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Economic Commission for Africa

African Trade Policy Centre

Fiscal Implications of Trade Liberalization on African Countries

Abstract

Trade liberalization is a potential source of fiscal instability for African countries because of their high dependence on trade taxes for public revenues. In Africa as a whole, international trade taxes generated on average 28.2 percent of total current revenues over the last decade; while for sub-Saharan Africa the share is even higher at 30.5 percent, compared to an average of 0.8 percent for OECD countries. Therefore, an important policy issue for Africa is how countries should react to projected falls in revenue as tariffs are cut. This paper explores measures that countries can take to offset or reduce the negative impacts of trade liberalization on their fiscal positions with reference to empirical examples.

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Overview

Trade liberalization is a potential source of fiscal instability for African countries because of their high dependence on trade taxes for public revenue. Taxes on international trade are important in Africa because when tax administration is inefficient governments tend to concentrate on easy to collect taxes such as trade taxes. In Africa as a whole international trade taxes generated on average 28.2 percent of total current revenues over the last decade; for sub-Saharan Africa the share goes up to 30.5 percent. This compares to 0.8 percent for high-income Organization for Economic Cooperation and Development (OECD) countries, 18.42 percent for lower medium-income countries, and 22.5 percent for low income countries. Also, while the data show a decreasing trend worldwide, in Africa the share has fluctuated around a flat or even slightly increasing trend.

Even with rising revenues, many African countries struggle to maintain sustainable fiscal positions. Between 1995 and 2002/2003 most African countries saw deteriorations in their fiscal positions as they pushed forward with trade liberalization. Over the late 1990s trade tax revenues as a percentage of GDP declined. An important policy issue is how countries should react to falls in revenue as tariffs are cut. This is critical for African countries because they have already carried out considerable liberalization of their trade regimes. Negative fiscal impacts emerge at later stages of liberalization: the boost to revenues from higher trade volumes as a result of tariff cuts is insufficient to outweigh the revenue-dampening effect of the tax reductions.

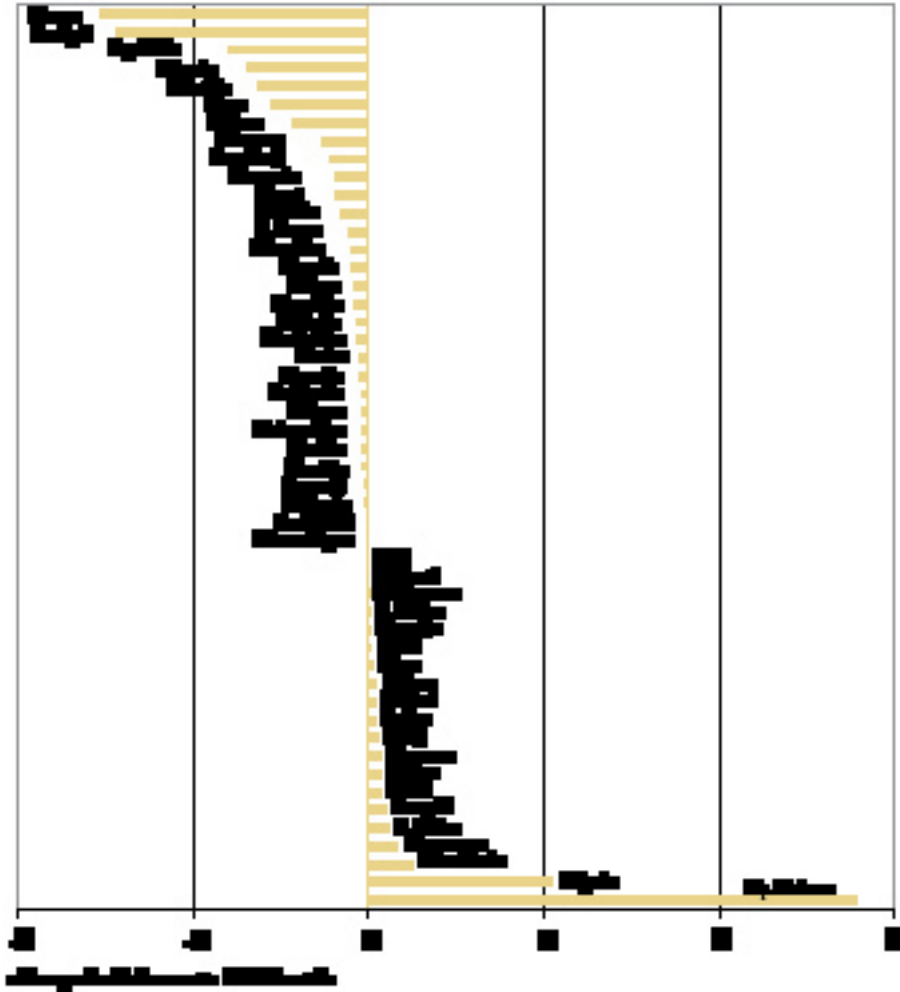
In the longer term, well-sequenced trade liberalization that is carried out as part of a coherent trade and industrial strategy should lead to growth benefits, so increasing the tax base. But how can likely reductions in fiscal revenue be buffered in the short to medium term? Most of the African countries that made the fastest progress on trade liberalization over the last ten years saw a significant decrease in revenues from international trade taxes. Several of these countries took actions which buffered the decline in trade tax revenues in the late 1990s.

So although trade liberalization has the potential to exacerbate fragile fiscal positions, negative impacts can be offset or reduced with appropriate policies. Firstly, trade liberalization should be co-ordinated with measures on the revenue and spending side of the budget including raising domestic indirect and direct taxes, strengthening tax administration and collection, and improving the effectiveness of public spending. Secondly, a sound macroeconomic environment is critical to preventing fiscal distress during trade liberalization.

Persistent Deficits Despite Increasing Tax Revenues

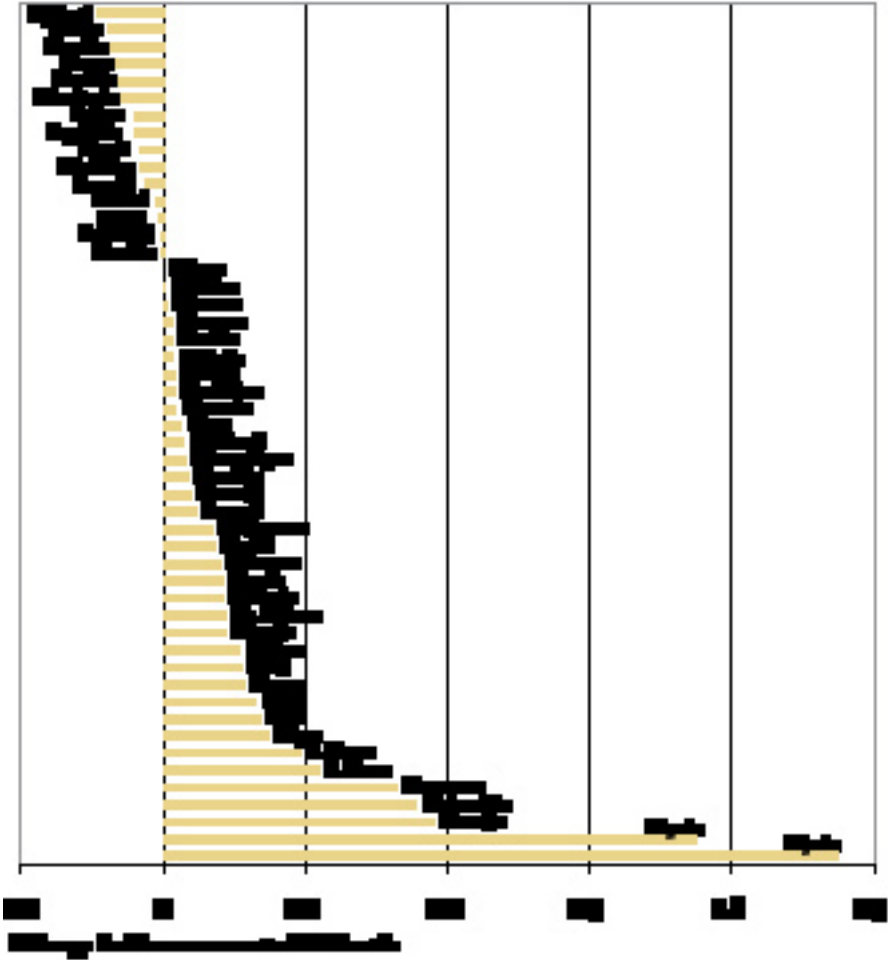
Many African countries still struggle to achieve fiscal stability (Figure 1). But at the same time, the revenue-side of the budget did not worsen systematically. The average annual change in the total tax revenue to GDP ratio was positive for many countries (Figure 2). Although a few countries experienced both decreasing revenues and increasing deficits, for most of those whose budget balance deteriorated, revenues grew. Some countries improved the budget balance in the face of falling revenues.

Figure 1: Average annual change in fiscal balance, 1995-2002



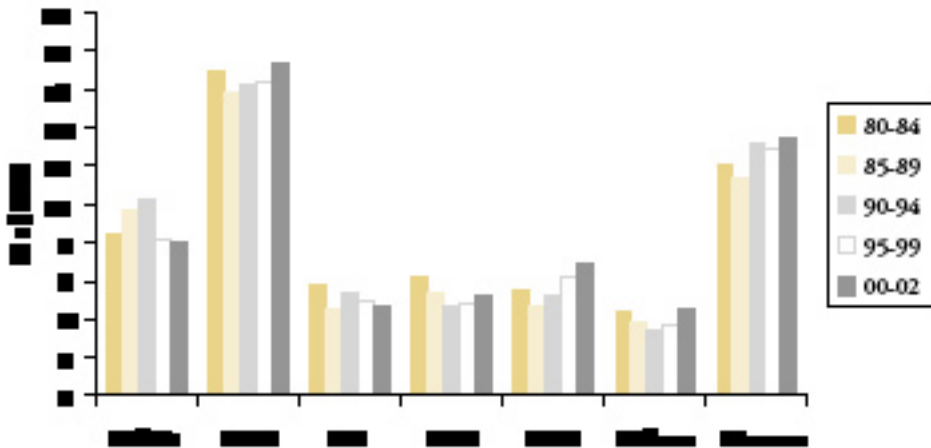
Source: ECA from official sources

Figure 2: Average annual change in tax revenues, 1995-2002



Source: ECA, from official sources

Figure 3: Deficit and budget items, 1980-2002



Note: See Annex 2 for variable definitions

Source: ECA from official sources

The 1990s saw moderate progress on trade liberalization because of unilateral trade reforms and bilateral, regional, and multilateral trade agreements. The average index of trade restrictions, which captures the average level of tariffs (see Annex 1), decreased slightly from 9.8 percent in 1985 to just over nine percent in 1990, and then dropped to around seven percent in 2002[†]. The effect of liberalization on trade volumes was small, with African trade growing from 65.8 percent of aggregate GDP in 1985 to 77 percent in 2002. The reduction in trade tax rates combined with the weak expansion of the tax base drove trade tax revenues down as a percentage of GDP and of total government revenues. But this was compensated by higher revenues from the taxation of domestic goods and services and from direct taxes on income and profits (Figure 3).

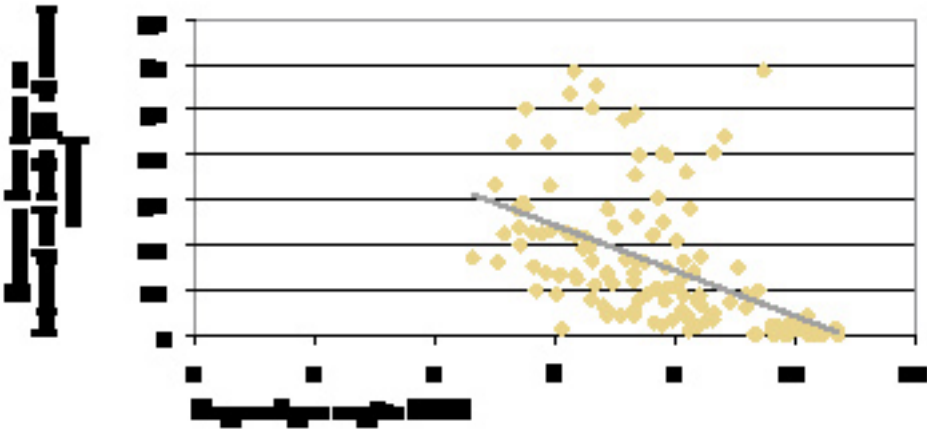
Because on average total tax revenues increased as revenues from trade taxes fell, fiscal problems cannot be blamed solely on the negative fiscal impact of trade liberalization. As the increase in some spending items, such as government consumption and defense indicate, other factors—economic, environmental and institutional—are also likely to be at work and need to be taken into account in policy formulation.

Is Trade Liberalization a Fiscal Curse?

Countries' reliance on revenues from taxes on international trade is inversely related to their income levels (Figure 4). In poor countries, lack of administrative capacity reduces the efficiency of tax collection and the large size of informal and subsistence sectors mean that a considerable amount of transactions cannot

be taxed. The influence of powerful lobbies makes some sectors off-limits to the tax authorities. As a result, the domestic tax base is limited and governments try to meet their fiscal needs by charging high rates on easily taxable sectors such as trade (Kubota, 2000). With governments operating under severe resource constraints, revenue-rising concerns are often cited as a reason for resistance to trade policy reforms in Africa (Khattry, 2002).

Figure 4: Reliance on trade taxes and income levels, 1990-2003 averages



source: ECA from official sources

However, trade reform packages may include elements that have a positive or neutral effect on revenues such as the conversion of quotas into tariffs. Positive fiscal effects can arise from the elimination of trade-related subsidies and tariff exemptions. Reducing tariff dispersion around a relatively constant average rate can also have a positive revenue impact to the extent that goods subject to higher tariffs are characterised by a high price elasticity of demand. As we see in the next section, the effect of cutting tariffs is ambiguous. On the one hand, lower tariffs imply lower tax rates and hence smaller revenues. On the other hand, the volume of imports tends to expand when tariffs are reduced and hence the tax base will grow. Which of the two effects is larger will depend on the demand elasticity of imports. If the elasticity is sufficiently high, then revenues should increase.

The picture might be complicated by other effects. Trade liberalization is often accompanied by a devaluation of nominal and real exchange rates. This raises the domestic value of imports, with a positive impact on revenues. But the domestic cost of government spending programmes will increase. Consumption will switch from tradable to non-tradable goods: revenues from trade taxes will therefore fall and those from domestic indirect taxation will increase. The overall effect of devaluations is therefore ambiguous. Longer

run effects may be driven by enhanced growth performance as a result of trade liberalization. If growth increases then increased income levels will translate into a larger base for domestic direct taxation.

Table 1. How trade liberalization is expected to affect revenues

Items in the Trade reform package	Impact on revenues
Replace Non-Tariff Barriers with tariffs	Positive
Eliminate tariff exemptions and subsidies	Positive
Reduce tariff dispersions	Ambiguous/Positive
Eliminate state trading monopolies	Ambiguous/Positive
Reducing high average tariffs	Ambiguous
Reducing medium or low average tariffs	Negative
Lower maximum tariffs	Ambiguous
Eliminate export taxes	Ambiguous/Negative
Initial exchange rate depreciation	Ambiguous/Positive

Source: Compiled from analysis reported by Sharer et al. 1998, Ebrill et al. (1999), Adam et al. (2001) and Hoekman et al. (2002).

Table 1 summarises the revenue implications of different elements of trade liberalization programmes. Negative fiscal implications are less likely to arise at early stages of liberalization when tariffs are still very high and trade is compressed. Later stages of liberalization will pose more problems as revenues from trade taxes tend to fall.

Trade Liberalization - A Source of Fiscal Instability in Africa?

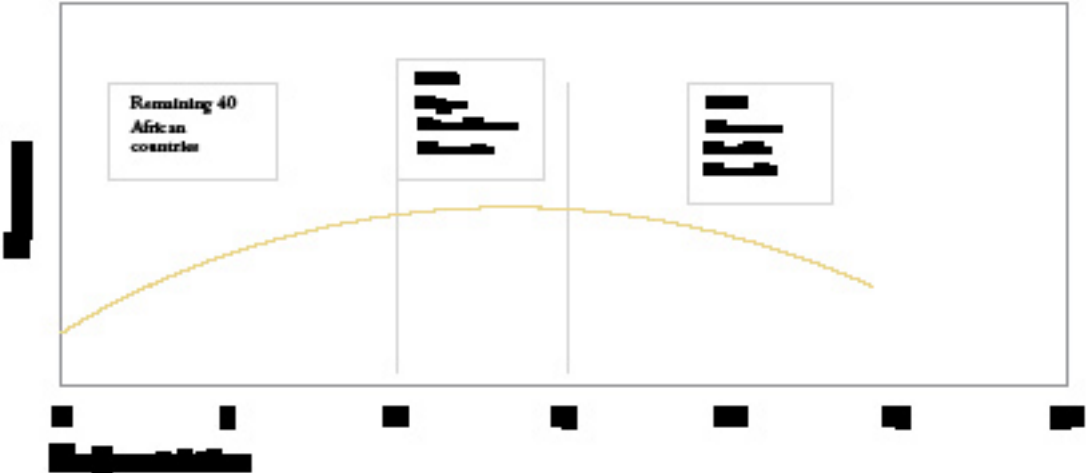
The effect of reductions in trade restrictions on revenues and the fiscal balance depends on the initial level of these restrictions. After controlling for other factors, the relationship between trade restrictions and revenues takes the form of a “Laffer” curve: when the tariff rate is very high, reducing the rate increases revenues from the tax but when the rate is low, reducing the rate reduces revenues. When the trade regime is very restrictive because of high tariff rates, trade volumes are likely to be severely compressed. Reducing restrictions will result in a strong increase in trade volumes. This will more than compensate for the lower tax rate, leading to higher trade tax revenues. But when the trade regime is already fairly liberalized, further reductions in restrictions will not cause a sufficiently large increase in trade volumes to offset the lower tariffs. Overall revenues will therefore decrease (see Ebrill et al. (1999), Khattry (2002), Agbeyegbe et al. (2003), Ekpo (2003)).

Because higher fiscal revenues lead to lower deficits, the inverse-U relation between trade restrictions

and revenues translates into a U shaped relationship between trade restrictions and the deficit. So for countries which have already carried out some trade liberalization, further liberalization is likely to increase the deficit. This is the case for many African countries.

Figure 5: Trade restriction and revenues from international trade tax

Source: ECA



As can be seen from figure 5, the estimated Laffer curve for African countries shows revenue maximization between 10 percent and 15 percent of the index of trade restrictions. This index captures average “realized” tariffs, being defined as trade tax revenues divided by total trade value, variables which are available for a relatively large sample of African countries (see Annex 1). The Laffer curve can also be constructed using official tariff rates but with a smaller sample size for reasons of data availability (see Annex 1). Because of liberalization during the 1990s, many economies are now operating on the upward sloping side of the curve. They will therefore face reductions in revenues as a result of further trade liberalization.

Policy responses to falling trade tax revenues

Fiscal problems will arise when trade restrictions drop below their revenue-maximizing level of around 10 percent to 15 percent. In 2002 there were only four African countries with trade restrictions above 15 percent and so on the downward sloping side of the Laffer curve. These were the Central Africa Republic, Comoros, Lesotho and Burundi. Four others—Mali, Niger, Sierra Leone and Tanzania—had restrictions between 10 percent and 15 percent. For the remaining countries the trade restriction index was below 10 percent. How can these countries buffer the decrease in revenues that further trade liberalization is likely to bring about?

One strategy is to combine tariff cuts with a point-for-point increase in domestic consumption taxes (Keen and Ligthart, 1999). Under certain conditions this can be shown to lead to an increase in social welfare as well as public revenues. The introduction of a value added tax (VAT) in particular has advantages over other sales and consumption taxes as it discourages tax evasion and does not hamper the competitiveness of domestic producers compared to foreign firms. Budgetary data (Figure 8) indicate that revenues from domestic taxation on goods and services (including VAT) have grown as trade tax revenues have fallen. Direct tax revenues can also be increased through strengthening the tax collection system and eliminating tax holidays and other exemptions, although in poor African states with large informal sectors this is difficult.

The main non-tax measure is expenditure reduction. But this is problematic because some spending items are rigid or are aimed at helping the poor. Spending on poverty reduction plans, social sectors and infrastructure cannot easily be cut. It may also be hard to reduce government consumption and defence spending given the unstable political conditions in many African countries. Even if cutting expenditure proves impossible, enhancing the efficiency and effectiveness of existing spending will in the long run help to enhance productive capacity of the economy and therefore increase the tax base.

Fiscal stability during trade liberalization also requires a stable macro-economic environment, with low and predictable inflation and steady growth in per-capita GDP. Adverse changes in the terms of trade will have a negative impact on the fiscal balance. In the long term, reducing vulnerability to such shocks, through diversification of exports and appropriate exchange rate policies, is essential to achieving fiscal stability. The experiences of some fast-liberalizing African countries illustrate these policy responses and are discussed in the next two sections.

Fast-liberalizing Countries' Responses to Decreasing Trade Tax Revenues

The moderate pace of liberalization for the continent as a whole hides significant cross-country differences (Table 2). Based on changes in the index of trade restriction over the period 1995-2002, a group of fast-liberalizing countries can be identified. Their experience is a useful benchmark to assess the extent of fiscal problems from trade liberalization. In this section we distil the main policy responses from these countries while the following section looks at individual country experiences in more detail.

Table 2 Average rate of change in trade restrictions (%)

Country	80-89	90-02	95-02	Country	80-89	90-02	95-02
Algeria	5.464	3.459	-0.244	Madagascar:	0.373	-1.808	2.568
Angola	n.a	n.a	11.987	Malawi	28.006	-9.319	-2.613
Benin	n.a	5.977	8.683	Mali	-7.726	4.308	6.262
Botswana	-8.187	n.a	n.a	Mauritania	0.355	-5.947	-14.595
Burkina F	2.471	-4.286	-11.024	Mauritius	0.282	-6.062	-7.551
Burundi	4.532	4.830	7.290	Morocco	-4.672	-4.011	-5.932
Cameroon	8.435	-2.240	-0.719	Mozambique:	0.970	-3.598	-3.148
Cape Verde	3.558	0.577	-1.978	Niger	4.969	3.574	10.442
CAR	-1.456	10.307	22.345	Nigeria	n.a	n.a	13.378
Chad	10.078	3.796	13.040	Rwanda	4.072	17.065	46.500
Comoros	n.a	6.365	16.462	S. Tome	n.a	0.054	3.271
Congo	n.a	-4.200	1.202	Senegal	n.a	-7.940	-4.903
Iv. Coast	-9.667	-3.072	-3.937	Seychelles	n.a	-9.942	-12.904
Djibouti	n.a	n.a	4.498	S. Leone	26.307	2.543	5.529
Egypt.	-15.067	0.896	1.286	S Africa	14.105	-6.659	-2.116
Eq Guinea	-18.927	4.346	-10.967	Sudan	n.a	n.a	-10.473
Eritrea	n.a	-5.377	0.630	Tanzania	-3.378	9.382	20.368
Ethiopia	-3.184	1.543	-1.099	Togo	-2.127	-0.714	-0.208
Gabon	n.a	3.213	7.077	Tunisia	5.720	-6.487	-11.496
Gambia	-20.382	-0.948	3.005	Uganda	-15.891	6.107	-2.967
Ghana	1.477	-9.260	-12.780	Zambia	12.256	1.784	4.709
Guinea	5.985	8.569	1.391	Zimbabwe	n.a	n.a	30.668
Guinea-B	-39.659	19.145	1.597	Africa	-0.239	1.518	3.587
Kenya	n.a	13.606	-2.155	SSA	-0.279	1.853	3.671
Lesotho	-3.557	2.888	-2.786				

Note: No data available for DRC, Liberia, Libya, Namibia, Swaziland, Somalia
n.a. denotes not available

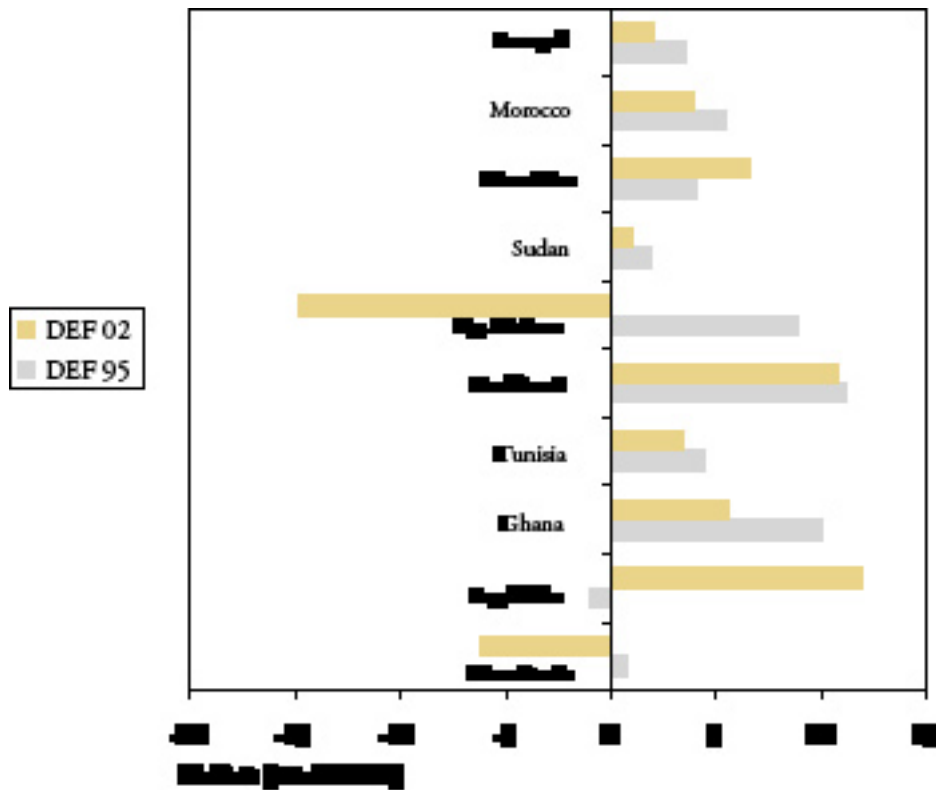
Source: ECA

Lower trade tax revenues offset with higher domestic taxes.

In 1995 all the fast-liberalizers had fairly low trade restrictions. Only in Sudan, Burkina Faso and Seychelles was the index above 10 percent, but even for these it was below 15 percent. The fast liberalizers were on the left-side of the Laffer curve. Further trade liberalization after 1995 therefore led to decreasing trade tax revenues (Figure 7). But of the 10 fast liberalizers, only Seychelles and Mauritius saw an increase in the deficit net of grants between 1995 and 2002. The rest were able to reduce their deficits or move from deficit to surplus (Figure 6).

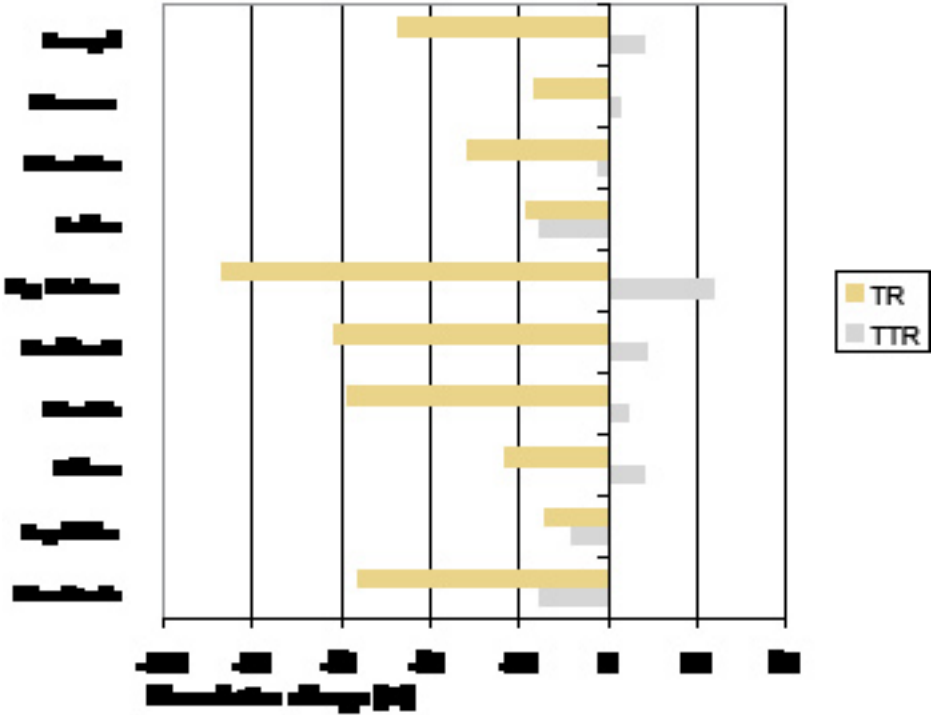
Changes in total tax revenues were relatively smooth, with sharp decreases only in Sudan, Seychelles and Mauritania (Figure 7). Fast-liberalizing countries were generally able to offset smaller trade tax revenues with other sources of taxation (see Box 1). Domestic taxes on goods and services increased in most countries. Several countries also managed to raise revenues from direct taxes on income and profits (Figure 8). In contrast, non tax revenues played a limited role in buffering the effect of lower trade tax revenues in the fast liberalizing countries. Only in Mauritania and Sudan was the share of non tax revenue in total revenue significantly higher in 2002 than in 1995, in Sudan's case because of the emergence of the oil sector.

Figure 6: Deficit (DEF) in fast-liberalizing countries



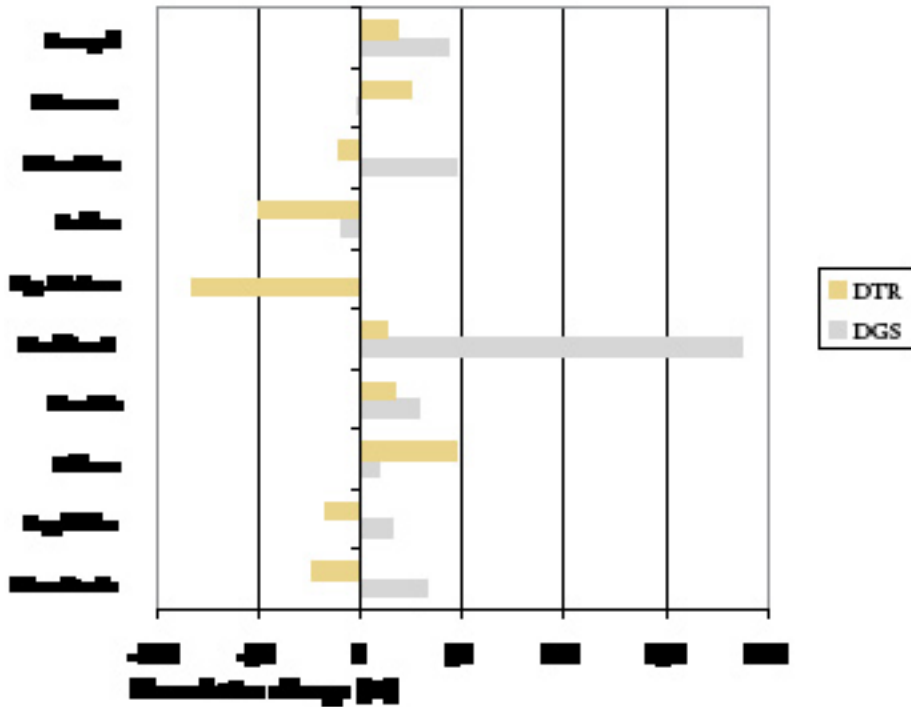
Source: ECA

Figure 7: Cumulative change in trade tax revenues (TR) and total tax revenues (TTR)



Source: ECA from official sources

Figure 8: Cumulative change in domestic direct (DTR) and indirect (DGS) tax revenues



Source: ECA from official sources

The importance of a sound macroeconomic environment

Between 1995 and 2002, fast-liberalizers generally showed good macroeconomic performance, with decreasing inflation and positive growth rates in per-capita GDP. The exchange rate black market premium was generally on a downward trend, indicating reduced distortions in the economy. However, the terms of trade deteriorated in most countries, because of falling international prices for most exportables (Table 3). Seychelles had the weakest macroeconomic environment and was the country with the largest deterioration in the fiscal position. In Mauritius despite an otherwise sound macroeconomic environment, the deficit increased because of the public investment programme undertaken by the government in the early 2000s.

Table 3. Macroeconomic trends in fast-liberalizing countries 1995-2002

	Black Market Premium	Terms of Trade	Inflation	GPD per-capita Growth
Burkina Faso	n.a.	Deteriorating	Decreasing	Low
Eq. Guinea	Decreasing	Fluctuations	Decreasing	High
Ghana	Decreasing	Fluctuations	Decreasing ^a	Low
Mauritania	Decreasing	Deteriorating	Decreasing	Low
Mauritius	Decreasing	Improving	Fluctuations	High
Morocco	Fluctuations	Improving	Decreasing	Low
Senegal	Decreasing	Deteriorating	Decreasing	High
Sudan	Decreasing	n.a.	Decreasing	High
Tunisia	Increasing	Fluctuations	Decreasing	High
Seychelles	Decreasing	Fluctuations	Increasing	Negative

Note: n.a. denotes non-availability. ^a While decreasing, inflation in Ghana remains above 15 percent. GDP per-capita growth is classified “high” if the average annual rate of growth is above 2.5 percent. Note that Senegal is practically at the threshold (2.59%).

Source: Compiled from data reported by Africa Database (World Bank, 2003), International Financial Statistics (IMF, 2003), Economist Intelligence Unit. Black Market Premium data end in 2000/2001.

To sum up, some countries were able to counter the negative fiscal effects of trade liberalization with a mix of tax and non-tax policies (Table 4). Tax-policy responses mostly involved heavier reliance on indirect domestic taxes. The main non-tax policy response was strengthening macroeconomic performance; non tax revenues played a limited role. As we see in the next section, responses on the spending-side varied. In addition, several countries in the group improved the institutional environment. Better governance, especially in the form of a more efficient bureaucracy, can play a role in achieving fiscal stability. This is because it directly affects the ability of the tax agency to maintain the fiscal base for domestic taxation and to administer the tax system efficiently (see Box 2).

Table 4. Summary of fiscal development and policy responses in fast-liberalizers, 1995-2002

Country	Deficit	Trade tax rev.	Total tax rev.	Domestic direct tax rev.	Domestic indirect tax rev.	GC	Macro ^a	GOV
Burkina Faso	=	-	+	+	+	=	Moderate/ Weak	+
Eq. Guinea	-	-	+	+	-	-	Sound	n.a.
Ghana	-	-	+	+	+	-	Moderate /weak	+
Morocco	-	-	=	+	=	+	Moderate	-
Mauritius	+	-	=	-	+	-	Sound	+
Senegal	-	-	+	+	+	-	Sound	+
Sudan	-	-	-	-	=	+	Sound	+
Tunisia	-	-	+	+	+	+	Moderate	+
Seychelles	+	-	-	-	+	+	Weak	n.a.
Mauritania ^b	+/-	-	-	-	+	-	Moderate	=

Note: + denotes increase between 2002 and 1995; = denotes no significant change between 1995 and 2002; - denotes decrease between 2002 and 1995.

^a Summarises trends displayed in Table 3.

^b In Mauritania, cumulative deficit change between 1995 and 2002 was positive. However, over most of the period, the overall balance was actually worsening. The sharp improvement that drove most of the cumulative change was realized between 2001 and 2002. In that period, also government revenues peaked (IMF 2003a). Estimates for 2003 suggests a further deterioration of the deficit. However, disaggregated data on TTR, DTR and DGS are not yet available for 2002/2003. They thus refer to end 2001

Source: Compiled from data reported by Africa Database (World Bank, 2003), International Financial Statistics (IMF, 2003), Economist Intelligence Unit. Data on government effectiveness are from Kaufmann et al. (2001).

BOX 1: VAT – An equitable and efficient source of revenue for the state?

VAT has been introduced in some African countries, with varying degrees of success. In several African countries, the value added tax (VAT) was introduced as part of overall tax reform during trade liberalization. In some of these countries — Morocco, Tunisia and Algeria — VAT was administered quite effectively and helped to boost fiscal revenue.

VAT has the advantage of being non-distortionary. But taxing consumption may be more regressive than taxing income, a particular concern in poor countries especially as in many of these economies commodity taxes have traditionally accounted for a higher proportion of government revenues than income taxes. In addition, VAT may be less effective in developing countries with large informal sectors.

In practice, the revenue performance of VAT and its distributional effects will depend on the tax's specific design and the quality of its administration. For equity reasons, multiple rates and exemptions can be used although these complicate the administration of the tax and can lead to efficiency losses. In Ethiopia studies have shown that VAT is in fact progressive, with the richest population decile facing the highest effective VAT rate. The introduction of the VAT has also unlocked new sources of revenue which have supported spending on health, education and poverty alleviation programmes.

Currently, VAT compliance is low in many African countries. In Zambia, for example, non-compliance is estimated at 50 percent because of failure by businesses to register as taxpayers or to file tax returns and under-reporting of sales for tax purposes. The introduction of VAT should therefore be accompanied by the strengthening of tax administrations to maximize efficiency which will help reduce evasion and bottlenecks such as delays on VAT refunds to companies which negatively affect business liquidity. VAT exemptions should be minimized to simplify administration and registration thresholds need to be set at an appropriate level.

Source: IMF

Country Experiences in Detail

Fast Liberalizers

The experiences of fast-liberalizers have several common features, but also some important differences. In Senegal, early liberalization efforts combined with a poor macroeconomic environment pushed up the fiscal deficit. But in the second half of the 1990s, improved macroeconomic conditions along with tax-policy responses led to improvements in the fiscal situation. Ghana applied a set of policy responses similar to those in Senegal, but against an unstable macroeconomic background. Mauritius and Seychelles

suffered from increasing deficits during liberalization over the second half of the 1990s. However, most of the deterioration in the fiscal stance was the result of external shocks and changes on the spending-side of the budget, rather than the negative revenue impact of trade policy reforms.

Senegal – fiscal position helped by higher domestic taxes and an improved macroeconomic environment

The first attempts at trade liberalization in Senegal took place in the second half of the 1980s with a phased reduction in quantitative restrictions along with tariff-cuts. This failed to stimulate trade (Figure 9) and led to a fall in international trade tax revenues from 4.45 percent of GDP in 1985/86 to 3.78 percent in 1989/90. As a result, the fiscal deficit (excluding grants) grew from 3.8 percent in 1985/1986 to 4.4 percent in 1989/1990. The rising deficit was also exacerbated by a decrease in revenues from domestic taxes on goods and services.

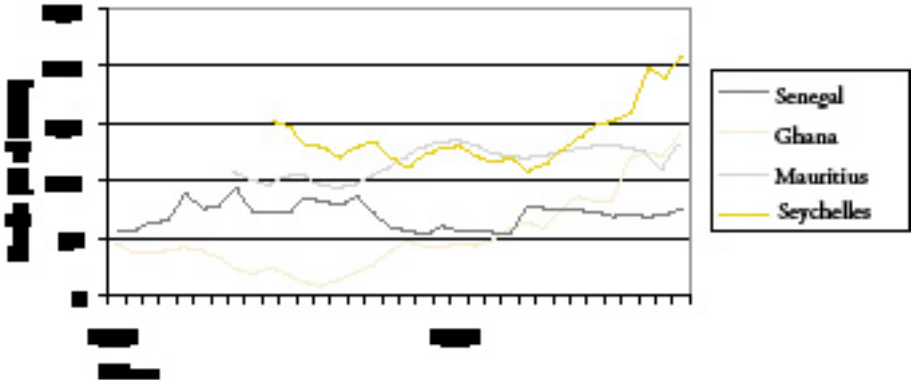
A more recent phase of trade liberalization began in 1994. In that year, following a prolonged economic and financial crisis, the CFA Franc (the common currency in the region) was devalued, heralding a phase of economic recovery. A further decisive push to liberalization came with the adoption of a common external UEMOA tariff in 1997 with full implementation in January 2000. The index of trade restriction decreased from 7.06 percent in 1997 to 6.15 percent in 1999 and 4.12 percent in 2000. A similar trend is seen in the IMF's index of trade restrictiveness, which fell from 8 in 1997 to 6 in 1998 and 1999 and then to 5 in 2000.

The impact on trade tax revenues of the second wave of liberalization was sharp: these fell from five percent of GDP to 2.5 percent between 1995 and 2002. The policy response was to increase revenues from domestic taxes (Figure 10). In particular the reliance on taxes on goods and services increased through VAT reform (rates were unified in September 2001). On the expenditure-side, government consumption decreased and the public sector wage bill was cut from 48 percent of the total budget to 34 percent.

Improved macroeconomic performance also helped to buffer the impact of the decline in revenues. Per-capita GDP returned to positive growth of 2.5 percent between 1995 and 2002 after several years of contraction. Aggregate GDP growth was above five percent after 1994 and averaged just under five percent between 1995 and 2002 following 6 years of low and negative growth. The inflationary consequences of devaluation were quickly stabilized. Inflation jumped to 32 percent in 1994, but was reduced to 7.85 percent in 1995 and 2.75 percent in 1996. It has remained fairly low since then, despite moderate increases in the early 2000s. The black market premium also fell from six percent to one percent.

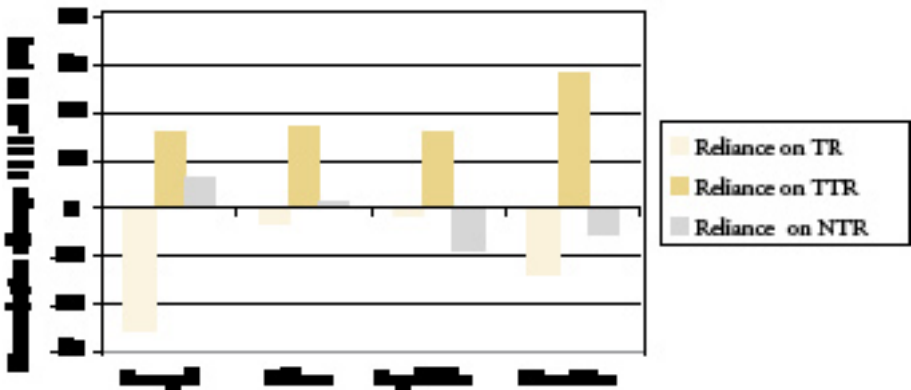
The overall fiscal outcome from such responses was positive. Total tax revenues increased from 15.7 percent of GDP in 1995 to slightly more than 17 percent in 2002. The deficit fell from 3.5 percent of GDP in 1995 to 1.8 percent in 2002 although it reached 3.2 percent in 2001. The 2002 outturn and estimates for 2003 show continuous progress towards balance.

Figure 9: International trade in selected fast-liberalizing countries, 1970-2003



Source: ECA from official sources

Figure 10: Cumulative change in tax and non-tax revenues reliance, 1995-2002



Note: See Annex 2 for variable definitions
 Source: ECA from official sources

Ghana – macroeconomic instability hampers fiscal performance

Ghana has a history of monetary and fiscal instability. There were large swings in inflation during the 1990s with the rate never falling below 10 percent and a peak of 60 percent in 1995. Inflation declined during the second half of the 1990s reaching 15 percent in 2002. The fiscal deficit fluctuated above 10 percent of GDP for much of the '90s and only in 2000 returned to the single digit level. High and unpredictable inflation and large deficits hampered overall economic performance and forced Ghana into a low growth equilibrium (ECA, 2003b). After large fluctuations during the '70s and early '80s, the real GDP per-capita growth rate has since 1985 stabilised at under three percent.

Given this fragile macroeconomic environment, the risk that trade liberalization would push the country back into a situation of growing deficits and fast growth of monetary aggregates was and still is high. Between 1995 and 2002, the index of trade restriction declined from eight percent to around 2.5 percent. Helped by favourable trends in international prices and the terms of trade, trade as a percentage of GDP doubled between 1995 and 2002 (Figure 9).

International trade tax revenues went up between 1995 and 1998 as trade volumes, clearly compressed in the pre-liberalization regime, began to grow. Thus, the expansion of the tax-base was initially sufficiently strong to more than offset the effect of lower tax rates. During the period, total tax revenues in percent of GDP and in percent of government revenues also increased, whilst the reliance on non-tax revenues fell from 28 percent to about 14 percent. Despite this, the deficit increased.

Trade liberalization began to have a negative impact on trade tax revenues in the late 1990s. Between 1998 and 2002 they fell by 45 percent. Appropriate responses had to be put in place to prevent further deterioration of the fiscal stance. As in Senegal, domestic taxation increased as reliance on trade tax revenues went down. After an initial fall between 1998 and 1999, total tax revenue was kept stable through increases in taxes on domestic goods and services and higher direct taxation. The reliance on non-tax revenues also increased (Figure 10). Government consumption remained fairly stable between 1995 and 1999 at around eight percent of GDP. This later decreased, reflecting attempts to respond to lower trade tax revenues with policies on the expenditure-side. The share of the budget allocated to public sector wages fell slightly between 1995 and 2001. But in 2002 expenditures increased because of grade adjustments in the Ghana Education Service and the payment of duty allowances to public health system operators.

The case of Ghana shows how the fiscal effects of trade liberalization interact with broader macroeconomic factors. When liberalization led to higher tax revenues between 1995 and 1998, the deficit increased as lax fiscal policy pre-dated liberalization. Eventual progress on fiscal stabilization was made following tax reforms from 1999, even as trade liberalization began to have a negative impact on revenues.

Seychelles and Mauritius – policy responses blunted by low growth and high spending

Seychelles and Mauritius are the two fast-liberalizing countries that saw significant deteriorations in their fiscal positions between 1995 and 2002. In both, revenues from trade taxes fell as trade restrictions were reduced.

In Seychelles, trade liberalization led to reductions in trade tax revenues from 12.5 percent of GDP in 1995 to 9.8 percent in 1996 and then stabilization at above 10 percent of GDP. With the exception of 1994-1995, the deficit was high throughout the 1990s. However, the peaks seen between 1998 and 2000 when the deficit ranged between 15 percent and 24 percent of GDP occurred when revenues from trade taxes were fairly constant and total tax revenues were even increasing.

Fiscal problems in the Seychelles were heavily influenced by broader macroeconomic factors. The economy is driven by the tourism and tuna fishing sectors, both sluggish between 1998 and 2002. Tourism suffered following the September 11 attacks in 2001, and from the overvaluation of the currency, which pushed tourists towards competing destinations such as Madagascar, Mauritius and Comoros. These factors led to a contraction in GDP in 1999. Falling income levels reduced the tax base and revenues from direct taxation fell by around two percent of GDP between 1999 and 2001/2002. At the same time, government consumption, social welfare expenditure and the public sector wage bill increased, leading to an increase in total spending.

In Mauritius, trade tax revenues fell between 1995 and 2002 while reliance on domestic taxes increased (Figure 10). A small decrease in revenues from direct taxes on profits and incomes was more than compensated by higher indirect taxes, especially by the increase in the VAT rate from 10 percent to 12 percent in 2001. Non tax revenues fell from 15.3 percent of total revenues in 1995 to 5.4 percent in 1996, peaked at over 14 percent in 1997 and 1998 before returning to around 10 percent.

The fiscal deficit rose in 1996 and 1997 as tax and non-tax revenues fell before returning to around four percent of GDP. In 2001 and 2002 it rose to over six percent of GDP. With total revenues almost unchanged, the upsurge in the deficit was mainly caused by higher capital spending.

In these countries the fiscal impact of trade liberalization was exacerbated by poor growth performance (in Seychelles) and by higher public spending (in Mauritius). Despite attempts to buffer the impact of trade liberalization by increasing domestic taxation, these other factors hampered fiscal stabilization and led to larger imbalances.

Non-Liberalizers

In addition to the experience of fast-liberalizers, it is worth looking at what happened at the other end of the spectrum. In several African countries the index of trade restrictions increased over 1995-2002. Some non-liberalizers experienced fiscal difficulties. In cases such as the Central African Republic, this stemmed from the fact that countries were operating on the downward sloping side of the Laffer curve. Increased restrictions, by compressing trade, led to a contraction in revenues.

Central African Republic – is there a fiscal curse for non-liberalizing countries?

The Central African Republic (CAR) is a case of “non-liberalization”: over the period 1995-2001/2002 the index of trade restriction increased from 8.1 percent in 1996 to 14.3 percent in 2001. Trade dropped from 44 percent of GDP in 1997 to 27 percent in 2001. The cumulative change in trade tax revenues was close to zero, with 2001 revenues being slightly below their value in 1995, and much below their 1998 value (Table 5). It therefore seems that CAR was operating on the declining side of the Laffer curve. Among the group of countries that also saw increases in trade restrictions, Burundi and Zimbabwe experienced similar outcomes.

Table 5. Trade restrictions and fiscal developments in Central Africa Republic

	TR	TTR	DGS	DTR	TR reliance	TTR reliance	NTR reliance	
Cumulative change (%)	-1.10	6.90	8.52	20.80	-15.70	-7.56	197.10	
Memorandum Items								
	1995	1996	1997	1998	1999	2000	2001	2002
GDP gr	4.90	-8.10	7.50	3.90	3.60	1.80	1.00	0.80
GDP p.c. growth	3.84	-6.67	2.74	2.53	1.82	0.91	0.05	-1.15
Inflation	19.19	3.72	1.61	-1.89	-1.41	3.20	3.83	2.30
Deficit	-11.40	-4.96	-6.30	-8.61	-8.68	-9.27	-7.94	n.a.
Estimates for 2003: Aggregate GDP growth -0.7%, Inflation 3.2, per-capita GDP -2.61%								

Source: ECA from official sources

The revenue structure of CAR changed in response to decreasing international trade tax revenues (Table 5). Decreasing reliance on trade taxes was compensated by a fast increase in reliance on non-tax revenues. Total tax revenues as a percentage of GDP also went up as a result of increasing revenues from indirect and direct taxation.

Those fiscal developments took place against a difficult macroeconomic background. Real GDP growth fell before stagnating in the early 2000s and real per-capita GDP started to decline in 2002. Although inflation fell from 19.2 percent in 1995 to 2.3 percent in 2002, this was the result of the economic slow-down. The fiscal deficit fell although it remained well above six percent of GDP throughout the period. The policy response was successful in preventing further deterioration of the fiscal stance.

BOX 2 : Improving tax administration: key to higher revenue

Tax evasion lowers fiscal revenue in Africa. Most African countries suffer from a “tax gap” — the difference between the tax payable and that collected — of more than 40 percent. This is caused by inefficient tax administration. Improving tax administration could reduce the tax gap and enhance fiscal revenue. Key areas that need to be addressed in reforms of tax administrations are the lack of financial and material resources, poorly trained staff, ineffective procedures, the absence of effective taxpayer services and corruption.

Tax evasion has a negative externality: businesses may feel that they are facing unfair competition from those evading taxes, reducing their own motivation to pay. Strengthening tax administration therefore has the potential to improve voluntary compliance. Establishing monitoring units for different groups of taxpayers such as small and medium sized enterprises has been effective in some cases. Frequent auditing can also improve compliance as in Uganda where 60 percent of firms are audited.

In 1985 Ghana restructured its tax system. Before the reform, morale among staff was low, corruption was rife and qualified personnel were difficult to attract and retain. Under the reform, institutions were restructured, human resource issues such as pay and incentives were reviewed and training programmes were put into place. Audit practices were improved and in 1989 the tax system was computerized allowing the introduction of unique taxpayer identification numbers. Following the reform, fiscal revenue increased despite reductions in trade tariffs.

Source:

Conclusions

African countries rely on international trade taxes for a large share of their total revenues. Trade liberalization involves the progressive elimination of tariffs and at the limit will push trade tax revenues to zero. The policy challenge is then how to maintain fiscal stability when liberalizing trade.

The experience of industrial economies shows that at advanced stages of economic development the revenue-side of the budget can be structured in such a way to achieve a stable fiscal position even with negligible revenues from trade taxes. However, it is clear that for developing and low-income economies the problem is more complicated: bottlenecks and structural constraints exist which limit the domestic economic base and the ability to tax it. This explains the high reliance on trade taxes and resistance to trade liberalization.

Trade liberalization is most likely to pose serious fiscal problems at later stages. Early liberalization can actually result in increasing revenues, as the trade-increasing effects of lower tariffs may be sufficiently strong to compensate for reduced tax rates. Countries operating at a level of trade restriction above a given threshold will see increases in revenues as a result of trade liberalization.

But most African countries are now below this threshold. Further trade liberalization will therefore lead to smaller trade tax revenues. Without appropriate responses, this will push down total tax revenues, with adverse effects on the fiscal deficit. The experience of fast-liberalizing countries provides some lessons on the type of responses that can be implemented:

- The decrease in trade tax revenues can be matched by an increase in revenues from domestic indirect taxation. In particular, most countries increased reliance on the Value Added Tax. The VAT reduces the possibility of evasion and does not hurt the external competitiveness of domestic producers.
- Tax administration should also be strengthened in order to increase both the leverage on the existing economic base and the economic base itself. This will involve reducing inefficiencies in tax administration and collection, eliminating tax holidays and reinforcing co-operation with tax agencies in other countries.
- The macroeconomic environment heavily affects the fiscal deficit. By achieving a sound macroeconomic stance (e.g. low and predictable inflation, high GDP growth), countries can progress toward fiscal stability even during fast liberalization.
- The fiscal stance is also affected by the quality of governance, especially the efficiency of the bureaucracy and the stability and predictability of the political environment. Effective institutional reform is likely to help fiscal consolidation.

This mix of tax and non-tax policy interventions can buffer the negative fiscal effects of liberalization, without the need to cut crucial spending items related to infrastructure development, poverty reduction, social security and welfare. Nevertheless careful management of the spending-side of the budget is required, in particular to avoid the explosion of government consumption.

Annex 1: Tax Revenues and Trade Restrictions

Trade restriction index

A problem widely debated in the literature is how to measure trade liberalization (Rodriguez and Rodrik, 1999; Dollar and Kraay, 2001). Trade volumes are likely to reflect factors in addition to trade policy measures. At the same time, information on statutory tariffs is often fragmented for African countries. A feasible alternative is to look at the effective rate of taxation on international trade (Khattry, 2002) which is a measure of average “realized” tariffs. Trade tax revenues are a function of the tariff rate and the tariff base:

$$\text{Trade tax revenues} = \text{tariff rate} \times \text{tariff base}$$

Here, the tariff base is trade values, so:

$$\text{Trade tax revenues} = \text{tariff rate} \times \text{trade values}$$

Re-arranging gives the index of trade restriction:

$$\text{Tariff rate} = \text{trade tax revenues} / \text{trade values}$$

This gives an idea of “realized” tariffs: the measure is based on how much tariff revenue is actually collected. The measure will differ from official tariffs because of imperfect collection and measurement errors.

Data are available to construct the index for fairly long time periods for most African countries. There is limited data on official tariffs and tariff revenue. But for overlapping periods and countries, the index correlates strongly with the tariff rates reported in Dollar and Kraay (2001).

Estimation

Much of the analysis of the fiscal implications of trade liberalization has focused on the estimation of correlations between trade restrictions (and/or volumes of trade) and revenues from trade tax revenues

(and/or total tax revenues). The regression model for this type of analysis usually includes a large number of control variables. From a comparative survey of the existing literature, the following are identified as the most widely used regressors: (i) the terms of trade index, (ii) the real effective exchange rate index, the initial level of per-capita GDP, (iii) sectoral shares of GDP, (iv) the level of revenues from other forms of taxation (v) the level of major spending items (typically government consumption in percent of GDP), (vi) indicators of trade restrictions and trade volumes in both linear and non-linear form.

The trade tax revenues regression equation will therefore include all of the above, plus an indicator of institutional quality to proxy for the administrative capabilities of the tax agency. The results of the panel estimation are reported in Table A1 below. Dynamic models, estimated by the Generalized Method of Moments estimator of Arellano and Bond (1991), produce results that are not qualitatively different from those retrieved from static equations. Because several of the control variables in the basic model happen to display non-significant coefficients, estimates obtained from a more parsimonious specification of the model are also reported. It can be seen that the non-linear effect of trade restrictions and volumes does persist.

The last column of the table displays the estimated coefficient from a regression of total tax revenues. When estimating such a model, the inclusion of trade tax revenues among the set of regressors raises a problem of multi-collinearity. This is obvious since several variables (especially those related to external shocks and competitiveness) affect total tax revenues mostly through their impact on trade tax revenues. To overcome the problem, the total tax revenues regression includes a small set of controls in addition to trade tax revenues. The estimated coefficients confirm that holding revenues from indirect taxation constant, the correlation between trade tax revenues and total tax revenues is positive.

Robustness of the Laffer curve

The regression was repeated using average official tariff rates. This reduced the sample size because of limited official tariff data, reducing statistical significance. The results are qualitatively unchanged, indicating a non-linear relationship as before. Experimenting with the set of controls (for instance, dropping one of the controls that do not pass a zero restriction test) reveals that the coefficient on squared official tariffs is in fact different from zero in most specifications. This is unsurprising since the two measures are conceptually identical, although will differ empirically because of measurement errors.

Table A1: Econometric results

	TR	TR	TR	TR	TTR
TOT	0.369786*	-0.19952	0.505052*	-0.35654	
REER	-0.5941*	-0.39826	-0.51747*	-0.42944	
GDP p.c.	0.089759*	0.143462**	0.451289**	-0.73926	
Institution	0.074514	0.214104	0.361056*	0.573442*	-2.05217**
Agriculture	-0.04326	0.060569			
DGS	-0.04936	-0.00618			
GC	0.048376	0.04221			
Urban					0.084466*
ITR	0.804888**		0.901305**		
(ITR) ²	-0.02476***		-0.03057***		
TRADE		0.08677**		-5.36E-05**	
(TRADE) ²		-0.00033**		0.054565**	
TR					1.00995***

Constant term is not reported. *** denotes significance at one percent level, ** denotes significance at five percent level, * denotes significant at 10 percent level. For variables definition and description see Appendix. The dependent variable is total revenues from trade taxes in percent of GDP (TR) for the first four columns and total tax revenues in percent of GDP (TTR) for the last column.

Annex 2: Description of the Data-set and Variables

The data-set used for this chapter is a panel of annual observations taken over the period 1980-2002/2003. All African countries are included with the exception of Democratic Republic of Congo, Eritrea, Liberia, Libya and Somali, for which no data are available on several of the variables of interest. Variable definitions and abbreviations are given in Table A1 below.

The panel has been assembled from a variety of sources. The World Bank Africa Database provides time-series for most of the variables over the period 1980-2001. Strings for each country have been updated using the IMF International Financial Statistics 2003 and Government Financial Statistics 2003, the IMF World Economic Outlook 2003, the IMF Country Reports produced in 2002 and 2003, and the Economist Intelligence Unit. Clearly, when combining data from different sources, a preliminary check of consistency of the series was undertaken. This check also involved, for sufficiently long strings, a test of structural breaks. Data on political and institutional variables are from Kaufman et al. (2001) and the Polity IV Database. Finally, the data on non-African countries are obtained from various issues of the World Development Indicators of the World Bank.

For 2003, most of the data are still projections or estimates. For this reason, the analysis generally focuses on the period up to 2002. Moreover, in a limited number of cases (i.e. Central African Republic) data on some of the fiscal variables are produced with a one or two years lag (i.e. none of the sources in 2003 reports data after 2001). However, 2002 is the reference year for the large majority of countries and variables and hence in the text it is commonly indicated as the end of the sample period

Table A2: Definition of variables

Variable	Abbreviation	Definition
Deficit	DEF	Fiscal deficit excluding grants (% of GDP)
Lagged deficit	LDEF	One period lagged value of deficit
Age dependency ratio	DEP
Inflation	DCPI	Annual rate of change of Consumer Price Index
Total tax revenues	TTR	Total revenues from taxation (% of GDP)
Trade tax revenues	TR	Revenues from taxes on international trade (% of GDP)
Taxes on domestic goods and services	DGS	Revenues from domestic taxation of goods and services. Includes revenues from VAT and other indirect taxes on consumption. (% of GDP)
Direct tax revenues	DTR	Revenues from direct taxes on domestic profits and incomes (% of GDP)
Non tax revenues	NTR	Revenues from sources other than domestic and international taxes. Includes revenues from entrepreneurial activities of the public sector, administrative fees, and fines (% of total government revenues).
Government consumption	GC	Consumption expenditure of central government (% of GDP)
Grants	GRANTS	Total grants received by the country (% of GDP)
Population	POP	(Log) of total population

Agriculture share	AGR	Contribution of the agricultural sector to value added GDP (%)
Urbanization	URB	Total population share of population living in urban areas (%)
Terms of trade	TOT	(Log) Index of terms of trade. An increase in the index denotes improvements in terms of trade
Shocks to terms of trade	DTOT	First difference of TOT
Real effective exchange rate index	REER
International trade	TRADE	Total trade (exports plus imports) of goods and services, excluding financial services (% of GDP)
Trade restriction index	ITR	Effective tax rate on international trade: revenues from trade taxes in percent of trade volumes
Major political changes	POLCH	Dummy variable taking value 1 in year t if in that year a major political change was observed. Major political changes include: (i) change in the institutional system, (ii) change in the ideological orientation of the government, (iii) change in the degree of democracy of institutions.
Government effectiveness	GOV	Indicator of the effectiveness of government broadly defined to include the efficiency of the bureaucracy, the credibility of government statements and policies, the reliability of the public administration. It is obtained from survey data.

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