Intertemporal Syndromes: Redistribution from the Future to the Present

Paul Collier and Jan Willem Gunning

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1. Introduction

This chapter focuses on a particular type of policy failure, namely the sacrifice of future income for present gain. All societies and their governments face a trade-off between present and future consumption. Choices become sufficiently erroneous to be seen as a 'syndrome' if governments prioritize current spending to such an extent that future consumption is actually lower than current consumption. Africa's intertemporal syndromes fall into two groups, unsustainable booms in public spending, and looting of assets. Bouts of unsustainable public spending were usually, although not invariably triggered by booms in revenues from natural resource rents. These were often amplified by unsustainable debt accumulation. Looting of assets occasionally took the form of dispossession of private assets, but more commonly the target was publicly owned assets. We include within our discussion of looting those episodes in which growth-reducing strategies such as capital flight were induced by an anticipation of looting.

Both unsustainable public spending booms and asset looting were sometimes simply mistakes, but were more commonly rational strategies. Unsustainable strategies can be rational even though they are socially costly because many of the costs are external to the calculus of decision takers. In Section 2, we discuss the episodes of unsustainable public spending, and in Section 3 we turn to the looting episodes. As with all our syndromes, it is possible for a single episode to be characterized by multiple syndromes. Thus, the second Nigerian oil boom of 1979-83 features an unsustainable boom in public spending which took the form of looting, so that it is included in both sections.

2. 2. Unsustainable Public Spending

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Many African economies have remarkably undiversified export structures. As a result they are prone to trade shocks to an extent which most Asian and Latin American developing countries have left behind decades ago. Whether exposure to shocks helps explain Africa's growth performance has long been a matter of dispute. This debate and the evidence from growth regressions are covered in other papers in this project. To the extent that trade shocks reflect natural resource abundance, the evidence is not that African economies have done worse in managing such shocks. Rather, African economies, as a result of their relative natural resource abundance, have been more prone to such shocks. Indeed the resource-rich countries in our sample grew on average somewhat *faster* than predicted by their observed characteristics, including resource wealth (O'Connell, 2004, Table 6A). Because dependence upon natural resource rents is much more important for African economies than for those of other developing regions, the problems that are globally associated with natural resource rents are of disproportionate importance. Globally, positive shocks in resource rents often lead to shorts burst of unsustainable growth. The term 'unsustainable growth' can be used in two different senses: either the rate of growth or the level of output can potentially be unsustainable. We use the term in the more radical sense that was is unsustainable is the initial increase in output, not merely its rate of increase. Collier and Hoeffler (2005) measure resource rents country-by-country globally for the period 1970-2002 and estimate their effects on growth rates for each four-year sub-period. Controlling for policies and institutions as measured by the World Bank's Country Policy and Institutional Assessment (CPIA), they find that within a sub-period resource rents significantly increase the growth rate of constant price GDP. However, there is also a significant and adverse lagged effect of resource rents. Thus, a boom raises the growth rate contemporaneously, but then reduces the growth rate in the subsequent period by half as much as the initial increase. Thus, around half of the cotemporaneous increase in output from a natural resource boom is unsustained. Africa's experience of unsustainable growth from natural resource rents is thus at least qualitatively a global phenomenon. One reason why it is more important for Africa is simply that Africa is substantially more exposed to resource booms.

It is worthwhile to note that in Africa this phenomenon is concentrated in two decades: the 1970s and the 1980s: in our country studies no episodes are classified as intertemporal syndromes before 1970 or after 1990, with the single exception of Cameroon (O'Connell, 2004, Figs. 4 and 5). An obvious explanation is that the 1970s saw some of the biggest trade shocks in recent economic history, including the 1973 and 1979 oil shocks and the beverages (coffee, tea and cocoa) boom of 1975-79. High real interest rates made deficit spending in the 1980s unsustainable. More fundamentally, the colonial institutions still in place in the 1960s made unsustainable spending very difficult. In many former colonies agencies of fiscal restraint were abolished or emasculated in the 1970s. Conversely, the reforms of the 1980s left African economies dramatically less syndrome-prone in the 1990s. Apparently the reforms drastically reduced the incentives for unsustainable spending; in our country studies there is (apart from Cameroon) not a single instance of a post-1980 episode of unsustainable spending. Hence the twenty-year period 1970-1990 was characterised by a remarkable conjunction of large shocks, weak fiscal discipline and relatively strong incentives for redistribution at the expense of the future.

Why would a trade shock lead to unsustainable spending? In the static model of Dutch Disease theory the spending effect of a boom induces expansion of the non-tradable sector at the expense of tradables (other than the booming sector). This optimal adjustment to an improvement in the terms of trade is, of course, welfare increasing. However, it shows up in the National Accounts as a *fall* in GDP, if GDP is calculated at pre-boom relative prices. In a dynamic version of the model the boom, if correctly recognised as temporary, will induce asset accumulation so that consumption can be permanently maintained at a higher level post-boom.[1] However, in the absence of any distortions this will not involve an increase in *domestic* investment. If the economy was in equilibrium prior to the boom (with the domestic rate of return equal to the world interest rate) then it is obviously optimal to allocate windfall investment entirely to foreign assets: domestic investment would lower the rate of return below the world rate of interest. The National Accounts would again record a fall in GDP. The return on foreign assets would be recorded as an increase in GNP.

This technical point is important since growth regressions typically measure growth in terms of constant price GDP. Clearly, this biases growth regression evidence on the impact of shocks towards the conclusion that the government and private agents fail to harness a positive shock effectively: the *optimal* response in a distortion-free economy would appear as a reduction in growth. To that extent the observed failures to sustain output increases after a positive trade shock may simply be a statistical artifact.

[1] See e.g. Collier and Gunning (1999, ch.1, Appendix) for optimal responses to temporary shocks.

The Dutch Disease model and its dynamic (but still distortion-free) extensions serve as a useful theoretical benchmark. However, if a boom is to lead to (temporary) growth in GDP we must introduce other elements. One possibility is that there are price or wage rigidities. Boom-induced spending in sectors with idle resources will then have Keynesian effects: output will increase.

Deaton (1992) found that government expenditure had a much higher persistence than other forms of expenditure. In a sample of 35 African countries he found that three years after a 1-year export price boom all forms of expenditure had returned to normal with the exception of government consumption. Within government consumption, the wage bill is typically the most persistent component. This is important since a particular type of wage rigidity, with public sector wages maintained at levels far exceeding the opportunity cost of labour, was common in Africa until well into the 1980s. In this case an increase in public employment raises GDP (since value added in government is measured at cost) even if new civil servants produce nothing so that aggregate output falls unambiguously. Typically public sector employment is difficult to retrench so that if the increase in public spending proves unsustainable the non wage-bill components of government consumption are cut. This may then reduce GDP, e.g. if road maintenance is reduced. In this case the increase in wage employment is registered in the National Accounts first, misleadingly, as an increase in output, followed, correctly, by a fall in output.

The second possibility is a capital market imperfection: domestic investment is credit constrained, e.g. because the country cannot borrow abroad. The boom then enables agents to increase investment out of windfall income. In addition, foreign creditors may relax the borrowing constraint in response to the terms of trade improvement and the associated increase in government revenue. For example, in the 1970s the oil economies increased their external debt massively in the wake of the 1973 and 1979 OPEC price increases (Gelb, 1988; Collier and Gunning, 1999). In Africa, Nigeria offers the most striking example of such boom-induced spending sprees.

One of the key messages from the empirical trade shocks literature is that – contrary to what had been the policy consensus until well into the 1990s - private agents respond appropriately to booms, provided they are well informed about the temporary nature of the windfall. If private agents recognise a boom as temporary they will save a large part of their windfall income: assets are accumulated in the boom period so as to smooth consumption over time. One way in which a boom can be wasted is if the government's response to the shock gives noisy signals to private agents so that these are confused about the nature of their windfall income. Not recognising its temporary nature they would then rationally save very little out of their windfall income.

For example, the government might expand public sector employment in response to the increase in its tax revenue during a boom. Since such spending is by its nature difficult to reverse this clearly is an inappropriate public sector response to the shocks: the policy amounts to lock-in of an expenditure level that will become unsustainable after the boom. The error can easily spread to the private sector: private agents are unlikely to recognise such government expenditure as temporary. They may therefore well consider part of the increase in their income as permanent and therefore save too little.

This affects the political economy of reform. In the post-boom period the government will find it difficult to adjust its spending to its reduced tax revenue. This may lead to painful adjustment measures with IMF, World Bank and donor involvement. To the extent that private agents did not recognise that the government response to the boom had made public expenditure unsustainable the adjustment measures may become deeply unpopular: the policy regime in the boom period is nostalgically idealised and reforms are resisted because they are seen as unnecessary. The legacy of the boom then consists of delayed and therefore ultimately very costly adjustment.

Such intertemporal mistakes are very easy to make. For example, the Ugandan government was well aware of the danger of increasing its expenditure in response the coffee boom of 1994. It was careful to identify the increase in government revenue due to the coffee tax. However, it did not realise that as the windfall was spent domestically other forms of government revenue increased substantially. These revenue increases were not attributed to the boom and therefore treated as permanent. The government thereby overestimated the scope for permanent increases in government spending.

However, the Ugandan case is exceptional. More commonly a government perceives little incentive in asset accumulation to smooth public consumption. The problem is analogous to the political economy of trade policy where the benefits of protection are concentrated on a small number of agents and therefore very visible, while the larger costs are diffuse, involving a very large number of consumers, and therefore much less visible. Similarly, a strategy of public consumption smoothing involves high political costs since claims from spending ministries will have to be resisted at the very time when the government is very liquid so that stringency seems ill advised. Conversely, the benefits of a smoothing strategy are in the future and accrue to a large number of agents who are not clearly identified. Hence, even if the government was *able* to estimate the size of the windfall correctly, it may not be *willing* to treat this income as temporary. A government may therefore rationally decide not to smooth its expenditure. This may have happened in Kenya during the coffee boom period (Bevan *et al.*, 1989, 1990).[2]

In addition, the government affects, intentionally or not, the scope for consumption smoothing by private agents. This is because in aggregate private agents can accumulate assets only by acquiring claims on the government or by acquiring foreign assets. Many African governments have made the former very unattractive (e.g. by offering negative real interest rates) and the latter illegal.

We have seen that a government may engage in unsustainable spending if the political costs of smoothing are clearly visible while the benefits are not. Unwillingness to smooth can also arise in a very different way. Consider the model of Adam and O'Connell (1992) where the government's objective is to maximize the welfare of a particular group, e.g. the regime's ethnic base. If this group is sufficiently small, the government has no incentive to promote growth. It will try to grab rents and transfer these to the favoured group. Since this group is small the costs of the distortions the government imposes to generate rents are largely borne by others. A regime that is sufficiently unrepresentative will therefore have no incentive to promote growth. This political economy model provides a useful framework for analysing government responses to a boom. If the boom accrues to the government (as e.g. in the oil economies or in countries with agricultural exports and controlled producer prices) it changes the costs of transferring rents to the favoured group: this can now be done without e.g. imposing taxes on the rest of the economy. The boom may therefore enable the government to transfer rents by lowering the costs thereof. Failing to invest so as to smooth consumption over time is then not a mistake, but a rational government response to the boom. If this interpretation is correct then the unrepresentativeness of African regimes is part of the explanation for the unsustained government spending booms which are often associated with positive trade shocks. Burundi offers a striking example of this mechanism.

[2] This episode is not classified as a case of unsustainable spending but would certainly qualify.

In summary, a boom may accrue directly or indirectly to the government. The government may easily mistake some of its windfall income as permanent, as in the Ugandan example. More commonly it may find it politically expedient to engage in consumption smoothing to only a very limited extent, either because the benefits of smoothing are diffuse or because the regime is unrepresentative. In any case the spending boom will (if used to expand employment) be difficult to reverse so that spending becomes unsustainable after the boom, especially if private agents mistakenly come to view the government's fiscal stance during the boom as sustainable.

Evidence on spending booms

In the country studies we find nine episodes of unsustainable spending (Table 1).[3] We consider these in turn.

Table 1: Episodes of Unsustainable Growth in the Country Studies

country	*period*
Burundi	1972-1988
Cameroon	1978-present
Congo	1978-1991
Côte d'Ivoire	1970-1990
Guinea	1973-1984
Niger	1974-1985
Nigeria	1970-1987
Togo	1974-1979

Burundi most closely fits the pattern of a trade shock induced period of unsustainable spending. A massive increase in public spending became feasible with the revenue from the coffee boom, starting in 1975, and with the improved access to foreign borrowing as a result of that boom. As Nkurunziza and Ngaruko (2003) stress these resources were used to distribute rents to the political elite via public corporations. That this system could survive for a long time is explained by the massive use of rents to reward the army so that predation could continue. Similarly, rigidly enforced capital controls made capital flight very difficult, except for members of the elite. As in the Adam-O'Connell model the government had no incentive to promote growth: since the elite was small it had a strong incentive to grab rents.

In Cameroon the trade shock was the discovery of oil in 1975; oil exports started in 1978. Initially, this boom was managed remarkably well. The government resisted spending pressures (in part by keeping the size of the windfall a secret, even to the Ministry of Finance), it saved a very large fraction of its windfall income and it held its savings largely in the form of foreign assets. However, upon repatriation these assets were poorly allocated. Government spending was increasingly used to subsidise state enterprises and (after 1985) to maintain cash crop prices in real terms when world prices had declined substantially.
The case of the Republic of Congo is best seen as the oil boom relaxing a borrowing constraint. The government reacted by borrowing heavily abroad. The proceeds were invested in a heavily regulated non-oil sector, dominated by state enterprises.

[3] In the larger set (covering 43 rather than 27 countries) used by Collier and O'Connell (2004) there is one additional instance of unsustainable growth: Angola 1994-2000. In this period external debt was contracted on the basis of oil wealth to finance the war against Savimbi.

Côte d'Ivoire started the 1970s with a conservative policy regime, characterised by fiscal and monetary restraint. This restraint was abandoned in the second half of the 1970s. The 5-year plan for 1976-80 was extremely optimistic. Its lack of realism would have made it unsustainable very quickly if the country had not benefited enormously from the beverages boom. (This happened in many African countries. For example, Tanzania's unsustainable economic strategy – including massive investment in heavy industry – could be maintained for another five years as a result of the coffee boom.) Côte d'Ivoire was a very substantial exporter of coffee and cocoa. As a result the beverages boom represented a very large terms of trade improvement: the barter terms of trade rose by over 80% in 1975-77 and in 1977, at the peak of the boom, the windfall amounted to 26% of GDP (Ghanem, 1999, Figure 4.1 and p. 145).

Fiscal restraint was abandoned in this period. Current expenditure rose only modestly while government revenue soared. As a result government saving rose massively, reaching an astonishing 18% of GDP in 1977. Nevertheless the budget went into deficit: the government embarked on an extraordinary program of public investment, financed in part by external borrowing. Towards the end of the boom, in 1979, public investment amounted to 23% of GDP. The fiscal deficit rose from a modest 2% of GDP in 1975 and reached 12% by 1980. This public investment had spectacularly low returns. Ghanem (1999, p. 161) finds a 60% increase in the aggregate ICOR between the first and the second half of the 1970s.

The political economy of the public investment program is not entirely clear. Our interpretation is that public investment in office buildings, super highways and state enterprises with negative value added at world prices, was not a mistake. Such investment was preferred to the accumulation of foreign assets or productive domestic investment because it offered vast opportunities for transferring rents to the elite. Such rent creation through public investment was, of course, already feasible prior to the boom, but it would then have been much more costly. Prior to the boom external borrowing would have been more difficult and raising revenue domestically to finance public investment would have required visible and therefore politically costly changes in taxation.

During the boom government revenue rose automatically since price controls delinked producer prices for export crops from world prices. In addition the boom raised the country's creditworthiness. Through these two channels the boom reduced the cost (from the perspective of the elite) of the investment strategy: the need to raise revenues in a politically costly way was reduced. In this view the intertemporal substitution which ended the Ivorian "miracle" economic performance was not a mistake, but a rational response to the boom. Policy makers knew the strategy was unsustainable, but calculated that it was not in their interest to smooth spending. That the positive shock had such an extraordinary negative long-run effect therefore does not reflect the inability but rather the unwillingness of the regime to harness the boom efficiently.

After the boom this fiscal stance quickly became unsustainable. The strategy of unsustainable spending left the country in economic crisis after one of the largest booms ever recorded. A large part of government debt was held domestically. In a flexible exchange regime adjustment could have relied in part on default on this domestic debt, through evaluation. However, its Franc Zone membership denied Côte d'Ivoire this instrument. As a result adjustment involved an extended period of painful contraction until the dilemma was resolved by the 1994 devaluation. In the post-devaluation period growth recovered.

In Guinea the period 1973-84 started with a phase of extraordinary rapid growth (7% per capita) in 1973-78. This was followed by a period of decline (-1% per capita) in 1978-84. In the latter period Guinea had a highly interventionist socialist regime, experienced a negative shock (the oil shock of 1979-80) and a debt servicing crisis. Doumbouya and Camara (2003) describe how in this period the government redistributed resources from peasants (who were heavily taxed) to the urban wage earning elite. This redistribution (not unlike that occurring in Tanzania at the same time) was unsustainable: peasants could shift resources from production of export crops to food crops and Guinea was not in a position to offset the resulting fall in exports through borrowing. This led to economic implosion with private agents retreating from the formal economy into subsistence and informal sector activities. This process ended with a military coup in 1984.

The case of Niger is in some respects similar to that of Côte d'Ivoire. The country enjoyed a uranium boom in 1974-80 (both in price and in quantity terms). The boom enabled the government to embark upon an ambitious program of public investment, partly financed by external borrowing. The return to this investment was very low, leaving the country post-boom indebted and with an unsustainable fiscal stance. Here the similarities end. As Azam (1999) stresses, the government faced a portfolio problem. Mining companies had an incentive to keep uranium in the ground as long as they expected the world price to rise so much that unmined uranium had a higher return (through appreciation) than the opportunity cost of capital. As further price increases became less likely the companies stepped up production. This increased government revenue.

Since uranium is an exhaustible resource this revenue should be seen as an asset to be reinvested rather than as income. Viewed in this light the government was right to increase investment at the end of the uranium price boom. However, this led to a very concentrated investment boom. Very likely this bunching of investment reduced the return on investment through construction boom effects. Ideally, the government would have smoothed investment over time, using external borrowing to bring some of the investment forward. The implication is that the government should have borrowed much more than it did and that investment smoothing would have raised the permanent income.

This is very different from the Ivorian case where unsustainability reflected the unwillingness rather than the inability of the regime to smooth windfall income. For Niger inability might either have been the result of a capital market imperfection (creditors refusing to lend against future government revenue from uranium exports, as Azam suggests) or of the government's failure to recognise the implications of bunched investment. In the former case, if the government was hampered by a borrowing constraint, the implication is that the government, unable to bring investment forward, should have smoothed by *postponing* investment. Holding the uranium revenue which accrued in the late 1970s initially abroad and repatriating the foreign assets gradually in the 1980s to finance domestic investment could have done this. Under this interpretation Niger's syndrome of unsustainable spending is less unusual than its link to an exhaustible resource suggests: the failure of governments to stretch an investment boom through the use of foreign assets is quite common.

Nigeria experienced two oil booms in the 1970s. Both accrued largely to the government. During the first boom the windfall was, unusually, initially held in the form of foreign assets. This was not a matter of design: reserves accumulated because Nigeria had a fixed exchange rate regime. The technocrats which at that time ran economic policy under the military government were committed to import-substituting industrialisation (already discredited at the time, as Harberger, 1999, points out). When the foreign assets were repatriated they were accordingly used for investment in large-scale industrial projects, including a massively expensive steel mill which never produced steel. In effect, the oil boom provided the resources to implement the industrial vision of the civil servants.

That the technocrats could realise their megalomanic industrial ambitions reflects Nigeria's political economy of that time. The position of civil servants was unusually strong since they were shielded by the military from control by politicians. In addition, the interests of farmers and the urban wage earners were not served by effective interest groups. Hence the bureaucrats enjoyed a period of unconstrained power at the very time when the resources were available to implement their vision. It is worth noting that this is one of the few cases where public spending was driven by a (technocratic) economic vision, rather than by the self-interest of the regime.

During the second oil boom, presided over by a civilian government, public investment continued, now more as a source of rents than as a way of implementing a particular economic vision. Government consumption now also rose massively, financed by external borrowing. In the early 1980s Nigeria's external debt stood at $ 12 billion. Massive public spending brought the regime victory in the 1983 election. However, it was soon overthrown by a coup. This is another case where intertemporal inefficiency reflects unwillingness rather than inability. The ruling clique was well aware that its spending was unsustainable. The very painful adjustment which occurred in the 1980s was predictable. (In the period 1981-6 gross domestic expenditure fell by an astonishing 35% in real terms; Bevan *et al.*, 1992, Table 5. Our interpretation, developed in Section 3 on looting, is that the prevailing competitive patronage politics drove those with power into rampant embezzlement.

Devaluation was postponed until 1986. This followed a long period of external pressure (including from the World Bank) for policy reform. The shock of adjustment therefore became associated not with the old policies (including the fixed exchange rate regime) which had led to it, but with the liberalisation. Hence unsustainable spending left an unexpected but extremely costly legacy: a widely shared hostility towards economic liberalisation.

Togo experienced a series of trade shocks in the period 1974-79: first the oil shock (negative), then a phosphate boom in 1974-5 (positive), followed by the coffee boom (positive). As in Nigeria, the government had a vision of *grands travaux* and industrial investment which could be realised as a result of the windfalls. Public investment rose massively, to 40% of GDP in 1979. A handful of state enterprises accounted for half of industrial investment in the late 1970s. Trade policy was used to make these enterprises viable at domestic prices.[4]

Rents were distributed to favoured ethnic groups through government employment. (The number of civil servants trebled in a decade.) By the end of the 1970s the regime ran large budget deficits and had accumulated a massive external debt. However, it is not obvious that this was unsustainable *ex ante*. As Gogué and Evlo (2003) stress, Togo (like Côte d'Ivoire) enjoyed strong Western support in the Cold War period. The regime might rationally have decided that it could continue to run up debt because of its strategic importance in the region (where, for example, neighbouring Benin, had adopted Marxist-Leninism). Indeed, the regime was stable until after the fall of the Berlin wall.

In Guinea the bauxite boom led to huge civil service employment and subsidisation of state enterprises. The government hired all graduates, 70% of the budget went on subsidies and civil service salaries and rice consumption was heavily subsidised.

3. Looting

[4] Gogué and Evlo (2003), pp. 12-13.

Our focus in this chapter is on gross failures in social inter-temporal optimization. Looting is one such failure: it is a variant of corruption in which the target is assets. Assets are dishonestly acquired and in the process an incentive is created to convert them either into consumption or some socially less productive asset such as flight capital.

Looting is about opportunities and incentives. The opportunity arises either when property rights break down or when the stewardship of public assets breaks down. Africa has seen various types of looting. In Uganda during the era of Idi Amin the basic asset transfer was private-to-public, as Asian assets were confiscated and then handed out again in an informal fashion as state patronage. The new 'owners' had usage rights but little security – indeed, during the early 1990s their property was returned to its original owners. Hence, their incentive was to deplete it, for example by neglecting maintenance. A closely analogous process is the public looting of European-owned farms and informal transfer to political clients in Zimbabwe. In Nigeria and Zaire the basic asset transfer was public-to-private, as mineral wealth was siphoned off by politically powerful figures. Again, the new owners had little security and so, to the extent that they wished to retain the wealth as an asset rather than consume it, they had a strong incentive to get it out of the country. A third form of looting occurred in the context of state breakdown. With property rights unenforceable the basic asset transfers are private-to-private. State breakdown is distinctive and is considered as a syndrome in itself. Our concern here is confined to situations in which state power is used either to loot the private sector, as in Uganda and Zimbabwe, or to loot the public sector, as in Nigeria and Zaire.

In addition to the distinction between looting the private sector and looting the public sector, a further important distinction is between looting by an autocratic state and looting by a democratic state. Ideally, political leaders simply lack the opportunity to loot because they are subject to various checks and balances. Such checks and balances do not have to be very effective to stop *outright* looting. The total failure of checks and balances in Africa usually only occurred in the context of military absolutism, such as with Mobutu, Abacha, and Amin, all coup leaders from the army. However, the most important and most troubling case of looting occurred in Nigeria during the democratic period of 1978-83, and indeed probably resumed under the return to democracy in 1998. These were periods of genuinely contested presidential elections. The agendas of the competing political parties were not strongly predetermined by ideological positions, and so in principle it might have been hoped that the electorate would have been able to use its power to secure effective public expenditures on public assets such as roads and private assets such as education. One estimate is that by 1999 Nigerian capital flight had cumulated to \$107bn.[5] Much of this occurred in the democratic period, because this was the period of the peak earnings from oil. The slide of Zimbabwe into looting has coincided with the decline in its democracy. However, to an extent, the looting can be seen as a desperate strategy by an initially democratic government facing the prospect of electoral defeat. A further possible episode of looting in the context of democracy, too recent to be included in our study, is Kenya under President Kibaki. The highly charged depictions of public 'looting' alleged by the British High Commissioner were endorsed in the resignation statement of the Anti-Corruption Commissioner, John Githongo in response to which some aid programs were suspended. At present it is unclear whether this is on a scale sufficient to affect macroeconomic performance.

This gives us a two-by-two disaggregation of African looting: whether the object of looting is the private sector or the public sector, and whether the agency of looting is an autocratic state or a democratic political party. Africa's episodes of looting, so classified, are shown in Table 2. It was widely hoped that the wave of democracy across Africa in the early 1990s would itself correct the

[5] See Collier, Hoeffler and Pattillo (2005).

looting problem. That it seems not to have done so is both intriguing for analysis and disturbing for policy. We therefore devote most attention to trying to understand the underlying process.

Table 2: Looting

Country	Looting Period	Target	Regime Type
Burundi	1972-88	Public	Autocracy
Central African Republic	1965-79	Public	Autocracy
Congo, Democratic Republic	1973-97	Public	Autocracy
Liberia	1997-2000	Private	Democracy
Mali	1968-91	Public	Autocracy
Mozambique	1974	Public	Autocracy
Nigeria	1973-78	Public	Autocracy
Nigeria	1978-83	Public	Democracy
Nigeria	1983-98	Public	Autocracy
Somalia	1975-91	Public	Autocracy
Togo	1994-2000	Public	Autocracy
Uganda	1971-79	Private	Autocracy
Zimbabwe	1998-2000	Private	Democracy

Looting the private sector in autocracies

Autocracy by its nature destroys checks and balances. However, although such a dismantling is a necessary precondition for looting, it is not sufficient. Most autocrats refrain from looting the assets of the private sector because of the radically unsustainable nature of the strategy: this is the famous distinction between the roving and the stationary bandit. The main example of an autocratic state looting the private sector in Africa is the confiscation of Asian assets in Amin's Uganda.

Amin's strategy is probably best interpreted as a mistake. The unsustainability of the strategy manifested itself both in the rapid withering of the economy, and the collapse of government revenue. Amin was an unsuccessful autocrat in the most basic respect: he was unable to finance his army to an adequate extent to meet a military challenge from a similar-sized, low-income neighboring state. As a result, after a relatively brief rule he was overthrown by external military intervention from Tanzania. A subsequent president of Uganda, Museveni, provides an unusually clear confirmation of Amin's error. Museveni adopted precisely the opposite strategy to that of Amin, inviting the Asians to return to Uganda, restoring their property and avoiding predatory taxation. The resulting rapid growth of the economy dramatically increased government revenue. Museveni prioritized expenditure on the army and was able to achieve a military victory over a much larger neighbor. In January 2006 he will celebrate his twentieth year in power.

It is notable that elsewhere in Africa there are many examples of rich ethnic minorities living under autocracies, but there is no other major example of an autocrat looting the private sector. It would not have been surprising had such looting been more common. Some African autocrats should rationally have taken the roving bandit view because they were highly insecure. Africa is by far the most coup-prone region. The risk of a coup is increased by having already had a coup, and so those who achieved the capacity to dismantle checks and balances could rationally see their likely tenure as brief[6]. The rarity of looting of the private sector may reflect a combination of the speed with which the economy collapses in response, and a 'winner's curse' effect of successful coup leaders. The economic consequences of looting the private sector are clear from Uganda and Zimbabwe. In both cases the economy rapidly declined in absolute terms by around 30% with tax revenue falling even more rapidly, forcing the government to resort to hyper-inflation. Such looting is thus only a sensible strategy for those leaders who expect to lose power within a few years. However, coup winners will be drawn systematically from among those who overestimate their likely longevity in power. Hence, looting the private sector may seem a sub-optimal strategy even for those who would in fact do well out of it.

Looting the private sector in democracies

Democracies are normally defended against looting both by electoral competition and by the rule of law. Electoral competition normally ensures that governments will not adopt policies that even over a relatively short horizon are ruinous. The rule of law implies that basic property rights must be respected.

If looting the private sector is bad politics for autocrats, it is even more likely to be bad politics for democratic political parties. There are only two examples in Africa, namely Zimbabwe and Liberia. These episodes are best considered as mistakes. The clear evidence for this is that the strategies have not been electorally successful. In order to retain power in Zimbabwe, President Mugabe has needed to resort to increasingly drastic curtailment of electoral competition, including suppression of the media, and violent oppression of the opposition political party. He has also had to dismantle the rule of law so that property rights can be disregarded. In Liberia Charles Taylor criminalized the state far more dramatically, but rapidly lost power and is now exiled in Nigeria.

Just as Museveni's success from implementing the opposite of Amin's strategy demonstrates that is was simply an error, so the example of the ANC in South Africa and of President Kabbah in Sierra Leone, demonstrates the error in the strategies of Mugabe and Taylor. The ANC was faced with a much more lucrative opportunity to loot an ethnic minority private sector than that facing Mugabe in Zimbabwe. For over a decade it has resolutely resisted this option and shows no signs of taking it in the future. Whereas electoral support for Mugabe's party has crumbled, the ANC has actually strengthened its electoral dominance. In Sierra Leone as in Liberia the new democratic government inherited a fragile post-conflict situation in the context of substantial natural resource rents. However, it has been able both to consolidate the democracy through further elections, and at the same time strengthen its own hold on power.

Nevertheless, the existence of the option of democratic looting of an ethnic minority private sector has been significant in some African contexts. We refer to it as 'anticipated redistribution'. The context in which it is potentially of importance is where ruling ethnic minorities sense that they are likely to lose power to an ethnic majority and that, perhaps because of their own conduct to the majority, they risk confiscation of assets. The cases of Amin's Uganda and Mugabe's Zimbabwe illustrate that minorities face some risk of looting even if the looting strategy is

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[6] On the risk of African coups see Collier and Hoeffler (2005a).

irrational, because leaders have the power to make mistakes. With these expectations, the minority will attempt to shift its assets out of the country *while it is still in power*.

The most high-visibility example of such an exodus was the flight of capital out of Angola in the transitional months between the Portuguese revolution of April 1974 and the MPLA takeover of power in 1975. As will as financial assets, every physical asset that could possibly be dismantled and shipped out was removed to Portugal. This asset stripping would have left Angola with a depleted legacy even had subsequent political developments been more benign. Similar capital flight occurred in all the Portuguese colonies, that of longest duration being Guinea Bissau which was the origin of the liberation struggle against the Portuguese on the continent.

However, quantitatively the most important examples of capital flight due to anticipated looting were South Africa and Namibia. From the late 1970s it became clear that minority rule was not sustainable, consequent upon the fall of the Portuguese regimes in Angola and Mozambique in 1975 and of the Smith regime in Southern Rhodesia in 1978. The wealthy white elite of South Africa substantially repositioned its asset portfolios. Although the visible signs of this were far less dramatic than in Angola, in South Africa white wealth owners had a far longer period in which to gradually reposition their assets. Although capital flight was illegal in South Africa, the visible sign of a shift in portfolios was a rapid and sustained collapse in the rate of private investment. As a consequence there was also a collapse in the growth rate. There was an analytically similar, but much smaller, flight of capital from the other major settler economy, Kenya, in the early 1960s. Of course, in retrospect this capital flight was unnecessary. Indeed, even at the time that it occurred, the probability of a future episode of looting was probably perceived as relatively low by wealth owners. However, perceived new risks do not have to be high in order to induce substantial shifts in portfolios.

Our case studies also suggest two anticipated redistributions where power has yet to shift: Burundi and Togo. In Burundi, the early loss of power of the parallel Tutsi elite in neighboring Rwanda brought home the vulnerability of elite-owned assets retained within the country, even though to date the Tutsi elite has managed to retain power. In Togo, through the 1990s the world's longest serving president was becoming increasing likely to die, and so his clients, who had had a long period in which to amass wealth, were increasingly vulnerable. In the event he survived until 2005 and was hastily and unconstitutionally replaced by his son.

Looting the public sector in autocracies

In Uganda, General Amin looted the private sector whereas in Nigeria, General Abacha looted the public sector. The difference was obviously in the endowments of natural resource wealth. In economies with substantial natural resource rents they are the natural target for looting. The embezzlement of natural resource rents is automatically an inter-temporal concern because the resource wealth is a depleting asset. However, as a strategy it is sustainable over a far longer horizon than looting the private sector: resources may be depleted for decades. Hence, it can be a rational strategy even for a 'stationary bandit'.

However, although autocrats have the power to loot, viewed globally, they usually do not do so. Autocratic looting has been much more pronounced in Africa than in other regions. Why might this be the case? Since African autocrats have generally retained power for as long as the global average, the most evident reason for looting – a short time horizon – does not provide an explanation.

Because looting targets assets, it is an extreme case of redistribution at the expense of growth. Two distinctive features of Africa made this a more attractive option for African autocrats than those of other regions.

First, other things equal, there is a stronger incentive to loot public assets *the higher is the ratio of such assets relative to the society's income*. Evidently, the larger are public assets the greater is the gross gain from looting them, but since looting sacrifices the growth of income, the lower is the initial level of income the lower is its opportunity cost. Looking first at the numerator of this ratio, Africa has had far more resource-rich economies that other regions: currently around 30% of its population lives in such economies against only 11% elsewhere. Thus, there were many more societies in which the looting of public assets was potentially lucrative. Turning to the denominator, even in 1960 the resource-rich developing countries in other regions had per capita incomes more than double those of resource-rich Africa, and this gap rapidly widened (see Figure 2, Chapter 2). Thus, since societies rich in public assets but with low private incomes clearly have the strongest incentive for looting, the phenomenon would be more common in Africa than elsewhere.

The other reason why Africa was more prone to the looting of public assets is that the incentive to prioritize redistribution over growth becomes more attractive *the smaller is the group to which the benefits of redistribution can be confined* (Adam and O'Connell, 1992). Ethnic differentiation provides the most convenient basis for exclusion: it is easy to identify and people cannot readily change categories. Most societies have some ethnic diversity and in such societies autocrats typically have their own ethnic group as their power base. Through various strategies, autocrats encourage their ethnic group to sustain them: partly by the rewards of redistribution, and partly by the fear of retribution from other groups should there be a change of regime. Hence, we would expect that globally, autocracy would be more detrimental to growth the greater the extent of ethnic diversity. This is indeed what the econometric evidence finds (Collier, 2000; Alesina and La Ferrara, 2003). This global relationship is bad news for Africa. As shown in Chapter 2, Table 19, Africa is considerably more ethnically diverse than other regions, and it has been considerably less democratic. The conjunction of these features is most pronounced for those countries with large public assets, namely the resource-rich economies. Measuring the extent of the problem by the ratio of measures of ethnic diversity and democracy, after the 1960s Africa's resource-rich economies on average consistently score more than double those of other regions.

Thus, African autocrats were more likely to be sitting on the opportunity of valuable lootable resources; the opportunity cost of such looting was likely to be lower; and because their identifiable power bases were narrower, the gain from redistribution was magnified relative to its opportunity cost. They thus had a substantially stronger incentive to loot public assets for purposes of redistribution to their clients.

Given that public assets were looted for the benefit of a favored group, the remaining question of importance for growth is why this was not merely an asset transfer: why was there a net reduction in assets? Robinson and Verdier (2002) provide a convincing answer to this question. They argue that once clients are given assets they are no longer dependent upon the patron. To retain loyalty, the patron needs to dispense flows, not stocks. Hence, assets needed to be metaphorically dismantled and transferred as flows. Of course, the clients were free to accumulate these flows as private assets, but in effect the autocrat precluded the option of club assets.

Looting the public sector in democracies

As with protection against looting of the private sector, a democracy has two mechanisms for protecting against the looting of public assets: electoral competition and the rule of law. At least superficially, it might seem that competitive elections would provide an even stronger defense of public assets than of private assets. Most private assets are necessarily owned by a minority of voters, whereas the looting of public assets implies a diminished provision of public goods that would benefit a majority of voters. Political parties should thus have strong incentives to supply desired public goods in order to survive in power. By contrast, the rule of law is generally better designed to protect private property than public assets. Many of the mechanisms that defend public assets from public officials are either internal civil service procedures or political checks rather than the police and the courts. We therefore refer to these defenses as *due process*, rather than as the rule of law. It is possible for the rule of law to survive in conditions where due process collapses. However, where due process is in place, it ensures that even if politicians want to embezzle public money they are not able to do so without penalty.

It is useful to compare four African democracies to see how electoral competition and due process have worked. Both Botswana and Nigeria have very substantial natural resource rents. In Nigeria looting has clearly had first-order effects on growth. In Botswana by contrast, despite equally valuable resource rents the government has been disciplined by democracy into delivering public goods. One key procedure for preventing looting has been nothing more than an administrative rule: natural resource revenue is saved in foreign reserves unless public projects are available that meet a threshold economic rate of return. For various reasons government leaders have chosen to adhere to this aspect of due process, although they would most surely have had the power to dismantle it without jeopardizing the rule of law. Neither Kenya nor Senegal has important natural resource rents. In Kenya, as discussed above, looting is considerable. By contrast, in Senegal corruption is significantly less severe.

Hence, one puzzle to be explained is why looting is important in Nigeria and Kenya but not Botswana and Senegal. However, although Nigeria and Kenya both have patronage politics, looting is radically more severe in Nigeria. This becomes a second puzzle to be explained. We consider in turn when the two defense mechanisms - electoral competition and due process - get undermined.

The failure of electoral competition

In democratic Africa voters directly elect both their local member of parliament and the president. Potentially, the parliament and the president function as checks on the abuse of power by the other. However, since this merely gives them the incentive to reach mutually profitable looting deals, the electorate must still provide an effective check on one or the other.

There are few signs of parliaments acting as effective checks on Presidents. On the contrary, members of parliament appear to use their power to lobby to enhance their own resources for patronage. For example, in 2002, Nigerian representatives attempted to impeach the President to induce him to raise public spending more rapidly. This was despite the fact that spending had already risen so rapidly on the back of the oil boom that Nigeria was the only oil economy with a fiscal deficit. In both Nigeria and Kenya representatives have blocked the budget in order to force increases in their remuneration to extraordinarily high levels.

One simple explanation for such behavior may be a time-consistency problem due to the infrequency of elections. Competition for parliament is so intense that it would often be rational for representatives to have a single-term horizon. For example, in 2003 80% of Nigerian senators were defeated in their campaigns for reelection. If other restraints are weak, once elected, representatives will find it more profitable to loot even if this substantially increases their risk of defeat.

However, a deeper reason is that it may be more cost-effective to attract votes through private patronage than through supplying public goods. The average patronage expenditure needed to get elected to parliament in Nigeria is around \$0.5m. We now try to set this out more formally, showing why a society with large natural resource rents such as Nigeria will be particularly prone to patronage politics.[7]

Voters

We imagine that voters face the choice between two candidates for the presidency. Once elected, one, the *altruist*, will in fact try to use public revenues for the supply of national public goods whereas the other, the *patron*, will embezzle for private gain. We assume that voters do not have full information about candidates. In the typical African democracy public information through the media is both limited and unreliable. Additionally, people have strong ethnic and religious identities. In conjunction, these features may affect the voter decision problem. Lacking objective information about candidates, voters rely upon the advice of 'opinion leaders' from their own ethnic or religious community.

Such circumstances readily give rise to an information cascade in which observable signals - objective indicators that enter the pool of publicly observable information - are discounted in decisions relative to the observable actions of other voters and in particular to the actions of trusted opinion leaders. It is well understood that non-continuous actions, such as voting or public demonstrations of support, are most susceptible to such a cascade. Knowing that he or she is badly informed, the voter chooses to rely either directly upon opinion leaders, or upon the public manifestations of support which they organize. In turn, because all voters act this way, the signals observed by individual voters do not influence their actions and so fail to build into a pool of collective information.

An effect of this information cascade is that communities tend to vote in blocks, according to the advice of their opinion leaders. This has consequences for political parties. We return to the conditions under which reliance on community leaders will continue to be consistent with bounded voter rationality. For the present we consider its implications.

Political Parties

Political parties compete for votes for the presidency. To the extent that they gain power, or have prospects of power, they control some financial resources. In spending these resources to attract votes they have a choice of instruments: the altruist party supports the provision of public goods, and the patronage party supports the provision of private patronage. Which party wins depends upon the relative efficacy of public goods and patronage in attracting votes. The superior technological properties of public goods imply that where voters have full information, it is cheaper for parties to attract votes by offering public goods than by offering private patronage. A supply of public goods of \$1 produces benefits of \$$x$ for each individual voter ($1>x>0$), and with a sufficiently large number of voters, n, public goods provision dominates patronage because $nx>1$. However, because of the limited sources of information available to voters, votes must be attracted 'wholesale' through community leaders in blocks of size c, rather than individually

[7] The model is from Collier and Hoeffler (2005).

through direct appeal to each voter. The block vote introduces the possibility that the option of bribing community leaders with private goods may be cost-effective.

First, consider the extreme case in which community leaders maximize only their own wellbeing and are ethically indifferent between benefits from private goods financed through the receipt of bribes and their own consumption of public goods. Now, the only beneficiaries of public goods that matter for the political party are the community leaders, and so the critical calculation becomes whether public goods or private transfers are the most cost-effective way of giving them benefits. To win the election we will assume that the political party needs to attract the support of half the community leaders, so that only half the community leaders need to be given patronage. The condition under which patronage is the cheaper means of attracting votes is then simply that $x<2c/n$.

Were community leaders to act in this way it would not be rational for community members to follow their advice. However, more sophisticated behavior by community leaders may reconcile bribe taking with the retention of community support.

Community Leaders

The community leader is faced with a choice between accepting patronage and providing the public good of free accurate information on the presidential candidates to his community. If the community leader has some genuine concern for the wellbeing of his community, this creates an honesty premium, h, for public goods over private goods. That is, the community leader values a dollar of public goods not at x, his individual gain, but at $h.x$. Where $h = c$, the community leader has fully internalized the benefits to his community. We will assume that $c>h>1$. The honesty premium raises the efficiency of public goods and hence the critical size of community at which it becomes more cost-effective to transfer a dollar of benefits to each community leader through patronage rather than through public goods to:

$$x.h<2c/n. \qquad (1)$$

However, if community leaders are bribed into bad advice, why would voters continue to follow the advice? They know that their leader has access to better information, but they also know that he can be bribed. What they do not directly observe is the honesty premium, h, that signifies the leader's concern for the community. They can, however, observe a signal which is correlated with h, namely gifts provided by the leader to members of the community. In order to retain allegiance, the leader must engage in ostentatious giving. Note that such gifts are neither bribery, nor public goods. They are not bribery, because the community leader is not in a position to enforce a contract. They are not provide public goods because the leader lacks the technology to spend money to this effect. The gift is a merely a signal of concern. This signal will need to compete with other information: the failure of the president to supply public goods, and evidence that the community leader has accepted bribes. There may be some threshold level of gift giving, $g^\wedge$, below which community members come to rely on this other information. Should the political party choose to win the support of the community leader through patronage, it will also need to meet these costs of gifting. The community leader must be compensated both for his intrinsic aversion to mislead, and for the costs incurred by misleading. Whether patronage is an efficient strategy for a political party now depends upon the size of the bribe net of covering the costs of gifting. Denote the size of the bribe as B. Even if condition (1) is satisfied, the efficiency gain from patronage must be sufficient to offset the fixed costs of gifting that are incurred. The critical condition under which patronage becomes the cost-effective political strategy becomes:

$$B(2c/n - x.h) > g^{\wedge}n/2c. \qquad (2)$$

The left hand term is the gross efficiency gain from patronage and the right hand term is the additional cost incurred through covering the costs of gifting by community leaders.

The Competitive Equilibrium

To be viable, patronage politics requires a threshold level of resources available for patronage. The party must provide for half of the community leaders the net bribe plus the costs of gifting:

$$(B + g^{\wedge})n/2c. \qquad (3)$$

However, (2) implies a critical minimum scale of bribe, $B^{\wedge}$, below which patronage is not cost effective:

$$B^{\wedge} = (g^{\wedge}n/2c)/\{(2c/n) - x.h\}. \qquad (4)$$

Hence, we arrive at a threshold level of public resources available for patronage, $P^{\wedge}$, below which patronage is not the chosen strategy:

$$P^{\wedge} = [(g^{\wedge}n/2c)/\{(2c/n) - x.h\} + g^{\wedge}]n/2c. \qquad (5)$$

The likelihood that electoral competition will take the form of patronage is thus decreasing in the amount of gifting needed to overcome other channels of information, the community-spiritedness of communal leaders, and increasing in the size of communities and in the resources available for patronage. We derive the actual resources available in the next sub-section.

Competition occurs both between parties for the presidency and between individuals wishing to become community leaders. Where bribery is viable and cost-effective, competition drives parties to use it: the patron will defeat the altruist. Evidently, in a fully competitive party system without incumbent advantage the successful patronage party must devote all available resources to bribery.

For their position to be sustainable, corrupt community leaders must spend a certain threshold of resources on ostentatious gifts. This is incorporated into the minimum acceptable bribe. However, competition between individuals wishing to become community leaders may drive up ostentatious giving beyond this threshold. Again, only incumbent advantage limits the extent to which bribes are fully dissipated in gifts.

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The key outcome is that the political process, though democratic, does not choose to supply the public goods that people want. Along the way, if the system has substantial incumbent advantage, party leaders and community leaders will become rich. However, even a fully competitive political system will merely reduce the scope for riches, it will not supply public goods.

The failure of due process

Given the above, the critical issue becomes the scope for looting public resources in order to finance patronage. The society may be intrinsically too poor to generate the critical minimum at which patronage becomes viable, or due process may be sufficiently effective that even though politicians want to loot, they are restrained from doing so by checks and balances in the system.

Democracy in Africa is conventionally defined by electoral competition rather than by the efficacy of due process. Hence, there can be considerable variation among democratic countries in the extent to which due process provides effective restraints on patronage. We now argue that patronage politicians will set taxation so as to actively undermine due process. We postulate a fairly standard political science relationship in which due process is defended by the public good of public scrutiny, and citizens are provoked into supplying scrutiny by taxation. Politicians would like to tax heavily in order to generate revenue for patronage, but they are constrained from doing so because heavy taxation provokes heavy scrutiny and so more effective due process.

The politics sketched above requires presidents to raise resources for patronage. The instrument they have for this is the tax rate. Patronage expenditures, P, are determined by the product of the tax rate, t, taxable income, Y, and the proportion of revenue which can be embezzled for patronage, e. In turn, the rate of embezzlement, is constrained by the degree of scrutiny, which is determined by the rate of taxation.

This implies a maximum revenue available for patronage, somewhat analogous to a Laffer curve. In the conventional Laffer curve the problem facing the government is a participation constraint on the part of private economic agents: if the government over-taxes they 'exit' the taxable economy. In the Laffer curve proposed here, the government problem is rather different. If the government over-taxes, this provokes not 'exit' but 'voice' which takes the form of public scrutiny. In a more general formulation we would allow for the government to be faced by both an economic participation constraint and a political participation constraint. Citizens can resort to both exit and voice: the government wants citizens to participate in the economy but not in the polity. Here we abstract from the economic participation constraint and focus exclusively on endogenous political participation: the supply of public scrutiny. This allows us to treat income as exogenous with respect to taxation.

So defined, the maximum resources available for patronage are determined by:

$$P^{max} = \underset{\text{wrt } t}{\text{Max}}\ e.t.Y. \qquad (6)$$

subject to $e = e(t),\ e'<0.$

We assume that in the absence of any taxation there will be no effective scrutiny, and conversely, that as taxation becomes all-consuming, scrutiny becomes completely effective. To see the implication at their simplest, we specify the inverse relationship between the embezzlement rate and the tax rate as:

$$e = 1\text{-}t. \qquad (7)$$

Then the decision problem reduces to:

$$\max_{\text{wrt } t}: (1\text{-}t).t.Y, \qquad (8)$$

with a solution at $t^* = 0.5$. Thus, patronage-efficient taxation is to take half of national income, and in turn half of this revenue is captured for patronage, with the rest going on public goods. These maximum resources available for patronage may be above or below the threshold (5) required for sustainable patronage politics. If they are below the threshold electoral competition will take the conventional form of undertakings to supply public goods. If they are above the threshold, competition between presidential candidates, and between individuals wishing to become community leaders, will tend to push the system towards the patronage-maximizing outcome.

We now introduce resource rents as a proportion, r, of income. The rents accrue directly to the government, augmenting its revenue from the taxation of citizens. We assume that the government is not able to ring-fence the revenue from resource rents from the prevailing public scrutiny of its tax revenue. It is thus not free simply to spent all the resource rents on patronage. However, unlike taxation, the resource rents do not themselves provoke citizen scrutiny. Government revenue thus becomes:

$$[t(1\text{-}r) + r].Y, \qquad (9)$$

and the maximum patronage resources available to the government become:

$$\max_{\text{wrt t}} (1\text{-}t).[t(1\text{-}r) + r].Y \qquad (10)$$

The patronage-maximizing tax rate is now :

$$t^{**} = (1\text{-}2r)/(2\text{-}2r). \qquad (11)$$

A corollary of (11) is that the tax rate is lower the higher is revenue from resource rents. In turn, this implies that the level of scrutiny is lower and so the rate of embezzlement is higher. More surprisingly, total chosen revenue as a share of income, v, is constant (at least up to the point at which taxation is driven down to zero):

$$v^{**} = t^{**}(1\text{-}r) + r = [(1\text{-}2r)/(2\text{-}2r)].[(1\text{-}r) + r] = 0.5 \qquad (12)$$

For a given total income, revenue for patronage rises as a result of resource rents not because the government commands more money, but because it is able to raise the same money while arousing less public scrutiny. As a result, less needs to be diverted to the provision of public goods. A corollary of this is that comparing two societies with the same level of income but with different shares of natural resource rents, the one with the higher share will have the worse provision of public goods. However, the most striking implication of the model is that a resource discovery which augments income will nevertheless worsen the provision of public goods. To see this recall that public goods provision, G, is the residual between revenue and embezzlement:

$$G = 0.25[(1-2r)/(1-r)].Y. \tag{13}$$

An increase in resource rents by one percent which leaves other income unaffected has two qualitatively offsetting effects. The income effect, taking non-rent taxation as given, raises public goods provision by strictly less than one percent, specifically, by r percent. The effect of extra revenue on reduced taxation, and hence increased embezzlement, reduces public goods provision by one percent in the neighborhood of $r = 0$, and by increasingly more than one percent as r rises. A sufficiently large resource discovery which equals non-rent income drives taxation and hence public goods provision to zero.

Application

Our analysis predicts that natural resource rents will subvert democracy through two routes. Resource rent democracies are more likely to suffer from patronage politics because the maximum patronage resources available to the government increase. Further, even where societies without natural resources do have patronage politics, the consequences are less dire. Because they have to rely more heavily upon taxation, patronage governments can get away with less, and so have to spend more on public goods provision. Through both these routes, a democracy with large natural resource rents is liable to have inferior public goods and hence slower growth.

We would characterize Nigeria as the quintessential example of a natural resource democracy in which both restraints have been undermined. Similarly, Kenya is an example of an economy without natural resource revenues where patronage politics has nevertheless proved to be viable. Consistent with our analysis, looting is manifestly even more of a problem in Nigeria than it is in Kenya.

However, while Nigeria and Kenya suffer from looting, Botswana and Senegal do not. Yet Botswana is a natural resource economy like Nigeria, and Senegal is structurally similar to Kenya. What might account for such different outcomes? One possible explanation is that in Nigeria and Kenya the episodes of democracy followed prolonged periods of autocracy whereas in Botswana and Senegal democracy has been continuous since independence. When democracy is replaced by autocracy this generally implies more that the end of electoral competition. While the overall rule of law might be retained, thereby defending private assets from looting, there is nothing to prevent the autocrat quietly dismantling due process, and thus the defenses of public assets. Such a dismantling of due process clearly occurred in both Nigeria and Kenya. The restoration of democracy literally means only the restoration of electoral competition. Thus, competitive elections defined the resumption of democracy in Nigeria and Kenya. The restoration of electoral competition reflected the political bankruptcy of the previous regimes – in effect, autocracy collapsed. However, while such a collapse enables the forces of electoral competition to reemerge, there are no equivalent forces rapidly restoring due process. Unlike electoral competition, due process is a mass of complex rules, procedures and expectations. Whereas the leaders of a dormant political party have a strong incentive to play their part in restoring electoral competition, no equivalent group stands to benefit from the restoration of due process.

There is thus a major difference between democracies that have persisted continuously from their initial inheritance of due process, such as Botswana and Senegal, and those that have been restored such as Nigeria and Kenya. As a result of their different histories, Nigeria and Kenya during their looting episodes were characterized by electoral competition in the context of an inherited breakdown in due process, whereas Botswana and Senegal have had due process, usually without significant electoral competition. Our model predicts that these differences would produce radically different politics. Electoral competition without due process would produce patronage politics – looting. Due process, with limited electoral competition would produce the more conventional politics of public goods. In effect, by preserving their democracies, Botswana and Senegal also preserved the restraints that protected them from patronage politics. It was much less difficult to maintain the restraints than to reestablish them once they had been dismantled under periods of autocracy.

One implication of our analysis is that Kenya may have a better chance of restoring due process than Nigeria. In Kenya taxation has necessarily to be considerable so that in the long term citizen pressure will be considerable. Indeed, in Kenya looting may even be a temporary disequilibrium phenomenon which will cease once citizen pressure resulting from taxation builds to the threshold at which patronage is no longer viable. Nigeria's structurally low taxation suggests that it cannot expect any such easy evolution out of patronage politics. However, even in Nigeria, the experience of Botswana carries a somewhat hopeful message. Although in order to *introduce* due process Nigeria may need some idiosyncratic factor such as political leadership rather than just the automatic force of citizen pressure, once introduced due process might be sustainable, as in Botswana.

4. Conclusion and Implications

Inter-temporal syndromes were an important factor in the failure of the growth process in Africa. Here we have considered three variants: unsustainable public spending, looting, and anticipated looting. Unsustainable spending need not be related to trade shocks, but it often is. Such spending is often characterised as a symptom of loss of control, or of the government's inability to assess correctly the temporary nature of the boom-related increase in government revenue, or, finally, of the government's failure to understand the case for consumption smoothing. There probably is some truth in all three of these explanations. However, we suggest that in many cases unsustainable spending should not be seen as a sign of incompetence but rather as the result of a rational decision of a narrowly based regime. Such a regime has no incentive to promote growth and may well have an incentive to substitute current for future income. We have suggested that much the same applies to looting. Although some looting episodes can reasonably be seen as mistakes, more commonly they were informed choices.

There is little reason to think that the incidence of inter-temporal mistakes was markedly higher in Africa than in other regions. However, some of the mistakes probably had greater potency. In particular, the fear of 'democratic looting' – the fear of confiscation of minority assets by newly enfranchised majorities – was much more widespread than the phenomenon itself which happened only as rare mistakes. This fear induced precautionary capital flight which was destructive of growth.

Inter-temporal syndromes as informed choices have rested on one or other of three underlying malfunctions: powerful minorities can gain from socially costly strategies; time horizons of leaders can be dysfunctionally short; and the electorate can reward dysfunctional political behavior. What are the potential defenses against these problems?

In the past probably the key malfunction has been the first. The most straightforward defense is democratization: minorities lose their power. This is rapidly happening across Africa. Indeed, much of the impetus for democracy has come from a recognition of the damage done by powerful minorities. However, this may only change the cause of the syndrome: switching the malfunction to short time horizons and patronage politics, both intensified rather than resolved by electoral competition. Potentially, given a hardening of the world prices of commodities, Africa will be characterized by democracies gearing up resource booms through borrowing to finance patronage politics.

To defend against the inter-temporal syndrome in democracies essentially requires that the checks and balances that are common in, but not inherent to, democracy function effectively. Democracy in Botswana has produced an economic success because electoral competition has been modest while the checks and balances from due process have been strong. At the heart of Botswana's success are two simple-looking bureaucratic restraints: public officials who embezzle face a credible threat of punishment, and public investment projects must pass a rigorous test of their rate of return. These two restraints inhibit looting, provide a sound mix between real and financial assets, and smooth shocks. Thus, while competitive elections solve the perverse incentives that stem from minority power, Africa will need both features of democracy before it transforms resource rents into growth. As Afghanistan and Iraq have recently demonstrated, competitive elections can rapidly be introduced into the most difficult of conditions. They may well be self-sustaining as political parties develop interests in contesting power. Due process, checks and balances, are much more difficult to establish, and there is no equivalent constituency demanding them. It would be unfortunate if democracy in Africa became discredited, inviting a return to the disastrous experience of autocracies, when what is needed is not less democracy, but more.

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