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Tying Governments' Hands in Commodity Taxation

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Revised draft, May 1998

Tying Governments' Hands in Commodity Taxation

Ludger Schuknecht *
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Abstract

In the 1970s, taxation of "windfall" profits from primary products and intervention in trade and production tempted governments into expansionary fiscal policies, whilst stifling the private sector and depressing growth. However, the experience of the recent coffee boom has so far been more favourable: those African countries which liberalized and left a large share of the "windfall" with the private sector, and which committed themselves to fiscal austerity via adjustment programs have shown better results in terms of fiscal stability, private sector responses and economic growth than countries which did not reform. These findings suggest that constraints on discretionary government policies are desirable, and that domestic institutions and international commitments could serve this purpose.

JEL classification numbers: E62, F13, H30, O55

Keywords: Commodity booms, terms of trade, political economy, fiscal policies, export taxes, public expenditure, savings and investment, Africa

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I. Introduction

What should governments do when their countries face primary product booms? How and to what extent should they tax the "windfall" profits during the boom? These questions have raised considerable discussions during the past 25 years. Initially, great faith was placed in government intervention and taxation to generate the savings and investment which would promote rapid economic development. Even international financial institutions recommended a transfer of windfall profits to "custodial" governments (Collier and Gunning, 1996, 1998). However, the results in terms of economic and social progress have been mostly disappointing. In the past decades, therefore, the importance of the private sector for development and of political institutions for a favourable environment for the private sector have been rediscovered (see, for example, Krueger, 1993 or North, 1990). Consequently, many countries liberalized their economies and abolished export taxes in the 1980s and early 1990s. However, the mid-1990s coffee boom and the fiscal stabilization needs of many developing countries have raised the temptation of export taxes and question of the proper policy responses to trade shocks again.

The paper studies in detail the fiscal policies pursued during and after the late 1970s coffee and cocoa boom, and their implications for savings, investment and growth. It argues that the lack of constraints on government policy making and the active encouragement of a custodial role for government during the 1970s encouraged intervention and rent seeking which, in turn, promoted unsustainable fiscal policies whilst stifling private sector initiative and economic growth. In recent years, a number of these countries have emphasized liberalization and fiscal consolidation in their policies. The paper shows that domestic constraints on interventionist policies and international commitments to liberalization and fiscal austerity have played an important role in "locking" governments into more prudent and private sector-friendly policies.

The first part of the paper derives stylized hypotheses on fiscal policies, private sector behaviour and growth from a traditional approach whereby governments maximize social welfare, and also from a political economy approach whereby policy makers further their self-interest. The hypotheses are then compared with the findings for a panel of 16 African and Latin American countries affected by the 1976-1979 coffee and cocoa boom. The political economy approach best predicts the economic effects of transferring primary product rents to government: such policies typically resulted in lax fiscal policies, with declining expenditure efficiency during the course of the boom and fiscal destabilization thereafter. They discouraged private sector savings and investment. As a result, countries posted lower long-term growth. We also find that particular institutional arrangements facilitated taxation and exacerbated its negative effects: macroeconomic variables developed particularly unfavourably in countries where expropriative tax rates signalled insecure property rights, and marketing and pricing arrangements indicated highly distortionary government intervention in the economy.

The second part of the paper looks at the experience of the African sample countries during the mid-1990s coffee boom. A number of governments liberalized trade and prices, applied relatively low and non-discriminatory taxation, introduced mechanisms to prevent the squandering of the additional revenue, and had the support of international financial institutions. On average, these countries achieved more prudent fiscal policies, more favourable private sector responses and higher economic growth than the other countries in the sample. Although marketing boards, trade monopolies and producer price fixings are now on the decline and explicit or implicit export tax rates have come down significantly, there is still considerable scope

for reform at both the micro and macroeconomic level. This suggests that governments facing commodity shocks may want to tie their hands by way of domestic institutional constraints and international commitments to promote growth-enhancing responses by the private sector.

II. The Debate on Taxing "Windfall" Rents

In the 1970s, the question of whether to tax the rents from primary products did not raise much controversy. There was much faith in government as the prime agent for generating growth and for making the appropriate savings and investment decisions. Revenue from primary products was supposed to generate the savings and investment required for sustainable and rapid growth. Therefore, governments were frequently encouraged to capture the rents from the boom (the "windfall") and distribute the "benefits of resource exploitation so as to promote sustainable economic growth and intergenerational benefits" (Nellor and Sunley, 1994). This thinking was also at the root of the belief that countries rich in natural resources have an inherently greater development potential.

Disillusion with such an interventionist approach, however, has become widespread over the past two decades. The economic difficulties faced by many resource-rich countries (including major oil-producing countries) has shaken confidence in the role of government and the importance of primary product rents for development. In many countries, the taxation of rents allowed a growing, but not always productive, role of government in the economy, and often created disincentives to produce. Bates (1981) has recognized the importance of policy making to gain support from special interests and Chu (1990) has argued that special interest pressures contributed to public expenditure growth beyond sustainable levels during the boom which threatened fiscal stability once this was over. In addition, the complexity of the channels by which booms and taxation feed through into the economy has become much better understood.1

Scepticism towards the benefit of transferring commodity rents to government has also gained support from empirical studies. Collier and Gunning (1996) found for a sample of more than 20 primary product exporting countries that "a temporary windfall is often not translated efficiently into a permanent income increase" as "returns to investment during boom periods have typically been much lower". "Windfalls should [therefore] often lead to an eventual reduction in output [which] is an indication of substantial policy error." Earlier, Bevans, Collier, and Gunning (1990) demonstrated that in Kenya, government intervention in primary product markets during the late 1970s coffee boom resulted in less, and less-efficient investment of natural resource rents than could have been expected by the private sector. Gupta and Miranda (1991) have found that government expenditure patterns in Kenya and Sri Lanka did not follow the optimal path of the standard approach. Little, Cooper, Corden and Rajapatirana (1993) look at the experience of developing countries with primary product booms (including 5 coffee-producing countries). They find evidence of strong fiscal expansion fuelling investment booms of dubious quality. Gelb (1988) provides a detailed account of the experience of oil-producing countries, and discovers similar patterns of policy errors as those in the studies mentioned above

1 See, for example, Collier and Gunning (1996) for an excellent discussion of the theory and experience with trade shocks.

for other country groups. Lane and Tornell (1996) find that special interest power results in the redistribution of windfall rents with adverse effects on growth. Meanwhile, Deaton and Miller (1995) have drawn slightly more positive conclusions about the effect of commodity booms on investment, consumption and output, arguing that experiences across countries with primary product booms have been very heterogeneous and reflect large differences in economic and political institutions.

The discussion over the appropriate policy responses to natural resource booms, however, is still under considerable debate. Collier and Gunning (1996) and Collier (1998) suggest to curtail government access to primary product rents. They argue that there is no need for government stabilization if private sector savings during a boom are not discouraged by poor information and inappropriate economic policies such as financial repression or exchange controls. Private windfall profits should stay with the private sector, and public windfall profits (for instance in government-owned mining) should be "privatized" as well. Mansfield (1980) (who was the first to note the destabilizing role of public expenditure in the context of commodity booms) recommends that expenditure be tied non-boom revenue. Tanzi (1986) addresses the problems of inefficient government use of public funds and suggests to cut public expenditure "as many countries have not used their natural resource wealth efficiently".

Advice from international lending agencies, on the other hand, has included the introduction of export taxes in some of the countries affected by the coffee boom of the mid-1990s. After the reintroduction of export taxes, budgetary revenue from the coffee and cocoa taxation in Cote d'Ivoire, for example, reached 6 percent of GDP in 1995 (IMF, 1996a). Uganda also reintroduced export taxes on coffee "windfall" profits, although mechanisms have been introduced to limit fiscal expansion (IMF, 1995 and 1996b). The main reason for (re)introducing export taxes is typically macroeconomic stabilization, but the rhetoric also includes discouraging unwarranted private investments in the primary product sector, agricultural diversification, strengthening of the international coffee agreement, and preventing deforestation. Ethiopia, on the other hand, with support from the IMF and with faith in adequate responses by the private sector, did not introduce any discretionary new taxes and allowed changes in export prices to be passed through to producers (IMF, 1996c).[2]

This study complements the literature mentioned above, first, through providing detailed fiscal, private sector savings and investment data, and institutional data for a large number of African and Latin American countries from the early 1970s to the mid-1990s. Second, it analyses this data from two different approaches to government behaviour—the standard welfare-maximizing approach and the political economy approach. Based on these findings, it largely

2 A number of recent academic studies also emphasize the potential benefits from optimal government intervention and taxation in primary product markets. Gomez-Sabaini (1990) suggests export taxes as an easy way of stabilizing government revenue. Nellor and Sunley (1994) study the "optimal" taxation of mining and petroleum products. Natural resource taxation for "world market power" reasons is proposed by Devarajan, Go, Schiff and Suthiwart-Narueput (1996) in a recent World Bank paper. They argue that "there is a strong analytical and practical case for an export tax" because "national welfare would be improved by the imposition of some export tax". While this is, of course, true in theory, such interventions are only advisable if the benefits outweigh the likely costs of government failure and rent seeking.

confirms the policy conclusions by Collier and Gunnings (1996), and stresses the role of domestic and international institutions in committing credibly to policy reform.

III. Hypotheses on policy making and economic developments in the context of primary product booms

In the following we develop stylized hypotheses on fiscal policies, private sector behaviour and growth under welfare-maximizing governments and self-interested policy makers, respectively. Some of the discussion is tailored particularly to coffee and cocoa booms, but in principal, the hypotheses can be applied to primary product booms more generally. In some instances, the discussion may be somewhat sketchy to focus on key issues rather than to provide an exhaustive discussion (Table 1 summarizes the hypotheses).

A. Welfare-maximizing government

Hypothesis 1A. The instrument and level of taxation is least-distortionary and non-expropriative.

The optimal instrument and level of taxation of primary product rents depends on many elements which include the country's market power, the tax administration costs, or marketing and pricing practices. However, the rate of taxation is not excessively high, so that production is not undermined. Taxation relies largely on income and profit taxation or the presumptive taxation of exports. Government involvement in marketing and pricing arrangements serves to facilitate the functioning of markets.

Hypothesis 2A. Fiscal deficits decline during the boom.

As revenue increases, the government increases spending on high-priority and high-return projects. However, to optimize the benefits from expenditure over time, the government also builds up assets during the boom. This allows it to extend higher spending levels beyond the end of the boom. As a consequence, fiscal deficits decline during the boom. After the boom, fiscal deficits increase temporarily (as revenue declines) without jeopardizing fiscal stability.

Hypothesis 3A. Government expenditure on high-return physical and human capital formation rise.

Governments optimize the redistribution and allocation of primary product rents to maximize the countries' long-term welfare. This suggests higher outlays for highly-productive investment and human capital formation and the share of spending on high-return investment in infrastructure or on health and education amongst total spending grows. Other, less productive, current expenditure decline relative to these categories.

Public expenditure is readjusted after the end of the boom in the least productive sectors so that adverse effects on growth and fiscal stability are avoided. However, savings from the

boom years help maintain higher expenditure on human capital formation which is frequently argued to have high private and social rates of return.[3]

Hypothesis 4A. Private savings and investment are largely unaffected by taxation.

A key assumption of the literature assigning a custodial role to government is that private agents are not able to perceive a primary product boom as being temporary because they lack essential information. Therefore, the marginal savings rate of boom-related rents in the private sector is likely to be smaller than desirable. Governments, on the other hand, are assumed to have all the necessary information, and, therefore, have to optimize the intertemporal allocation of resources. Private sector investment, if increasing at all as a result of the commodity boom, also has only limited benefits. Such investment causes domestic construction booms with few beneficial spillovers for domestic growth (De Long and Summers, 1991). In addition, the long term effects of taxing primary product rents on private sector behaviour is assumed to be minimal, and after the end of the boom, private savings and investment basically continue at the pre-boom level.[4]

Hypothesis 5A. Economic growth increases at least temporarily.

Higher public investment spending financed with the help of primary product taxation raises growth rates of output. This will raise per capita income even if the country later returns to its old growth path. However, according to the endogenous growth literature, countries can even move onto a higher long-term growth path because positive externalities from investments between and within sectors accelerate economic growth.

B. Self-interested policy makers

The alternative approach assumes that policy makers behave in a self-interested manner. Staying in office and support from important special interests feature prominently in policy makers objective function. Policy makers then try to optimize the taxation and distribution of primary product rents to maximize their political support. And well-organized and vocal interest groups try to influence the distribution of benefits in their favour via rent-seeking activities (for a survey, see Mueller, 1989). This yields very different hypotheses on the behaviour of macroeconomic variables:

Hypothesis 1B. The level and instrument of taxation depends critically on the ability of producers to defend their rents

From a political economy perspective, large producers are typically better organized and politically represented than small producers. They are better able to resist windfall taxation than small producers. This suggests that the rate of taxation is lower in countries with predominantly large producers and higher in countries with small producers. Countries with small producers

3 For a study of returns to education, see for example, Psacharopoulos, 1994. This study, however, looks at private rather than social returns, and, therefore, does not necessarily justify higher public spending.
4 It is remarkable that up to the 1970s, most studies did not find any negative impact of high marginal tax rates on the economy (Tanzi and Schuknecht, 1995).

are also more likely to introduce government marketing boards with trading monopolies and fixed producer prices. Large producers would resist such arrangements for fear of high implicit tax rates. Originally, government marketing and price controls may have been introduced with the best of intentions, e.g., to stabilize producer prices or to protect farmers from "exploitative" middle-men. Over time, however, they are likely to become a convenient means of extorting a maximum share of rents from farmers. In fact, Krueger (1993) describes very pointedly how marketing boards and producer price controls developed into more and more interventionist ways of taxing rural farmers to finance urban industrialization.

Even though many countries producing primary products have experienced very durably autocratic rulers before the 1990s, there is considerable evidence that governments there as elsewhere orient their policies towards short term popularity enhancement. Elections, be they democratic or simple confirmations of the ruling party, have proven to be important determinants of fiscal policies (Schuknecht, 1996). Long-term autocrats have often oriented their policies to the short term to reduce the probability of coup d'etats (Tullock, 1987). The time horizon of politicians may, therefore, be considerably shorter than the typical life-span of a cocoa or coffee tree. The rate of taxation is then likely to be higher than the sustainable rate (which would still allow farmers a sufficient return to investment) especially in countries where farmers are not able to defend their rents, i.e. in countries with small farms. In other words, governments in such countries do not just tax the rent but also the quasi rents from primary product production. As a consequence, countries with small producers and overtaxation are likely to see their world market share to fall, whereas the market share of countries with large growers and low taxes rises.

Hypothesis 2B. Fiscal deficits increase during the boom as spending rises faster than revenue, destabilization looms after the boom.

Self-interested policy makers with short time horizons have little interest in building up government assets during the boom as they try to accommodate spending pressures. This suggests that the fiscal balance is not likely to improve during the boom. However, there are three reasons why fiscal deficits may worsen already during the commodity boom. If governments have access to international financing, they may borrow against future income from primary resources. If expenditure control is weak, different policy makers may overcommit the level of rents generated by the boom in a competition to hand out benefits. Thirdly, the costs of certain government programs or policies which are newly introduced may increase over time. Strong interest groups trying to capture the rents may exacerbate this problem (Lane and Tornell, 1996).

After the end of the boom, special interests try to protect the benefits they received from the boom-induced public spending and resist declines in public expenditure, even when revenue decline. In addition, the end of the boom may further increase spending pressures indirectly. If countries with flexible exchange rates introduced price controls during the boom, for example, on imported food, devaluation of the currency after the boom requires increasing government subsidies to maintain the price controls. A country with a fixed exchange rate regime, on the other hand, may find that the end-boom recession becomes worse as the exchange rate can not adjust. This depresses government revenue and increases social assistance needs and pressure on government to increase public employment for social reasons. Given the limited ability of most

developing countries to mobilize additional revenue, the deficit increases further after the boom, and fiscal destabilization looms.

Hypothesis 3B. Unproductive expenditure increases, especially in the form of redistributive current expenditure and low-quality investments

The change in the composition of public expenditure during a primary product boom depends on who can capture the revenue. The geographic proximity to the government and weak communication links give the urban population in general a comparative advantage in rent seeking over its rural compatriots. In countries with well-organized and vocal public sector unions and public enterprises, these groups are likely to capture a large share of the rents, for example, in the form of higher public sector wages or food subsidies. The government may also support public enterprises from the budget to provide employment and goods and services to its supporters. All these factors are likely to drive up current expenditure. And, as mentioned above, pressures on current expenditure are even likely to continue when the boom has ended.

Amongst current expenditure categories, however, human capital formation is not likely to benefit much from the additional resources of the government. Especially basic health and education expenditure often benefit poor and politically unorganized groups.
The public expenditure share on health and education is therefore likely to decline, relative to other expenditure.

Investment expenditure can also increase during the boom. Rent-seeking construction firms, importers or government officials trying to get a "cut" from contracts support an expansion of public investment projects. The rate of return to such investments is likely to be low as they are implemented very quickly and at high costs. Many of them can be called white elephants.[5] With the end of the boom, public investment is likely to decline albeit with a lag as projects are often difficult to terminate. At some point, however, financial pressure and currency shortages are likely to force the government to curtail investment spending.

Hypothesis 4B. Savings and investment decline in more interventionist regimes.

The private sector responds to the incentives provided by the level of taxes and the type of government intervention. If tax rates are low and other government intervention (e.g. via marketing boards, price regulation etc.) is minimal, private saving is likely to increase during booms, and return to "normal" levels thereafter. Private investment will also rise during the boom but positive net savings are likely to increase asset accumulation abroad.

If tax rates are high and if the marketing and pricing regime is very rigid, a different pattern of private sector responses can be expected. High taxes do not allow an increase of private savings and investment during the boom. However, high and discriminatory tax rates undermine the perceived security of property rights. This, coupled with government marketing boards, trading monopolies and other "structural policy sins" tends to damage private investor

5 In certain countries, however, government investment may not rise, especially if investment planning is very poor or if pressure for current expenditure increases are very strong.

confidence. Therefore, countries with very high and discriminatory tax rates and much market intervention are likely to experience a decline in the savings and investment rate after the boom below the pre-boom level.

Hypothesis 5B. Long-term growth declines, especially in high-tax interventionist countries

The inflow of funds during the boom is likely to stimulate short-term growth, independent of whether the private or the public sector captures the rents. However, as discussed above, primary product booms and the taxation of its rents result in growing unproductive public spending, and undermine private investment and savings. Without reform, output growth will decline below pre-boom levels, especially in the more interventionist countries. Less-interventionist governments with lower tax rates signal more secure property rights. This helps to maintain investor confidence and to reduce adverse effects on growth.

IV. Evidence from the 1976-1979 coffee and cocoa boom

The paper looks at the coffee and cocoa boom in the late 1970s to examine the effect of commodity booms on macroeconomic policies. The evidence for a sample of 16 countries covering the 1972-93 period strongly supports the political economy approach to analysing primary product booms (for a summary of the evidence, see previous table 1, for a list of the sample countries see table 2, excluding Brasil).

There is little doubt, that the 1976-79 period witnessed a commodity boom which strongly affected the main coffee and cocoa producing countries. During this period, the terms of trade improved by an average of 30 percent in the sample countries, compared to the 1972-75 period. By 1980, declining coffee and cocoa prices had marked the end of the boom, and in conjunction with the oil crisis, the terms of trade had fallen again to a level even slightly below the one of the early 1970s.[6]

Hypothesis 1 on the level and instrument of taxation

Taxation of natural resource rents varied enormously between countries during the coffee and cocoa boom of the late seventies, but two country groups can be distinguished quite clearly. Table 2 roughly indicates the incidence of taxation in most of the major coffee and cocoa producing countries. All Latin America countries and Kenya had export taxes of not more than 30 percent of the export price. During the rest of the paper, this group is referred to as the "low tax" countries. The governments of the other African sample countries, however, appropriated a vary large share of the rents created by the commodity boom in the late seventies. At the peak of the boom, Ghana, Uganda and Benin paid less than 20 percent of the export price to producers. Given 10-20 percent marketing costs, explicit or implicit taxation in some countries reached two thirds of the export price. This country group is therefore called "high-tax" countries.

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6 The terms of trade had risen from an average of 125 in the early 1970s to 161 in 1976-79 before falling again to 116 in the early 1980s and to only 98 in the late 1980s. The base year 1987 is set at 100.

As predicted, the rate of taxation correlates strongly with the size of holdings, and countries with predominantly large producers applied much lower tax rates. A simple regression between the size of holdings and the rate of taxation suggests that the latter was over 50 percent higher in countries with smallholdings than in countries with large farms predominating.[7] Furthermore, there is evidence that the rates of taxation applied were unsustainably high and discouraged production in the high-tax countries. The world export share of "high-tax" coffee producers in the sample declined from 25 to 16 percent between 1974 and 1994. The market share of Latin American and Kenyan coffee growers, on the other hand, increased from 49 to almost 55 percent during the same period (for more detail see Appendix table 1).

The institutional arrangement for marketing and pricing correlated closely with the extent of rent extraction and thereby with the typical size of holdings. Table 2 shows that the "low tax" Latin American countries and Kenya not only transferred a smaller share of the windfall to governments but also applied less interventionist policy regimes. Most of these countries relied on private marketing boards and did not fix producer prices. Most African countries, however, had government marketing boards which paid a fixed price to producers. These arrangements often contributed to the overtaxation reported above. Producer prices were typically fixed in nominal terms. When inflation then increased, real producer prices declined. In some cases, prices became so low that it was hardly worthwhile harvesting the product.

Hypothesis 2 on the development of fiscal deficits

Table 3 shows that fiscal variables largely developed as predicted by the political economy approach. The fiscal balance did not improve during the boom. On the contrary, the average deficit increased from 3.1 percent of GDP for the 1972-75 period to 4.7 percent of GDP during the 1976-97 period with most of the deterioration concentrated on 1978 and 1979. After the boom, the deficit worsened further to an average of 6.4 percent of GDP for the first of half of the 1980s, and it only improved slightly thereafter.

The data also shows that fiscal deterioration is positively correlated with the degree of government intervention and taxation. During the boom, fiscal deficits in "low tax" countries were much lower and increased less than in "high-tax" countries. In the second half of the 1980s, the improvement in the average fiscal balance was also much stronger in the "low tax" countries while large fiscal deficits persisted in the countries with high tax rates. By the early 1990s, fiscal deficits in the "low tax" countries had almost reverted to the level of the early 1970s whereas in the "high tax" countries, deficits were 4 percent of GDP higher than in the early 1970s.

The "temptation" effect of commodity booms can be seen very clearly when comparing the development of fiscal deficits for the sample countries with a group of developing countries which did not experience major commodity booms and related terms of trade shocks during the

7 The rate of taxation (adjusted for a transport and marketing margin of 15 percent) and the ownership pattern (as presented in table 2) form the dependent and independent variables. The R2 is 0.72 and the T-value for the coefficient of the ownership variable is 5.7.

1970s and early 1980s (see bottom of Table 3). The fiscal balance in the latter country group only deteriorated by 1 percent of GDP between the early 1970s and 1980s, compared to over three percent for the coffee and cocoa producing countries.

Hypothesis 3 on expenditure policies

During and after the primary product boom, public expenditure increased considerably in almost all sample countries. Average public expenditure increased by 5 percent of GDP from 18 to almost 23 percent of GDP during the boom (see previous table 3). In the post-boom period, public spending increased almost by another two percent, but only about half of this increase was on non-interest expenditure as the debt-crisis unfolded and countries had to pay higher interest rates on a growing debt stock.[8]

The spending increase considerably outweighed the revenue increase which amounted to only 2.5 percent of GDP over this period and, in fact, explains the considerable increase in fiscal deficits. Even much after the boom in the late 1980s, total expenditure was still about 5 percent of GDP above the level of the early 1970s. The persistence of high expenditure levels over time was mostly the result of unchanged current non-interest spending, as capital expenditure declined almost to pre-boom levels. These finding supports the earlier hypothesis that current expenditure increases are very difficult to reverse as spending pressures persist.

The development of the expenditure composition suggests relatively low efficiency of the additional spending. Over half of the initial spending increase was on behalf of current expenditure, and somewhat less than half on capital spending. Amongst current expenditure, additional spending disproportionately fell on less productive categories such as wages or subsidies and transfers (and after the boom to some extent on interest spending, as mentioned). However, the share of human capital expenditure declined. The share of health and education spending fell from an average of 27 percent in 1971-75 to about 23 percent in the late 1970s, and to only about 20 percent in 1980-85. Thereafter, it increased again slightly. Regarding capital spending, Collier and Gunning (forthcoming 1998) and Devarajan, Swaroop and Zou (1995) find that public investment spending had very low if not negative rates of return, and a negative correlation between investment spending and growth is suggested by data for this sample as well (see below).[9]

When comparing the sample countries with developing countries which did not experience terms of trade shocks, we find that the boom "tempted" governments into increasing expenditure by 6.6 percent of GDP. This is considerably more than the expenditure increase in non-boom countries (4.3 percent of GDP).

Hypothesis 4 on private savings and investment

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8 Compared to the 1970s, average public interest expenditure was about one half percent and one percent of GDP higher in the early 1980s and late 1980s, respectively.

9 If additional public investment undertaken during the boom was typically of very poor quality, the change in the fiscal deficit and not the change in public savings is the most useful indicator to measure governments' propensity to save. Given our findings on fiscal deficits, the justification for government intervention becomes even less tenable.

As predicted, private savings increased on average by one percent of GDP during the commodity boom of the late 1970s (table 4). This finding is consistent with Collier and Gunning (1998) who found private savings rates during commodity booms averaging 50 percent. However, there are significant differences between high and low tax countries. Initially, private savings in the two country groups were almost identical. During the boom, however, private savings increased by one third or four percent of GDP in "low tax" countries whereas they declined marginally in the "high tax" countries. In fact, a simple regression between the rate of taxation and the change in private savings across the sample countries suggests that a 10 percent higher tax rate depressed private savings by 0.8 percent of GDP.[10] Private savings therefore seem to react strongly to policy incentives such as taxes or regulation.[11]

The behaviour of post-boom private savings and investment provides supports the political economy approach as well. After the end of the boom, private savings continued to decline in the high tax countries and by the early 1990s, private savings in terms of GDP amounted to little over half the level of the early 1970s. In the low-tax countries, on the other hand, private savings returned to pre-boom levels after the end of the boom. Private investment developed in a similar manner. In low-tax countries, private investment developed much more favourably than in "high-tax" countries, and by the early 1990s, private investment in the "low tax" countries had returned to similar levels as in the early 1970s. High-tax countries, however, experienced depressed private savings all-throughout the 1972-1993 period. This supports the earlier hypothesis that private agents perceive the high tax rates and various restraints on trading and pricing as infringements on property rights and private sector initiative which in turn discourage savings and investments.

Hypothesis 5 on economic growth

Economic growth increased by an average of 1.4 percent from 3.7 percent to 5.1 percent during the late 1970s coffee and cocoa boom (see previous Table 4). After the boom, however, average growth declined even below pre-boom growth rates.[12] Developments between the two country groups were again not balanced. Except for a brief period in the early 1980s, the "high-tax" countries experienced much lower growth than the other sample countries.[13] In the late 1970s, both absolute growth and the increase in growth were higher in the low-tax countries. This trend briefly reversed in the early 1980s, when the decline in output during the debt crisis was particularly strong in Latin America. Growth, however, resumed in the Latin American countries in the late 1980s while it continued to be depressed in the African countries of the sample.

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10 The rate of taxation adjusted for 15 percent marketing costs as presented in table 2 is the independent variable, the change in private savings as a share of GDP between the mid and late 1970s is the dependent variable. The R2 is 0.27, and the T-value for the coefficient of the independent variable is 2.2.

11 Although both standard theory and the political economy approach are in principle consistent with windfall taxes crowding out private savings, the magnitude of the savings response seems very large. According to the standard theory, windfall taxes would affect private consumption rather than savings.

12 This finding is consistent with Lane and Tornell, 1996.

13 Of course, as one of the referees has pointed out, this could be the result of better policy management in low-tax countries, and does not have to be linked to the commodity tax regimes.

We also find that countries with high public investment during the boom years did not experience higher economic growth. Public investment expenditure for the four countries with the highest share of public investment spending averaged 10.4 percent of GDP during the 1976-79 period, up by 4.8 percent compared to the pre-boom period. This compares to an increase in public investment of only 1.5 percent of GDP to 6 percent of GDP for the total sample. Average growth for these countries, however, declined from 4.8 percent during the boom to only 1.5 percent in the early eighties and fell to an average of less than 1 percent in the late eighties. In fact, the growth record for the countries with large increases in public investment after the boom is worse than for the "high-tax" country group. This result is consistent with Devarajam, Swaroop and Zou (1995) who report that public investment expenditure and growth are negatively correlated in a sample of 43 developing countries, and with their and Collier and Gunning's (1998) findings of low returns to public investment.

In summary, there is strong evidence that governments often did not apply welfare-maximizing policies in the context of the commodity boom of the late 1970s. Many countries overtaxed the windfall profits from the coffee and cocoa boom and regulated these sectors strongly. This, together with rising (instead of falling) fiscal deficits and low expenditure productivity, contributed to depressed private savings and investment, and growth. In other words, the potential benefits from growth-promoting public spending through windfall taxation, as identified in the literature, were not realized, while the costs from rent-seeking and government failure were large. The more liberal policies and earlier reforms of the "low tax" Latin American economies probably contributed to the somewhat better performance of this country group. Such experiences, and the impressive development of East Asian countries which was largely private-sector led and the result of considerable liberalization (Krueger, 1993) set the stage for reform in many developing countries starting in the early 1990s. The next section will look in more detail at the political and economic developments during the 1994-95 coffee boom in a number of the African sample countries.

V. The 1994-95 coffee boom

Given the poor economic performance during and after the boom of the 1970s, it is worthwhile examining whether policy making has changed in the 1990s. We hypothesize that countries where governments tied their hands in discretionary policy making through liberalization and macroeconomic stabilization have been rewarded with improvements in macroeconomic performance. In fact, there is some evidence that countries which have liberalized marketing and trade, which left a large share of the rents with the private sector, and which constrained fiscal policies, e.g., via programs with the international financial institutions, have fared better than countries which did not undertake reforms. However, it is too early to judge whether this reflects a fundamental change in policy making in the 1990s as compared to the 1970s. The full fiscal costs of the "policy sins" of the 1970s boom only became apparent towards the end and even long after the boom. Furthermore, liberalization has yet to go a long way in many African countries.

Overtaxation and overregulation, two of the legacies of the 1970s boom, were rolled back in a number of countries (Table 5). Although government marketing boards were typically not

abolished, 6 out of 8 countries at least partially liberalized trade by allowing private competition to marketing boards. Producer prices were liberalized in Ethiopia and Uganda and partially liberalized in Cameroon. The share of export earnings paid to producers also increased significantly, and only Burundi paid its producers less than 50 percent of the f.o.b. price in 1994-95.

Several countries committed to reform under adjustment programs with the IMF and the World Bank. However, as mentioned above, the conflict between trade liberalization and macroeconomic stabilization resulted in the reintroduction of export taxes, for example, in Cote d'Ivoire and Uganda. In fact, five out of the nine sample countries for which data is available had export taxes on coffee exports. Only Cameroon's export taxes were presumptive, i.e., export tax payments could be deducted from income tax liabilities. Fiscal control was considerably better maintained in the mid-1990s than in the late 1970s. Table 6 shows that fiscal balances on average improved by 2.2 percent of GDP in 1994/95, compared to a deterioration by almost two percent in the late 1970s. This is mainly due to better control over current expenditure which on average did not increase during the boom. Unlike in the 1970s, human capital expenditure remained constant as a share of total expenditure. However, there were considerable differences between countries. Countries which liberalized agriculture and which had programs under the auspices of the IMF and the World Bank typically fared better in terms of reducing the fiscal deficit, and containing current expenditure. Health and education expenditure also developed marginally better in these country groups.

Fiscal stability in conjunction with lower implicit or explicit rates of taxation stimulated private savings and investment in countries with liberalized primary product sectors and/or with adjustment programs. Furthermore, economic growth rebounded in most countries during the boom, but the countries which liberalized or which committed to structural adjustment fared better than those which did not reform. Economic growth increased by over 3 percent in the more liberal and more austere countries in the mid 1990s compared to an average of 2 percent for all countries.

VI. Conclusions and policy implications

The findings of this paper support scepticism towards a custodial role for government in commodity shocks, as also expressed, e.g., by Collier and Gunning (1996 and 1998). In the 1970s, the availability of revenue from the taxation of "windfall" profits from primary products and intervention in trade and production tempted governments into expanding less productive investment and current expenditure while stifling the private sector and depressing growth. Experiences of the mid-1990s in a number of African countries suggest that liberal and stability-oriented economic policies allowed countries to better cope with the challenges arising from primary product booms.

What are the policy implications of these findings? It seems that constraints and rules rather than discretionary policy making, are important for successful reforms. Such constraints constitute lock-in mechanisms which reduce rent-seeking opportunities by government officials and special interests, and signal to the private sector that the returns to investments are less likely

to be undermined by interventionist or destabilizing micro and macro policies. This could, in fact, result in a virtuous cycle whereby initial reforms strengthen investment opportunities and the private sector which, in turn, is likely to reinforce pressure for further reform, thereby creating yet more investment opportunities.

At the domestic level, commitments to liberal trading and pricing policies and to non-discriminatory taxation of primary products via "tax and regulatory rules", improve the security of returns for investors and thereby the investment climate. Such rules should exclude very high and discriminatory export taxes. More "radical" proposals have also been made. Collier and Gunning (1996) argue very pointedly that if governments have such a bad record in using windfall profits and if the private sector puts these resources to better use, it is in the long-run interest of the government to allow the windfall to be fully privatized as this would maximize the future income (and government revenue) potential of the economy. During a positive trade shock, governments should therefore lower taxes to "privatize" the windfall fully while promoting monetary policies which counter inflationary pressures. If taxation of the windfall is necessary for budgetary reasons, the implementation of presumptive export taxes (where export tax payments can be deducted from income tax obligations) has important advantages over standard export taxes. By identifying taxpayers/producers and their turnover, presumptive taxes can strengthen the tax administration in agriculture which is notoriously weak. Secondly, and if tax rates are not too high, presumptive taxes do not discriminate against agriculture relative to other sectors, and thereby minimize adverse effects on property rights and investor confidence.

On the expenditure side, fiscal institutions can contribute to credibly tying governments hands against expansionary and unsustainable fiscal policies. A number of studies on developed and developing countries has found that budgetary institutions and fiscal rules can help maintaining fiscal discipline (see Campos and Pradhan, 1996, or the survey by Milesi-Feretti (1996).

At the international level, programs with international financial institutions provide constraints which strengthen commitments to liberal policies and fiscal discipline (Hajimichael, Ghura, Muehleisen, Nord and Ucer, 1995). Commitments towards increasing expenditure productivity which raise the benefits of public spending are also a very important component of programs with international financial institutions (IMF, 1998). In political economy terms, adjustment programs can shift the policy equilibrium away from government intervention and profligacy.

However, in some instances coherence in advice by international financial institutions has been lacking and sometimes budgetary or other considerations have been given priority over the adverse consequences of windfall taxes on liberal trade and the investment climate. We mentioned that a number of countries like Uganda or Cote d'Ivoire reintroduced export taxes for budgetary or distributional reasons with support from the international financial institutions while others like Ethiopia were discouraged to do so.

Other international fora for committing governments to liberal policies could include the WTO and the Lomé convention which gives preferential access to a number of developing countries in the European Union. If countries which rely heavily on the export of primary

products committed to constraints on export taxation as part of an agreement securing better market access in industrial countries under the WTO or Lomé, they would gain in two ways: first, by reducing the temptations for taxing and spending commodity rents, and second by increasing export opportunities through market access.

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Appendix: In the following table, we can see preliminary estimation results for 35 developing countries with 2 major coffee producers, 12 major oil producers and 3 other primary product producers which benefitted from a boom in their export commodity market during the 1972-1992 period. We applied a panel data study on the same data set used in Schuknecht (1994). Without describing in detail the variables, the table briefly shows that public expenditure and fiscal deficits increase particularly in the oil producing countries. Results for the coffee-producing countries are inconclusive while the fiscal balance seems to improve in the other commodity-boom countries. These results, however, are very preliminary and further empirical analysis is necessary.

Table 1

Stylized Hypotheses and Results on Fiscal Variables, Private Sector Responses, and Growth, 1970s Coffee and Cocoa Boom

	Standard theory (A)	Political economy approach (B)	Evidence
	(Share of GDP, compared to pre-boom period)		
Hyp. 1 Tax rate	"Optimal"	Too high	Too high in much of Africa
Tax system	Income tax or presumptive export tax	Marketing boards and standard export tax	Marketing borads and standard export taxes
Hyp. 2 Fiscal balance			
During boom	+	0/-	-
Post-boom	0	-	-
Hyp. 3 Current expenditure	0/+	+	+
During boom	0	+	+
Post-boom			
Human capital expenditure (health & education)			
During boom	+	0/-	-
Post-boom	0/+	-	-
Hyp. 4 Private savings			
During boom	0/+	+ in low countries	+ in low tax countries
Post-boom	0	- in high-tax countries	- in high-tax countries
Private investment		+ in low tax countries	+ in low tax countries
During boom	0	- in high-tax countries	- in high-tax countries
Post-boom			
Hyp. 5 Economic growth			
During boom	+	+	+
Post-boom	+/0	-	-

Table 2

Rent Extraction, Institutional Arrangements and Ownership Patterns in the Cocoa and Coffee Sectors, 1976-78

	Share of export price to government or government agencies 1/	Institutional arrangement for		Ownership pattern
		marketing	pricing	
Benin (1977 only) 2/	86.5	Government marketing board	Producer price controls	…
Burundi	25-53	Government marketing board	Producer price controls	Smallholdings
Cameroon 2/	50-62	Government marketing board	Producer price controls	Large and small producers
Côte d'Ivoire 2/	45-68	Government marketing board	Producer price controls	Smallholdings
Ethiopia 2/	56-59	Government marketing board		Smallholdings
Ghana 2/	69-83	Government marketing board	Producer price controls	Smallholdings
Kenya	2-8	Government marketing board		Large and small producers
Madagascar 2/	58-74	Government marketing board	Producer price controls	Smallholdings
Sierra Leone (1977-78) 2/	60-68	Government marketing board	Producer price controls	Smallholdings
Tanzania 2/	60	Government marketing board	Producer price controls	…
Uganda 2/	69-80	Government marketing board	Producer price controls	Smallholdings
Brazil	--	Government marketing board		Large producers
Colombia	11-13	Private marketing board	Price stabilization	Relatively large producers
Costa Rica (1977)	24	Private marketing board		Relatively large producers
El Salvador	12-27	Private marketing board		Relatively large producers
Guatemala (1977)	30	Private marketing association		Large and small producers
Honduras (1977)	23	Private marketing arrangements		Medium- and smallholding

Source: Davis, 1983

1/ Situation in late 1970s, as far as information is available; excludes income taxes (although agricultural taxation is typically very week.

2/ Includes margin for marketing and transportation (about 10-20 percent of export price).

Table 3
Fiscal policies in sample countries, 1971-93[1]

	Pre-boom period (71-75)	Boom period (76-79)	Post-boom period (80-85)	Long term (86-90)	(91-93)
			(In Percent of GDP)		
Fiscal balance	-3.1	-4.7	-7.4	-5.9	-6.0
"Low-tax countries" [2]	-1.4	-2.1	-4.9	-2.9	-2.1
"High-tax countries" [3]	-4.8	-6.7	-7.9	-7.2	-8.9
Fiscal revenue	14.9	17.4	17.0	17.4	17.4
Total expenditure	18.1	22.9	24.7	23.1	23.1
Current expenditure	12.8	15.4	17.3	16.5	16.2
Human capital expenditure [4] (percent of total expenditure)	27.2	23.3	20.8	21.3	22.7
Capital expenditure	4.5	6.0	6.1	4.8	4.9
Memorandum: Developing countries without terms-of-trade shock [5]					
Fiscal balance	-1.9	-2.2	-2.9	…	…
Revenue	16.9	18.3	20.2	…	…
Total expenditure	18.8	20.5	23.1	…	…
Current expenditure	15.7	16.6	19.0	…	…
Capital expenditure	3.1	2.9	4.1	…	…

Source: International Monetary Fund, Government Finance Statistics and International Financial Statistics.

[1] Does not include Burundi, Ghana, Sierra Leone and Uganda for certain periods because of unrest.
[2] Latin American countries plus Kenya.
[3] Other African countries.
[4] Health and education expenditure.
[5] Includes 13 countries from Asia, Africa and Latin America without terms of trade fluctuations by more than 20 percent in one year or 30 percent in two years during 1971-85. For these countries data was relatively complete for the whole period.

Table 4
Private savings, investment and growth amongst sample country groups

	Pre-boom period (71-75)	Boom period (76-79)	Post-boom period (80-85)	Long term (86-90)	(91-93)
			(In Percent of GDP)		
Private savings	12.3	13.1	11.4	11.9	10.1
"Low-tax countries" [1]	12.4	16.3	12.4	12.5	14.4
"High-tax countries" [2]	12.2	11.6	11.5	9.7	7.2
Private investment	13.7	13.3	12.2	13.0	11.6
"Low-tax countries"	15.1	16.3	13.4	13.9	14.7
"High-tax countries"	11.1	9.5	10.0	10.8	8.4
Economic growth	3.7	5.1	1.8	3.1	2.9
"Low-tax countries"	4.4	6.4	0.7	3.8	4.3
"High-tax countries"	3.1	4.0	2.7	2.6	1.9
All developing countries	…	5.1[3]	2.7	4.7	5.5

Source: Compiled from previous tables and International Monetary Fund, Government Finance Statistics, Intrnational Financial Statistics, World Economic Outlook, and World Bank World Tables.

[1] 5 Latin American countries and Kenya; "taxation" < 30 percent.
[2] 9 African countries without period of unrest in Ghana, Uganda, Sierra Leone, and Burundi.
[3] 1977-79.

Table 5
Liberalization in Coffee and Cocoa Sectors in the 1990s, and Programs with International Financial Institutions (IFIs)

	Trade liberalization	Price liberalization	Tax incidence reduced (compared to 1970s)	Program with IFIs in 1993-1996 period
Burundi	No	No	No	No
Cameroon	Yesp	Partly	Yes	Yes
Côte d'Ivoire	Partly	No	No	Yes
Ethiopia	Yes	Yes	Yes	Mostly
Ghana	Partly	No	Slightly	Partly
Kenya	Yes	Yes	Always low tax	Partly
Madagascar	…	…	…	No
Sierra Leone	Yrs	No	Some	Yes
Tanzania	Partly	Yes	Yes	Partly
Uganda	Yes	Yes	Yes	Yes

Source: International Monetary Fund, Recent Economic Development, various countries.

Table 6
Effect of Primary Product Boom on Macroeconomy, the 1970s and the 1990s

	Fiscal balance		Current expenditure		Human capital expenditure	
	Late 1970s vs. early 1970s[1]	Mid 1990s vs. early 1990s[2]	Late 1970s vs. early 1970s	Mid 1990s vs. early 1990s	Late 1970s vs. early 1970s	Mid 1990s vs. early 1990s
			(In percent of GDP)[3]			
African sample countries[4]	-1.7	2.2	3.4	0.1	-3.4	0.1
Countries with liberalized sectors[5]		2.2		0.5		2.5
Program countries[6]		2.3		-1.7		0.7
Non- or part-program countries[7]		2.1		1.8		-0.6

	Private savings		Private investments		Economic growth	
	Late 1970s vs. early 1970s	Mid 1990s vs. early 1990s	Late 1970s vs. early 1970s	Mid 1990s vs. early 1990s	Late 1970s vs. early 1970s	Mid 1990s vs. early 1990s
African sample countries	-0.2	0.9	-1.2	1.3	1.1	2.2
Countries with liberalized sectors		0.1		1.7		3.1
Program countries		1.8		2.0		3.4
Non- or part-program countries		0.0		0.6		1.0

Source: IMF World Economic Outlook, IMF GFS and IFS, IMF Recent Economic Developments (various countries).

[1] Average for 1976-79 period compared to average for 1972-75 period.
[2] Average for 1994-95 period compared to average for 1991-93 period.
[3] Except human capital expenditure (share of total expenditure) and economic growth (average annual real growth).
[4] Burundi, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Madagascar, Sierra Leone, Tanzania, Uganda (except for periods of unterest).
[5] Cameroon, Ethiopia, Kenya, and Uganda.
[6] Cameroon, Côte d'Ivoire, Ethiopia and Uganda.
[7] Ghana, Kenya, Madagascar and Tanzania.

Appendix Table 1
Export market share in coffee, early 1970s vs. early 1990s

Coffee	World market share 1974	Percentage 1994	Change in market share 1990s compared to 1970s
Total sample	74.0	70.6	-3.4
African countries	24.8	16.1	-8.7
CFA Zone	13.0	5.7	-7.3
Burundi	0.7	0.7	0.0
Ethiopia	1.7	2.1	0.4
Ghana	0.1	0.0	-0.1
Kenya	2.2	1.9	-0.3
Sierra Leone	0.1	0.1	-0.0
Tanzania	1.3	0.9	-0.4
Uganda	5.7	4.6	-1.1
Latin American countries	49.2	54.6	5.4
Brazil	24.3	24.7	0.4
Colombia	12.6	16.8	4.2
Costa Rica	2.7	3.0	0.3
El Salvador	4.7	3.0	-1.7
Guatemala	4.0	4.7	0.7
Honduras	0.9	2.5	1.6
"High tax" countries[1]	22.6	14.1	-8.5
"Low tax" countries[2]	51.4	56.5	5.1

Source: International Coffee Organization (1995), Pan American Coffee Bureau (1975).

[1] African countries without Kenya.
[2] Latin American countries plus Kenya.