an initial look at the pattern of growth over the phases surrounding deficit episodes. Table 11 reports average annual growth rates in GNI per capita, measured in constant PPP dollars, for the period before, during, and after those deficit episodes. In three of the four cases, the growth rates diminished substantially during the recovery period, suggesting that neither the trade deficits nor the growth rates were sustainable. This

⁵⁹ Most of those episodes are ongoing through 2004 on the basis of IMF data, though a few were still in progress when IMF data ended slightly earlier. Of the six nations where episodes end with IMF data gaps, WDI data confirms their continuation through 2004 in all but the Central African Republic, whose deficit episode probably ended in 1996. The duration of those 65 ranged from 5 to 33 years, with a mean of 18 years. Among the 40 for which data is available, 35 had a negative net external position at the end of the period, and the mean for all 40 was -59.3% of GDP. For the 36 with continuous NEP data, the average decline was 1.41%, with a median of 2.0%.

⁶⁰The 23 episodes (in 22 nations, Swaziland twice) not financed by capital flows included 15/16 for which NEP data is available. Malta, Namibia, and Swaziland (2001) ended their episodes with a positive NEP. The average NEP at the end of the episodes was -59.1% of GDP, but the mean annual change during the trade deficit episode was actually positive, .8%, with a median of -.2%.

was especially marked in the case of Thailand, for whom this was the second deficit episode within a decade.⁶¹ The fall off was smaller for Botswana and Singapore, neither of whom incurred large NEP liabilities during its deficit episode.⁶²

Jamaica was the only one of these four to accelerate its growth after its deficit episode, but its rate of 3.1% from 1985-1994 gave way to a second deficit episode in 1995 that still continues (0.1% growth). Before we examine such growth issues in greater detail, however, this analysis raises questions about the adjustment that deserve greater attention. How is balance sheet recovery accomplished? Why does it occur so infrequently?

	Thailand		Botswana		Jamaica		Singapore	
Pre-deficit period	1975-1989	5.7	---		1976-1980	-4.3	---	
Deficit episode	1990-1996	7.2	1975-1983	8.2	1981-1985	-1.2	1972-1982	6.1
Recovery period	1997-2004	1.3	1984-2004	4.9	1986-2004	1.5	1983-2004	4.4

A deficit in the international investment position can be reduced in several different ways. The least disruptive scenario that produces a benign normal adjustment is predicated on the trade deficits having been created by temporary shocks that subsequently disappear. For example, export revenues may fall due to supply shocks (such as harvest conditions for cash crops) or through terms of trade shifts due to prices in global commodity markets. In this scenario, the trade imbalance should dissipate quickly when the shock concludes, requiring no intrusive policy action beyond directing some portion of the subsequent increase in export receipts to resolve any temporary financing obligations (such as reserve financing or borrowing) that may have been incurred during the deficit episode. (This would also include paying the political price for official aid or exceptional financing.)

Imbalances that are more secular than cyclical – as implied by protracted episodes of five years or more – will ordinarily require more visible, deliberate, and/or painful adjustments to equilibrate imports and exports. The most market-based mechanism is a decline in the nominal (and real) exchange rate. Provided that the demand for exports is price elastic, a depreciation should cause export expansion, which is generally regarded as the most desirable means of adjustment since it is usually associated with other economic benefits (such as employment growth, government revenue increases, and corporate profits).

At the same time, and under similar assumptions, both import values and, especially, import volumes, should decline as well. When this effect is fairly large it is dubbed “import compression”, connoting a painful, involuntary adjustment that engenders real economic and welfare losses. When

⁶¹ Thailand’s pre-deficit period included a previous deficit episode (1977-1981), which had experienced no balance sheet recovery before another deficit episode began. Its growth rate during that first deficit episode was 5.0%, a little below the rate during the remainder of the period.

⁶² Botswana’s NEP moved from -40.8% to -57.4% in its nine deficit years. It had returned to the level at the beginning of the deficit episode by 1985 and to a positive level in 1987. Its average growth rate in 1984-85 was 4.5%, a little below the average of the period. Singapore’s NEP fell from 30.6 to -4.3 during its 11 year deficit episode. It had returned to the level at the beginning of the episode by 1992. Its growth rate 1983-1992 was 5.0%, not much different than the 4.4% rate for the entire period.

the demand for some imports is highly inelastic – such as indispensable fuel, food, or capital equipment – the required change in exchange rate may be so large as to dramatically shrink the consumption of other imports, which induces distributional effects that can carry additional political complications. Since trade balance reversal through the exchange rate must usually fight the J curve effect, the eventual depreciation must be quite large and the improvement will be delayed.⁶³ Freund's (2005) study of 25 “current account reversals” in industrial countries finds that real depreciation is about 20% over three years (about 40% in nominal terms) in order to remove 80% of deficit.

Of course, exchange rate depreciations are not without their cost. Most directly, they reduce national wealth through declines in purchasing power over resources denominated in other currencies. In effect, the result is a decline in national power. The increase in prices of foreign products lowers national welfare via reduction in consumption and can trigger broader and more disruptive inflation, depending on the location of imports within the production sequence. Still, by targeting the problem itself – the ratio of imports to exports – the policy action is relatively efficient. So, too, is a trade balance reversal engineered through mercantilist trade policies, but in practice the dependence on foreign nations and IFIs committed to liberal policies makes this course infeasible.

If the exchange rate solution proves to be inadequate or unavailable, less efficient and therefore more painful adjustments will be required. Trade balance reversal through fiscal restraint and monetary contraction can work. More generally, trade balance reversal can occur from income decline (perhaps in response to fiscal restraint and investment decline (smoothing)). Overall income declines are the best indicator of a hard landing, but severe import compression and sharp currency declines are also markers, though there is no clear threshold for any of the three. Against these scenarios which involve forced trade surpluses, however, it is most easily seen that other adjustments are far more preferable, at least in economic terms.

Improvements in IIP can also occur through growth effects on the denominator (GDP), though growth usually spurs imports that counteract some of the effect, or through valuation changes within the asset markets that make up the international investment position. The latter can also be broadened to include debt forgiveness or rescheduling as well as market-based changes in asset valuations (including exchange rate changes). Of course, defaults can bring about some of the same outcomes (Reinhart et al., 2003)

In short, there are several methods for returning a trade deficit country to external balance and the net external position to the status quo ante. Since they are not equally desirable, in order to fully evaluate the consequences of deficit episodes, we must decompose the means by which the balance sheet is improved. We do so in a manner similar to our earlier decomposition of the immediate funding of the deficits that produced the liability in net factor assets (NFA).

As a purely mathematical matter, the ratio NFA/GDP can be reduced either by shrinking the

⁶³ The J-curve traces the path of the trade balance after depreciation. Imports tend to rise for a year or so following an exchange rate depreciation, only after which they begin to fall. It occurs because import prices reflect exchange rate changes at a lag and demand for imports is also sticky before alternative arrangements can be made.

numerator or growing the denominator. The latter represents the less intimidating option of reduction as a percentage of GDP by economic growth alone, allowing a return to a sustainable position without the trauma of a hard landing. However, the former is the only method to actually *eliminate* the net liability. It appears to require the sacrifice of consumption by running trade surpluses to accumulate net factor assets (NFA). In practice, other forms of trade deficit financing – especially transfers and exceptional financing – can also be used to retire external liabilities. Furthermore, changes in the values of the assets actually held by residents and non-residents occur because of price changes in asset markets and foreign exchange fluctuations.

It would be useful to be able to statistically register how much of any given improvement in IIP (as a percentage of GDP) was due to increases in GDP (the denominator) and how much was due to current account surpluses and other means to improve the numerator of net factor assets. To construct such a measure, we begin with the accounting identity between change in net factor assets (NFA) and the current account (CA), expressed in currency units (neglecting valuation effects for the moment) :

$$[1] \text{NFA}_{t+1} = \text{NFA}_t + \text{CA}_{t+1}$$

Expressed as a percentage of GDP, [1] is equivalent to:

$$[2] \text{NFA}_{t+1}/Y_{t+1} = \text{NFA}_t/Y_{t+1} + \text{CA}_{t+1}/Y_{t+1}$$

However, in the process of introducing GDP, we also involve valuation issues, which we add in two forms. EF_{t+1} is the value of direct debt forgiveness in the form of exceptional financing and $\text{Val}_{t,t+1}$ is the residual change in value over the interval that results from the combination of inflation in GDP and exchange rate movement that reduces net liabilities as a percentage of GDP .

$$[3] \text{NFA}_{t+1}/Y_{t+1} = \text{NFA}_t/Y_{t+1} + \text{CA}_{t+1}/Y_{t+1} + \text{EF}_{t+1}/Y_{t+1} + \text{Val}_{t,t+1}/Y_{t+1}$$

Subtracting the previous IIP from each side of equation [3] yields an expression with change in the IIP on the left-hand side:

$$[4] \text{NFA}_{t+1}/Y_{t+1} - \text{NFA}_t/Y_t = (\text{NFA}_t/Y_{t+1} - \text{NFA}_t/Y_t) + \text{CA}_{t+1}/Y_{t+1} + \text{EF}_{t+1}/Y_{t+1} + \text{Val}_{t,t+1}/Y_{t+1}$$

The portion of the reduction accounted for by GDP growth is given by the parenthetical “growth expression” on the right hand side, $(\text{NFA}_t/Y_{t+1} - \text{NFA}_t/Y_t)$ – that is, previous NFA as a % of current GDP minus previous NFA as a % of previous GDP).

As an illustration, we can use these formulae to decompose improvements in Thailand’s IIP after the crisis that followed its trade deficit episode from 1990-1996. The end of the deficit episode and the beginning of the recovery period is not hard to identify in Figure 3. The collapse of the baht is marked by the precipitous drop of the yellow line in 1997. The GDP collapse is noted by the blue V in 1998. The extended green V records a 26.8% of GDP improvement in the NEP from -55.9% of

GDP at the end of 1996 to -29.2% in 2004, as shown in the first row of Table 16. (In between, it deteriorated to a nadir of -87.5% in 1998.)

The largest source of this 26.8% of GDP improvement is captured visually in Figure 3 with the steep rise in the red line of the trade balance after 1996. The consistent current account surplus from 1998 through 2004 accumulated to 38% of 2004's GDP. As shown in the CA column of Table 12, this constituted 140% of the total improvement in NEP over that period. Obviously, Thailand paid for its previous deficits – and more – with subsequent surpluses.⁶⁴ Surpluses even larger than the previous deficits were necessary to stabilize the NEP because the valuation of net liabilities deteriorated dramatically during the same period, mostly because of the crash in the baht's value.⁶⁵

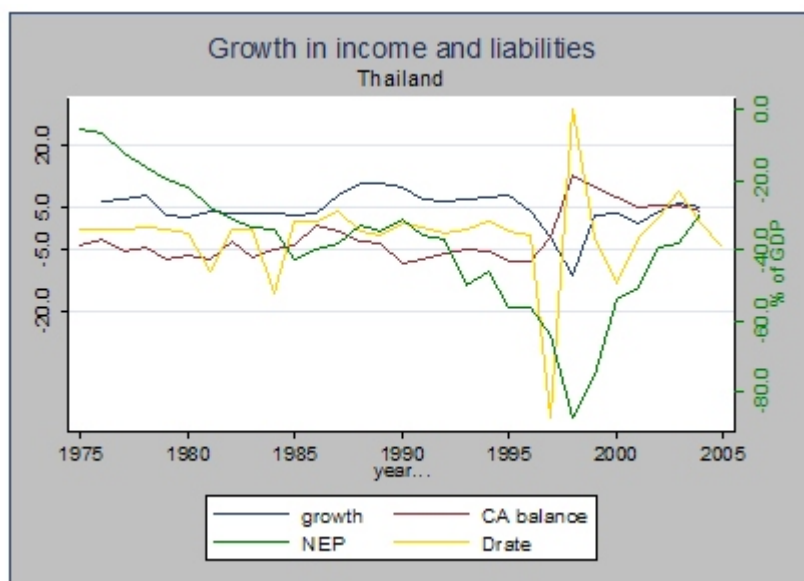


Figure 3- Portrait of a currency, growth, NEP crisis

By most measures, GNI per capita was lower in 2004 than in had been in 1995, the ultimate indicator of a very hard landing and proof that the trade surplus was hard earned. Still, total GDP grew 9% in real terms after declines in the first two years of recovery, which would have been sufficient to shrink NEP liabilities as a percentage of the now expanded GDP by about 8% even if there had been no reduction in dollar terms. As shown in the Growth column of Table 12, this amounted to about 32% of the total improvement. Thailand also received 8% of GDP in exceptional finance, equivalent to 30% of the NEP improvement.

	Recovery period		NEP as % of GDP		Change	Sources as % of NEP change			
	Begin	End	Begin	End		Growth	CA	ExcFin	Valuation
Thailand	1997	2004	-55.9	-29.2	26.8	32%	140%	30%	-102%
Singapore	1983	2003	-3.5	184.9	188.3	1%	103%	-1%	-3%
Botswana	1984	2002	-57.4	101.3	158.6	26%	72%	5%	3%
Jamaica	1986	1996	-182.5	-50.9	131.5	42%	-15%	1%	70%

⁶⁴As a percentage of GDP, the trade balance was turned around almost entirely on the export side. Aided by currency decline, exports rose from 39% to 59% of GDP from 1996 to 1998 and to 70.5% in 2004. The decline of imports by about 3.6% of GDP from 1997 to 1998 was the only sizable one in this cycle and by 2000 imports made up 58.1% of GDP, nearly 10 points higher than any previous level. However, severe import compression is hidden by those figures. The *volume* of imports, of course, fell markedly because per capita GDP fell in PPP terms by about 15% in these two years and far more in dollar terms.

⁶⁵ Consider, for example, the accounting changes visible from the end of 1997, when the NEP stood at -\$96.0 billion, to the end of 1999, when it stood at -\$92.6. This scant improvement of \$3.4 billion contrasts with a current account surplus in 1998 and 1999 of \$26.6 billion and another \$6.0 billion in exceptional financing. The value of Thailand's liabilities increased by about \$30 billion due to asset price changes, almost exactly off-setting the liabilities that were retired by the current account surplus. The baht declined by 45% in 1997, and after gaining back more than a third of that in 1998, fell by another 11% in 2000.

Yet, despite this painful adjustment in living standards, accomplished through currency decline and income decline, the stubborn Net External Position remained at -29.2% of GDP, only about 5% of GDP better than when the trade deficit episode began in 1989 and higher than when the *previous* trade deficit episode ended in 1981. Clearly, recovery from deficit episodes is not rapid, routine, easy, or automatic.

Thailand's reliance on current account surpluses is far higher than any of the other nations, mostly because of the severity of the crisis that brought a crashing end to its deficit episode. The second row of Table 12 shows that Singapore is actually the textbook example: Virtually all of its improvement came from trade surpluses, whereas the other factors – growth, exceptional finance, and valuation changes – had only a minuscule impact. Like Singapore, Botswana also experienced almost no valuation effects and little exceptional finance, but about a quarter of its improvement came from GDP growth and three quarters from current account surpluses. Of course, Singapore and Botswana's recoveries were accomplished over nearly two decades, in contrast to eight years in the case of Thailand.

The last of these four countries, Jamaica, illustrates just how differently improvement in net external balance can be accomplished. Jamaica was the recipient of enough debt forgiveness to wipe away much of its external liabilities and growth took care of the remainder. Throughout, Jamaica continued to *add* to its liabilities with trade deficits, but they were forgiven at an even faster pace. Once more we see that politically-motivated – rather than market-based – transactions are as integral to balance sheet recovery as we have seen them to be in immediately financing trade deficits. The resultant dependency requires a non-economic analysis as well (Moon, forthcoming, chapter 7).

To broaden the results beyond the only four nations that have achieved *full* recovery of the NEP, I defined a workable sample by relaxing the initial standard of full recovery and adopting a more flexible time frame. To include nations that had made a partial recovery of its NEP, I required only that a nation must have achieved an NEP better than at the *end* of the deficit episode, rather than at the beginning. It must have done so *at some point*, provided that it was accomplished at least five years after the episode had ended (the latter condition designed to eliminate a one or two year hiatus in a deteriorating pattern). For the purpose of decomposing the sources of its recovery, the adjustment period was deemed to have ended when the NEP reached its highest positive value, but before another deficit episode had begun. These criteria somewhat exaggerate the recovery for nations able to achieve only a temporary improvement before a subsequent decline, which in some cases was quite steep. Using this standard, fourteen nations (including the four previous ones) remain of the original 21.

Table 13 lists the recovery patterns of those 10 nations that were able to retrace only part of the NEP deterioration that occurred during their deficit episodes. The thesis that liability positions are unwound principally by running trade surpluses fares no better in this broader sample. Only in Paraguay was the current account surplus the largest source of improvement. None of the twelve reach the 72% level of Botswana and five of them continued to run sizable current account *deficits*. Indeed, three (Honduras, Kenya, Morocco) had 2004 trade deficits too large to be considered

sustainable (>5.0%). Nearly all of them benefitted greatly from valuation changes and about half from large amounts of exceptional finance. In only four of the twelve was growth the largest source of diminishing liabilities. The difficulty of “growing out of debt” is also documented by Reinhart et al. (2003) which examines 53 debt reversal episodes between 1970 and 2000. Among the episodes in middle income countries, they found that net repayments were the largest factor in seven, debt reduction in nine, and output growth in only six, including Chile (1985), Panama (1989), Philippines (1986), Morocco (1985), Botswana (1976), and Swaziland (1985).⁶⁶

With these understandings of how deficit episodes end and how adjustment is accomplished, what can we say about growth patterns during the deficit episode and recovery phase?

Growth patterns during and after trade deficits

Table 14 reports the average growth rate for the three groups of countries whose trade deficits were financed largely by capital flows. Among the four countries that were able to completely recover the NEP existing before the trade deficit episode, growth fell during the deficit episode and declined further during the recovery. Among those who had partially recovered, the same pattern held – and growth fell still further after the recovery had reached its peak. Only in the group which had seen their NEP deteriorate further after the deficit ended is there any sign that trade deficit allowed the country to increase its growth rate either during or after the episode ended – and that evidence is mixed.

Of course, until the entire cycle of debt accrual and debt retirement is completed in these

Table 13 - Sources of improvement in NEP as a % of GDP

	Recovery period		NEP as % of GDP			Sources as % of NEP			change
	Begin	End	Begin	End	Change	Growth	CA	ExcFin	
Thailand	1997	2004	-55.9	-29.2	26.8	32%	140%	30%	-102%
Singapore	1983	2003	-3.5	184.9	188.3	1%	103%	-1%	-3%
Botswana	1984	2002	-57.4	101.3	158.6	26%	72%	5%	3%
Jamaica	1986	1996	-182.5	-50.9	131.5	42%	-15%	1%	70%
Paraguay	1989	1993	-21.6	-2.6	19.0	18%	56%	6%	20%
Honduras	1982	2001	-55.7	-40.4	15.3	157%	-586%	445%	85%
Kenya	1983	2004	-47.3	-31.1	16.2	139%	-197%	69%	89%
Papua NG	1990	1996	-85.7	-62.7	23.0	136%	70%	99%	-205%
Morocco	1996	2004	-55.1	-28.0	27.1	62%	33%	90%	-85%
Costa Rica	1982	1997	-102.6	-28.7	74.0	62%	57%	59%	36%
Cyprus	1986	2004	-15.0	13.2	28.2	31%	-113%	3%	179%
Philippi~s	1984	1991	-62.7	-58.0	4.6	97%	-304%	-21%	328%
Ireland	1982	1999	-55.7	48.0	103.7	32%	4%	8%	56%
Tunisia	1987	1992	-122.4	-81.4	41.0	72%	-33%	-1%	62%

Table 14 - Growth rates before, during, and after deficit episodes

Sample	Full recovery		Partial recovery		No recovery	
	con \$	con \$ ppp	con \$	con \$ ppp	con \$	con \$ ppp
Pre-deficit period	9.1	6.7	3.1	2.7	1.8	-2.5
Deficit episode	6.2	6.6	1.8	2.1	1.4	1.5
Recovery period	4.7	4.7	1.8	1.8	2.1	2.0
Post-recovery			1.2	1.3		
N (nations/years)	4/105		10/290		10/252	

⁶⁶ A “debt reversal” occurs when the ratio of external debt to GNP fell 25+ percentage points over three years. “(p.33) To exclude cases where the decline in the ratio was primarily driven by changes in the nominal value of dollar GNP, we consider only those episodes where either the decline in the dollar value of external debt was 10 percent or more over the three-year window, or average growth in the three-year period was 5 percent a year or higher.”

countries, any judgment is quite premature. That is even more true for those nations – the majority – that have not yet been able to bring to an end their episodes of large prolonged trade deficits and are continuing to accumulate liabilities. For them, it is possible only to estimate the cost of both servicing and paying down liabilities under various assumptions about rates of return and the time period over which they would be required to do so. Length constraints prevent the presentation of results based upon speculative efforts to identify growth rates adjusted for those costs (Moon, forthcoming, chapter 6).

Conclusion

Do trade deficits compromise future growth? No final judgment on that question is yet possible, but the results of this paper do offer tantalizing hints that they probably do. It is certainly true that the assumptions which undergird positive assessments of the role of deficits in national development are dubious.

First, trade deficits are not short-lived cyclical phenomena. Trade deficits cluster in long strings that constitute “episodes”. Theoretically, these episodes are but one phase of the cycle in which liabilities first accumulate and are subsequently unwound. The entire cycle is the proper unit of analysis to study the consequences of deficits, but few nations have actually completed such a cycle.

Second, in episodes of large, protracted trade deficits, trade balances are NOT balanced exclusively, or even largely, by market-based capital inflows, but instead by politically- and socially-motivated transactions. As a result, the consequences of these episodes cannot be fully captured by analyses concerning economic aggregates. For most nations, the real cost of trade deficits is paid in the form of political dependence on actors responsible for those non-market flows.

Third, countries do not grow appreciably faster during deficit episodes than they did previously. However, they do suffer declines in exchange rates and mounting liabilities. Furthermore, deficit countries tend to grow more slowly after the episodes as the country deals with the liabilities created.

Fourth, the liabilities that result from trade deficit episodes continue nearly indefinitely. They are not easily unwound by the future trade surpluses implied by cyclical conceptions. As a result the research designs necessary to definitively test the proposition must look quite different from existing efforts. They must certainly consider a reconceptualization of growth that incorporates the need to eventually retire liabilities. Any effort to do so will conclude that the assessment of trade deficits is necessarily contingent on the assumptions made about that recovery process. For a long time to come, the final judgment will be speculative, but the importance of trying to reach it is reinforced by the inherent uncertainty.

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