Note #2 - Is it Sustainable for São Tomé and Príncipe to have a Large Current Account Deficit and a Fixed Exchange Rate?

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Patrick Kirby

I. Introduction

1. Is it sustainable for São Tomé and Príncipe to have a large current account deficit and a fixed exchange rate peg? São Tomé and Príncipe (STP) pegs its currency, the dobra, to the euro and has both persistent current account deficits and a persistent inflation differential with the Euro Area. In other countries, these characteristics have proved to be unsustainable over time, as rising debt and a worsening trade imbalance leads to the abandonment of the peg. This note examines whether this might be the case in STP, and finds that, despite some vulnerabilities, there does not appear to be an immediate threat to the peg, as the country’s current account deficits seem to be determined not by its trade balance but by its capital balance, which is largely sustained by inflows of aid and remittances. This background note has four sections: the first examines the general theoretical conditions for the sustainability of exchange rate pegs, the second assesses whether these conditions exist or are relevant for STP, a small, open economy with a small financial sector, and the third provides analysis of the drivers of the country’s current account deficit. Policymakers could mitigate risks to the peg by broadening the country’s revenue base, developing a domestic debt market, and diversifying exports.

II. Under what conditions are exchange rate pegs stable?

2. Exchange rate pegs are sustainable if the countries share the characteristics of an optimum currency area. The necessary conditions are common and symmetric shocks, common responses to shocks, and the ability to adjust quickly to shocks. Exchange rate pegs are unstable in the presence of large inflation differentials, persistent government deficits, and a lack of market trust in the central bank’s commitment to the peg. In addition, substantial stress in the private sector or banking balance sheet can lead to crises, which can also threaten exchange rate pegs. All of these fragilities are mitigated by a strong foreign reserve position. According to these metrics, STP’s peg appears quite vulnerable. However, small, open economies with small financial systems have characteristics that render fixed exchange rates more beneficial and more likely to persist than otherwise.

2. Symmetry in economic cycles is a condition for stable fixed exchange rate peg, but its absence

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can be mitigated by factor mobility, fiscal transfers, and banking union. Fixed exchange rates are appropriate when economic shocks are symmetric across the involved regions. When this is not the case, the impact of asymmetric shocks can be mitigated by easy factor mobility (Mundell 1961) or substantial fiscal transfers (Kenan 1969). A banking union helps to ensure that the contingent liabilities of the banking system can be funded through the central bank, if needed, without leading to sovereign debt crises (De Grauwe 2011).

3. Similar inflation rates and balanced budgets are also conditions for stable fixed exchange rate pegs. A key element of an exchange rate peg is generally comparable inflation rates between the linked economies (Dueker and Fischer 2001). When inflation rates are similar between countries, a nominal exchange rate peg is also a real exchange rate peg—otherwise, it results in a real appreciation for the country with higher inflation. This can result in an overvalued exchange rate that hinders the domestic economy, which may lead to pressure to abandon the peg or reset it at a lower value. A related version of this idea comes through fiscal deficits. A government with a rising debt load—whether through persistent budget deficits or the realization of contingent liabilities—may be forced to finance it through money printing, leading to inflation and real appreciation, which can threaten the peg (Krugman 1979).

4. Several triggers can destabilize the fixed exchange rate peg. The literature provides the following list of triggers that can potentially destabilize a fixed exchange rate: asymmetric shocks, inflation differentials, rising government debt, lack of credibility from a ‘soft peg’, lack of credibility due to the trade-off between defending the peg and supporting the domestic economy, and weakness in the banking or corporate sector.

5. Weaknesses in the corporate or banking sector can trigger pressures in the fixed exchange rate peg. In a credit-constrained economy, a negative shock can lead to a fall in money demand from the private sector. If the shock is severe, it can result in the depletion of central bank reserves in order to defend the peg, and perhaps in its abandonment (Aghion, Bacchetta and Banerjee 2001). Similarly, a banking crisis may require the government to bail out the financial system, driving up debt and requiring either government borrowing or central bank financing, either of which threaten the peg through the same mechanism as government debt accumulated in other ways (Hausmann, et al. 1999, Burnside, Eichenbaum and Rebelo 2001). As the private sector can trigger pressure on the exchange rate, indicators of vulnerability, such as high levels of foreign currency debt in the private sector or non-performing loans in the banking sector are important considerations for the sustainability of the peg (Chang and Velasco 2001).

6. The adoption of a fixed exchange rate peg imposes a choice for the central bank. The basic “trilemma” of international macroeconomic—i.e., the impossibility of concurrently having a fixed

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1 “This paper presents a simple model of currency crises which is driven by the interplay between the credit constraints of private domestic firms and the existence of nominal price rigidities. The possibility of multiple equilibria, including a ‘currency crisis’ equilibrium with low output and a depreciated domestic currency, results from the following mechanism: If nominal prices are ‘sticky’, a currency depreciation leads to an increase in the foreign currency debt repayment obligations of firms, and thus to a fall in their profits; this reduces firms’ borrowing capacity and therefore investment and output in a credit-constrained economy, which in turn reduces the demand for the domestic currency and leads to a depreciation.”
exchange rate, independent monetary policy, and free capital mobility—forces a choice on central banks. If high inflation threatens the peg, they must decide whether defending the fixed exchange rate is worth the cost of causing a slowdown in the domestic economy. If a country is already experiencing a slowdown, speculators may doubt the willingness of the central bank to inflict further costs on the economy and anticipate the abandonment of the peg. Speculative attacks make the defense of the peg more expensive for the central bank, which can lead to a self-fulfilling crisis (Obstfeld 1994).

7. **Irreversible exchange rate arrangements are more credible.** The importance of central bank reserves and credibility has led some to the conclusion that only ‘hard’ pegs—such as dollarization, currency boards, or monetary union—are stable, while ‘soft’ pegs—such as conventional pegs, crawling pegs, bands, or tightly managed floats—are vulnerable to speculative attacks (Fischer 2001).

III. **Does STP have the conditions for a stable fixed exchange rate peg?**

8. According to the criteria presented above, STP’s currency peg appears very vulnerable. The country is subject to a very different profile of shocks than the Euro Area, factor mobility is limited (especially for labor), fiscal transfers come in the form of non-cyclical aid, and there are no guarantees from the Euro Area on the STP’s banking system. Inflation in STP remains well above that of the Euro Area, resulting in real appreciation of the dobra of more than 50 percent since the peg was introduced in 2010 (Figure 1.A). Government external debt is not trending up in recent years, but stands above 60 percent of GDP, a relatively high level (Figure 1.B). In addition, domestic debt fueled by government arrears and the recognition of contingent liabilities is increasing. STP’s has a conventional ‘soft’ peg, defended by a limited fund of reserves worth approximately four months of imports and a credit line with the Bank of Portugal (Figure 1.C). The non-financial corporate sector has limited access to finance and therefore poses little threat to the peg from its own indebtedness, but the banking sector presents some risk because of its high proportion of non-performing loans.

9. Despite not meeting many of the conditions for stability, STP’s peg may nevertheless be sustainable. Small, open economies with small financial sectors seem to enjoy greater benefits from exchange rate pegs, while suffering fewer of the downsides. This may explain why, of the 33 small developing economies, only Mauritius and the Seychelles have a floating exchange rate, while a third use pegs similar to STP’s. Despite sharing many of the same vulnerabilities as STP, the majority of these fixed exchange rates have been stable for more than a decade (IMF 2015).

10. The benefits from reduced transaction costs and anchored inflation are greater in small open economies. Small, open economies conduct a large proportion of their economic activity through international trade—in STP, for example, exports and imports are equivalent to about 75 percent of GDP. The reduction in transaction costs and the elimination of currency risk are therefore relatively more important than they would be in larger economies.

11. The inflation differential with the Euro Area is narrowing. The increased reliance on imports makes the peg effective at limiting inflation, as domestic producers compete on price and cannot rely on periodic devaluation to remain competitive. Since adopting the peg, inflation in STP has halved from above
15 percent to about 7 percent (Figure 1.D). This experience is common across emerging market and developing economies (EMDEs), which have experienced a largely synchronous decline in the level and volatility of inflation in recent decades—median inflation has fallen from peak of 17.3 percent in 1974 to 3.5 percent in 2017 (Ha, Kose, and Ohnsorge 2019). Inflation tends to be lower in countries with lower public debt ratios, fixed exchange rates, and greater central bank transparency. Maintaining and reinforcing the exchange rate peg through fiscal prudence and improved central bank credibility may lead to further narrowing of the inflation differential between STP and the Euro Area. Rapid productivity growth would also lower inflation by reducing unit labor costs. Finally, measures to improve agro-logistics such as warehouses would allow STP to withstand better shocks in food supply that have spiked inflation recurrently in the past years.

12. **The gain in reducing exchange rate volatility is generally larger than the loss in monetary policy autonomy.** Having a fixed currency and open capital markets entails losing monetary independence in order to stabilize the exchange rate. This trade-off is appealing to small, open economies, as the exchange rate is an important source of shocks. Illiquid markets mean the exchange rate tends to be more volatile, as relatively minor changes in investor sentiment can lead to significant swings in the exchange rate. Similarly, the limited diversification of small state exports means terms of trade are also more volatile (UN 2018). A lack of domestic lending options means that firms must rely heavily on external borrowing, often in foreign currency denominations, which leads to significant and unpredictable changes in assets and liabilities. A reduction in the volatility of the exchange rate makes the domestic economy more resilient to shocks that would otherwise reprice firms’ foreign debts (Calvo and Reinhart 2000), and can help stabilize inflation (Airaudo, Buffie and Zanna 2016).

13. **Monetary policy autonomy in small states is naturally constrained.** In addition, the primary drawback of a fixed exchange rate is less of a concern, as small countries are typically unable to pursue fully autonomous monetary policy. First, they may lack the institutional infrastructure to conduct monetary policy (IMF 2015). In addition, traditional monetary policy is transmitted to the real economy through the financial system, a channel that is attenuated when a country lacks liquid domestic fixed-income markets (Imam, Exchange Rate Choices of Microstates 2010).

14. **Flexible exchange rate regimes are normally more beneficial to larger, more mature and integrated economies, while small states benefit more from fixed exchange rate pegs.** These conclusions are summarized by Rogoff et al. (2003), who suggest that the value of a flexible exchange rate increases as a country becomes more mature and integrated within the global financial system. For a small emerging market like STP, fixed exchange rate regimes tend to be both beneficial and stable.

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2 Falling commodity prices have also contributed to the decline, but the reduction in inflation in STP is greater than the EMDE average.

3 STP could also choose to maintain monetary independence but sacrifice the openness of its capital markets. By restricting capital outflows, it would be able to make use of the pool of domestic savings to finance investment. Given that this would likely deter international FDI inflows, that the pool of domestic savings in STP is quite shallow, and that the benefits of monetary independence are modest for small developing economies, this is unlikely to be an appealing policy choice.
IV. An analysis of STP’s current account deficits

15. One way to understand whether STP’s fixed exchange rate is sustainable is to analyze the drivers and financing of the country’s current account deficit. The underlying components of the current account are shown in the following macroeconomic identities:

Current account

\[ \text{Current account} = \text{Goods & Services Exports} - \text{Imports} + \text{Net income receipts} \]

\[ = \text{Net saving} - \text{Investment} \]

\[ = - (\text{Financial account} + \text{Capital account}) \]

16. Several shocks can affect the current account and its financing sources. Persistent current account deficits and misaligned exchange rates leave countries vulnerable to shocks that can lead to the abandonment or repricing of their exchange rate peg, often resulting in severe economic disruption (Gervais, Schembri and Suchanek 2016). The shocks that could potentially destabilize these elements, and lead to pressure on STP’s exchange rate peg are discussed below. These include: further real exchange rate appreciation, a negative shock to foreign demand, a rise in fiscal deficits (either to provide stimulus, or to address contingent liabilities from state-owned enterprises or the private sector), an increase in borrowing costs, a decrease in foreign aid, or a change in FDI flows due to the discovery of oil.

IV.a. The trade balance: Drivers and risks

17. STP has a sizable and persistent trade deficit. The country imports about twice as much as it exports, resulting in a trade deficit equivalent to 26 percent of GDP in 2017 (Figure 2.A). Almost 90 percent of exports go to the Euro Area, notably in the form of tourism and cocoa. Imports are more diversified but include a significant proportion of capital goods and oil.

18. A persistent inflation differential has led to a real exchange rate appreciation. Higher STP inflation relative to its trading partners means that the real effective exchange rate (REER) has appreciated more than 50 percent since the peg was introduced in 2010. The IMF (2018) concluded that, as of 2017, the dobra was moderately overvalued. Inflation in the tourism sector has been lower than for the overall price index, mitigating the possible effects of moderate overvaluation on export competitiveness.

19. The real appreciation of the dobra has not coincided with a deterioration of the current account. A deterioration of the trade balance due to the continued real appreciation of the dobra could potentially threaten the peg. Evidence supporting the Marshall-Lerner condition—that a stronger exchange rate should eventually lead to a deterioration in the trade balance, and vice versa—is mixed, and becomes more so when applied to small economies like STP. Imam (2008) finds that changes in the REER do not drive improvements in the current account for small states, primarily because both imports and exports are price inelastic. Many imports are necessities that are not produced domestically, such as food and fuel, and whose prices incorporate high and fixed distribution costs, while exports are often priced in foreign currency, meaning that devaluation does not stimulate purchases from foreign buyers. On the other hand, IMF (2015) finds that devaluation in small states does improve the trade balance, largely by compressing expenditure and import demand. STP’s experience suggests that the exchange rate may not
be a dominant driver of its trade balance—since 2010, the current account deficit has shrunk from 44 percent of GDP to 18 percent of GDP by 2016, rather than growing as might be expected based on the substantial appreciation of the dobra (Figure 2.B).

20. **An estimate of the impact of real appreciation over the next few years suggests only a modest impact on the current account deficit.** Between 2018 to 2020, inflation differentials between the Euro Area and STP are expected to lead to a real appreciation of the dobra of about 10 percent\(^4\) (IMF 2018). Assuming that STP’s trade balance does respond to future appreciation of the dobra in a manner consistent with the Marshall-Lerner condition, the consequences of this can be approximated by looking at the range of estimates of the price elasticity of the trade balance in the literature. Bussiere, Gaulier, and Steingress (2016) estimate a median elasticity of the trade balance to a 1 percent exchange rate depreciation of 0.12 for economies with international trade equivalent to 50-100 percent of GDP, while Imbs and Mejean (2010) find an impact about four times larger for economies comparable to STP.\(^5\) One could therefore expect the trade balance to deteriorate by somewhere in the order of magnitude of 1-4 percent of GDP by 2020, based on the strengthening of the exchange rate alone, requiring additional financing of 5-20 million euros per year. This would increase the current account deficit from its 2017 level of almost 19 percent of GDP to 20-24 percent. This would return the deficit close to its 2015 level and would remain well below its 2008 level, when it was 50 percent of GDP.

21. **A slowdown in the Euro Area would have little impact on current account financing needs.** Another risk to the trade balance would be a slowdown in the Euro Area, STP’s main trading partner. IMF (2013) found that a 0.75 percentage point reduction in Euro Area activity for several years relative to baseline resulted in small, developing states experiencing a 0.5-1 percentage point decrease in their primary balance and a modest decline in foreign reserves, but had little impact on their external financing needs.

**IV.b. Net saving: Drivers and risks**

22. **The current account reflects the difference between national saving and investment.** For small economies with limited financial systems like STP, borrowing from abroad is necessary to finance the investment needed for development. In STP’s case, external financing has allowed the government to run persistent budget deficits while also providing funding for domestic investment (Figure 2.C).

23. **STP’s aggregate borrowing has been on a downward trend, mirroring the narrowing of the current account deficit.** In 2010, investment was 56 percent of all economic activity. By 2016, it had declined to 28 percent. Similarly, the budget deficit declined from 12 percent to 3 percent of GDP over the same period. This trend could be interrupted by any shock that increases the size of the government’s deficits. This could take multiple forms, such as a sudden increase in interest payments as global monetary

\(^4\) The IMF expects STP inflation to decline from 5.5 percent in 2017 to 4.2 percent in 2020, while Euro Area inflation is climbs from 1.5 percent in 2017 to 1.8 percent in 2020. It is worth noting, however, that measuring the exact degree of real appreciation of the dobra is complicated by the fact that inflation in STP and inflation in the Euro Area are measuring substantially different baskets of goods. Most importantly, in STP, food is about 90 percent of the basket of goods and services in the price index, compared to only about 15 percent in the Euro Area.

\(^5\) In STP, exports and imports are equivalent to about 75 percent of GDP.
policy tightens, a turn to counter-cyclical fiscal policy in response to a negative shock, or the triggering of significant contingent liabilities, for example through continued losses of the state-owned electricity and water supply company.

24. **Although public debt is high, interest rate risk is low.** STP’s stock of public and publicly guaranteed external debt was about 60 percent of GDP in 2016, which is elevated relative to economies at a similar stage of development. Unlike many emerging market and developing economies (EMDEs), however, the country’s finances are not vulnerable to the rise in interest payments that may accompany monetary tightening in advanced economies. Almost 90 percent of the country’s external debt is concessional and thus not subject to market forces. The IMF (2013) found that a 3-percentage-point increase in interest rates for several years in low-income countries was only economically important for countries who have been gaining access to international capital markets, a category that does not include STP.⁶

25. **Fiscal risks can threaten the exchange rate peg.** The fixed exchange rate could be threatened by a situation requiring a large increase in government expenditures. This could take the form of counter-cyclical fiscal stimulus in response to a negative shock, for example, or a bailout of a local bank or a state-owned enterprise.⁷ Unless these expenditures were accompanied by a rise in capital inflows from abroad or a sudden increase in domestic revenues, investors might expect the financing to come from seigniorage, which would drive up inflation and may lead to a speculative attack on the peg.

**IV.c. Capital inflows: Drivers and risks**

26. **STP’s current account deficit is financed by inflows of aid, foreign direct investment, and remittances from abroad** (Figure 2.D). Aid comprises about half of government revenues, equivalent to more than 11 percent of GDP in 2015, a proportion which is expected to remain steady in coming years (IMF 2018). Foreign direct investment is largely in the oil and gas sector. While aid flows and remittances are relatively stable, FDI is quite volatile, falling from more than 25 percent of GDP in 2010 to 4 percent in 2013, for example, before rising more recently to 10.5 percent in 2017.

27. **The size of the current account deficit overstates STP’s external vulnerabilities.** Countries relying on capital inflows to finance a large and persistent current account are typically thought to be in an unstable position, and to be vulnerable to currency crisis (Roubini and Wachtel 1999). Edwards (2005) finds that it is rare for advanced economies to maintain large current account deficits for more than a few years, and that when the current account corrects it is often accompanied by a severe fall in per capita GDP. Persistent deficits reflect an imbalance between domestic saving and investment, which can result in a potentially destabilizing build-up of debt. This suggests that it is not the current account deficit that is the main source of vulnerabilities, but rather the accompanying credit boom (Gourinchas and Obstfeld 2012, Jordà et al. 2011). Since STP’s current account deficits are predominantly financed with aid and concessional loans, the country’s current account deficit overstates this vulnerability.

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⁶ In IMF (2013), ‘low-income countries’ refers to the 73 countries eligible to borrow on concessional terms from the IMF’s Poverty Reduction and Growth Trust.

⁷ Note that fiscal policy in low-income countries tends to be pro-cyclical (Huidrom, Kose and Ohnsorge 2016).
Nonetheless, a decline in capital flows would have to be matched by a decrease in consumption and/or investment. Either would likely have adverse impacts on the economy, which the central bank may choose to mitigate by abandoning the peg. Conversely, the discovery of economically-viable oil reserves would lead to a significant and sustained increase in FDI, allowing the country to fund additional expenditures.

IV.d. What is the root cause of STP’s current account deficits?

29. The primary driver of STP’s current account deficits is capital inflows. Although not conclusive, the evidence suggests that an overvalued exchange rate and a trade deficit are not the main drivers of STP’s current account deficit. The current account in EMDEs is often not determined by the trade balance, instead being a function of fiscal deficits (Chinn and Prasad 2003, Duarte and Schnabl 2015). STP’s fiscal deficits are, in turn, financed largely by aid inflows. This suggests that the primary driver of STP’s current account deficits is the country’s capital inflows. Fiscal deficits tend to increase the current account deficit by increasing imports, but do not normally threaten the sustainability of the current account since they are financed by aid inflows. In the absence of sufficient aid, however, fiscal deficits can lead to payment arrears, higher domestic debt, and a depletion of foreign reserves, all of which tend to threaten the peg.

V. Conclusion: Is STP’s peg with the euro sustainable?

30. On the surface, STP’s currency peg with the euro lacks many of the characteristics that make fixed exchange rates sustainable in the long run. STP has persistently higher inflation and elevated deficits, and its peg is not ‘hard’. A deeper look, however, suggests that the structure of small nations like STP leads policymakers to prefer fixed exchange rate regimes, and that these arrangements tend to be relatively stable.

31. However, there do not appear to be any immediate signs suggesting that STP’s current account is unstable and its fixed exchange rate peg is at risk. The gradual decline of the current account deficit, the fiscal deficit, and aid inflows suggest that the country is slowly reducing its dependence on external financing. The situation remains subject to important risks, however. Widening fiscal deficits or a sudden decline in foreign capital inflows—whether from a reduction in aid, FDI, or remittances—could cause economic disruption, most likely in the form of slowing investment, and could lead to financial or political pressure to abandon the peg.

32. Evidence suggests that current account deficits are determined by fiscal deficits and that real currency depreciation would not significantly alter the external position. Despite some recent improvement, the country maintains large current account deficits, which have been a precursor to EMDE crises and exchange rate peg abandonment in the past. The real appreciation of the dobra could potentially widen STP’s current account deficit and increase the country’s risk. However, the structure of STP’s economy mitigates these risks, because the country’s dependence on aid means that its current account is not a sign of an unsustainable credit boom. The counter-intuitive response of the trade balance to the real appreciation of the dobra suggests that the current account deficit is not being driven by declining international trade competitiveness, but rather by STP’s fiscal deficits, which are in turn enabled by foreign aid flows. This causality is common among EMDEs (Chinn and Prasad 2003, Duarte and Schnabl...
Policymakers could mitigate risks to the peg by broadening the country’s revenue base, developing a domestic debt market, and diversifying exports. The government could reduce its dependence on foreign sources of financing by broadening its revenue base and develop domestic debt markets to provide options for domestic borrowing. A reduction in government spending would also lessen the need for foreign funding, while ensuring that investment expenditures provide a sustained boost to potential output. Diversifying exports would help reduce the volatility of the country’s terms of trade, while boosting productivity would help reduce reliance on imported goods. Continued progress on reducing inflation would prevent further declines in competitiveness. In the case that significant oil reserves are found, the resulting revenues could be used to fund a stabilization fund to avoid sudden fiscal adjustments, or to bolster foreign exchange reserves.

Figure 1 - Characteristics of the STP economy

Since the dobra was pegged to the euro in 2010, it has appreciated steadily in real effective terms. Government debt and foreign reserves have been relatively stable over this period, while inflation has come down substantially.

A. Real effective exchange rate of the Dobra

B. Government debt

C. Central bank foreign reserves

D. Inflation

Sources: Central Bank of São Tomé and Príncipe, International Monetary Fund, World Bank.
A. An increase / decrease of the index corresponds to an appreciation / depreciation of the real effective exchange rate of the Dobra.
D. LIC line represents median inflation across 29 low-income countries.
**Figure 2 - The macroeconomic identities of STP’s current account**

*STP has persistent current account deficits. These arise primarily through a large trade deficit, and they enable the country to run fiscal deficits with high growth in investment. They are primarily financed through foreign aid and foreign direct investment.*

**A. Current account and trade balance**

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**B. Increase**

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**C. Budget deficits and investment**

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**D. Current account and financing**

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Sources: Central Bank of São Tomé and Príncipe, Eurostat, International Monetary Fund, World Bank.

A. Net income receipts and data discrepancies account for the gap between the current account and net trade.
B. Private savings and data discrepancies account for the gap between the current account and the sum of the fiscal deficit and investment.
C. Other financial and capital account net inflows, which are individually small, account for the gap between the sum of aid and FDI inflows and the current account deficit.
References


