Do African budgets finance patronage?: examining public expenditure trends in Kenya, Tanzania and Uganda, 1960-2010[1]

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What can we learn about the politics of public spending in Africa by examining long-run trends in public expenditure and employment? Many have contended that postcolonial leaders pursued economically unproductive budget policies, prioritizing the growth of their patronage networks over socially beneficial spending, resulting in bloated payrolls, persistent deficits and a large rent-seeking public service. This study of public spending in Kenya, Tanzania and Uganda, however, suggests that there was nothing exceptional about the speed or timing of East Africa's postwar state growth. All three states grew and contracted in roughly the same periods as in other regions of the world. Industrial policy and capital investments influenced budget priorities in the early independence era, while debt service and military expenditure escalated in the 1980s. The growth in public employment was driven by the growing parastatal sector and education system. An important difference with other regions however, was the sharp reduction in real wages in the 1970s-80s. The ensuing collapse in earnings rather than the protection of privileged public servants is one of the most marked postcolonial policy shifts. To reverse these wage declines, governments rationalised their public services in the 1990s, bringing employment back down to the level at independence.

One of Africa's many economic predicaments is supposedly a political settlement that favours public spending on patronage at the expense of growth-enhancing public investments. This patronage imperative is thought to reward short-termism, thus amplifying fiscal and macroeconomic imbalances. Many have linked these tendencies to the continent's ethnic heterogeneity. Evidence from across the world has shown that social polarization increases competitive rent-seeking.[2] Applying these insights to the African context, scholars have argued that the continent's unusually high degree of ethnic polarization prevents leaders from appealing to national solidarity to gain support for developmental policies.[3] They therefore rely on pork barrel politics, using public funds to strike uneasy bargains with different ethnic leaders to shore up the political support of particular groups. Because private goods, such as public sector jobs, are easier to target to individual political supporters, this biases spending towards unproductive wage expenditure at the expense of more socially productive spending on public

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[2] Alesina, Baqir, and Easterly, "Public goods and ethnic divisions".

[3] Easterly and Levine, "Africa's growth tragedy"; Englebert, "Pre-colonial institutions"; Acemoglu and Robinson, "Why is africa poor?"; Robinson and Verdier, "The political economy of clientelism". Note that this literature tends to use 'public goods' as a shorthand for investment spending or broad-based service provision, rather than applying a strict definition of a public good as one that is non-excludable and non-rivalrous.

goods.[4] While these predilections have colonial origins, they supposedly grew worse after independence, as postcolonial governments lacked the restraining influence of a colonial metropole.[5]

Patronage politics also provides a neat structural explanation for the poor policy choices identified by the World Bank and IMF as the drivers of Africa's growth failure in the 1980s. Analyses from this period laid considerable blame for the continent's growth slow-down on domestic policies, including an overextended state.[6] In line with the predicted outcomes of excessive patronage, comparisons with other developing regions suggested that African governments consumed too much, and that employment and wages had grown excessively in the first decades of independence.

The quantitative literature on the comparative development of the African state, however, remains relatively thin. Much of literature cited above relies on cross-country regression analysis, which finds associations between ethnic fractionalisation (or some other form of social polarization), poor policy outcomes and economic growth, although the causal paths remain contested. Some have looked specifically at the employment channel, suggesting that "non-Weberian," patrimonial tendencies are an important driver of this poor growth performance.[7] Yet countering these findings, other studies have concluded that African countries on average had smaller civil services and wage bills than other developing regions of the world in the 1980s and 1990s, throwing doubt on the importance of employment as a key mediator of these economic outcomes.[8] On the basis of this and other evidence, Mkandawire has argued that patrimonial explanations for African exceptionalism rest on weak empirical foundations.[9] These political economy models may also have detracted attention from the proximate drivers of Africa's growth tragedy, notably exogenous economic shocks.[10]

Curiously little research has examined this topic using time series data, which unlike comparisons of level differences between countries, offer insights into how postcolonial governments have sought to alter the composition of spending. This is perhaps surprising given the relatively developed literature on public finance trends in colonial Africa.[11] Despite the supposed importance of the political rupture at independence, economic historians have often stopped their analysis in the 1960s when the colonial statistical publications ceased to be produced.

To begin filling this gap in knowledge, this paper examines how expenditure priorities changed in the decades after independence with a focus on whether postcolonial governments showed a preference for wage spending over other forms of public expenditure. The paper focuses on three countries in East Africa: Kenya, Tanzania[12] and Uganda. For each country, the author has built data series on public revenue, expenditure, employment and average wages from the late colonial period until the present, drawn from over 100 national statistical publications, IMF and World Bank reports. The full dataset is provided as an appendix to this paper, along with a discussion of the sources and the assumptions underlying the key series.

[4] Acemoglu and Robinson, "Why is africa poor?", p.42.
[5] Berman, "Ethnicity, patronage and the african state", p. 339.
[6] World Bank, "Accelerated development", pp. 40-42.
[7] Evans and Rauch, "Bureaucracy and growth".
[8] Goldsmith, "Sizing up the african state"; Goldsmith, "Africa's overgrown state"; Rodrik, "What drives public employment "; Schiavo-Campo, de Tommaso, and Mukherjee, "Government employment and pay".
[9] Mkandawire, "Neopatrimonialism".
[10] Cooper, *Africa since 1940*, pp. 86-87.
[11] Frankema, "Colonial taxation"; Gardner, *Taxing colonial Africa*; Cogneau, Dupraz, and Mesple-Somps, "African states".
[12] Mainland Tanzania only. Zanzibar is not included in this analysis.

Kenya, Tanzania and Uganda were chosen as case studies because they exhibit many of the features associated with theories of patronage. All three are ethnically fragmented and their governance systems are weak, scoring poorly on international measures of governance quality.[13] They gained independence in the main wave in the 1960s and their economies performed disappointingly from the mid/late 1970s until the 1990s as their rulers turned increasingly authoritarian. All three undertook structural adjustment reforms in the 1980-90s and returned to multiparty rule in the 1990s or 2000s.

These three cases also present some important differences. While Kenya and Uganda's political fault lines are shaped by ethnic cleavages, Tanzania's leaders have been more successful in crafting a national identity that downplays ethnic difference, and is therefore thought to be less patronage-afflicted. While Kenya and Tanzania remained comparatively peaceful, Uganda experienced decades of conflict following Idi Amin's coup in 1971 that may have shaped budget priorities differently.

The paper concludes that despite these country differences, there is more that unites than divides them. In all three cases the general health of the economy coupled with changing global ideas about the role of the state have left a much clearer imprint on government finances than the political break of independence or the variation in patronage intensity. As in many other regions of the world, overall public spending and employment grew strongly in the 1960s and 1970s then plateaued or contracted in the 1980s as fiscal imbalances worsened. Yet wage bills were not a major driver of these fiscal imbalances. Expenditure on employees has acted as the residual, while the growth in the budget was used to promote industrial policy, fund wars and finance debt service. Within the wage budget moreover, employment growth has primarily favoured frontline service provision such as primary education. Because of an emphasis on service expansion and parastatal growth, employment was prioritized over wage levels, resulting in large falls in real public sector earnings in the 1970s-80s. As a consequence, the structural adjustment reforms in the late 1980s sought to reduce employment in the interest of raising salaries. The public employment to labour force ratios are today lower or on par with the levels at independence. These conclusions by no means rule out the political salience of ethnic cleavages, but they do show that the effect of ethnicity on expenditure policy is far from clear and have to a large degree been overshadowed by economic fundamentals anyhow.

To reach these conclusions, this paper is divided into five sections that successively unpeel the budget. As a point of departure, it provides a stylized account of state growth over the 20th century. It then moves to the three African cases and starts by examining the rate of revenue and expenditure growth in aggregate terms, to understand the broader resource envelope and its influence on fiscal space. Next it turns to the composition of public expenditure to establish what categories of spending grew most in the postcolonial era and their relationship to the widening or contraction of the deficit. The fourth and fifth sections examine internal wage bill dynamics: how did the level of public employment change over this period? How did the size of the wage bill and level of public employment influence average public sector wages? The last section concludes.

I.

Over the past century the size of government has grown the world over, both in terms of public expenditures and employment. While the pace and scope of state expansion may have differed across countries and regions, the trend has cut across ideological divides and been underpinned by a considerable change in public perceptions about the role of government.[14] Over the second half of the 20th century states came to take on a far greater range of services and functions than ever before, from

[13] Worldwide Governance Indicators, www.govindicators.org (accessed on 4 Dec. 2017).
[14] Tanzi and Schuknecht, *Public spending*.

the provision of social safety nets to universal provision of education and healthcare.[15] Growing state intervention in the productive sectors, through the creation of public corporations and nationalisation of industry, also brought an unprecedented share of industrial employment and investment under state control. This growth of the state was underpinned by the Keynesian idea that discretionary fiscal policy could be used to manage aggregate demand and maintain full employment.[16]

A new IMF database provides historical data on the public expenditure and revenue for a range of countries across the world, illustrating the remarkable growth in the state over the 20th century.[17] With the exception of South Africa, however, the database contains no African country observations prior to 1980. The available data show that the growth of the state was most marked in today's advanced economies. In Western Europe[18] public expenditure grew from an average of 11 per cent of GDP in 1890 to 47 per cent in 2000, a more than four-fold increase. In the USA and Canada public expenditure grew from 4 per cent to 38 per cent of GDP over the same period, in India from 7 per cent to 27 per cent, and for a sample of five Latin American countries from 7 per cent in 1905 to 24 per cent in 2000.[19]

In the western world governments began to grow in the first half of the 20th century, while in Asia and Latin America state growth took off after the Second World War. Unlike in the 19th and early 20th century, when governments sought to maintain balanced budgets, many countries ran persistent deficits in the post-WWII era. In Europe, Latin America and Asia the primary balance was on average negative during the postwar golden age.[20]

Public expenditures grew rapidly until around 1980, after which state growth slowed or plateaued in most parts of the world. Latin America experienced a decline in spending the 1980s followed by a recovery in the late 1990s. Budget balances improved during this period of state consolidation.

Although there are fewer comparative studies on public employment growth, the available data show a similar trajectory. A study using a sample of six Western countries found that government employment roughly doubled as a share of the labour force between 1951 and 1981.[21] In tandem came the growth of the state-owned enterprise sector, which by the late 1970s employed around 8-15 per cent of the labour force and accounted for over 10-15 per cent of GDP in sample of seven OECD countries.[22] Since the 1980s however, the level of government employment has stagnated or fallen in many parts of the world,[23] while employment in public corporations fell due to privatization reforms.

II.

In light of this global trend towards bigger states in the 20th century, with states peaking in size around 1980, how do Kenya, Tanzania and Uganda compare? In Figure 1 general government revenue (before grants) and expenditure (including net lending) are plotted as a percentage of GDP, with the deficit

[15] Lindert, *Growing public*.
[16] Webber and Wildavsky, *A history of taxation*.
[17] Public finances in modern history database: Binder et al., "A modern history of fiscal prudence".
[18] Unweighted average for 14 countries with available data: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden and the United Kingdom.
[19] Argentina, Chile, Colombia, Mexico and Peru.
[20] See data on deficits, using same country groupings, from: Binder et al., "A modern history of fiscal prudence".
[21] Rose, *Public employment in western nations*, p. 11.
[22] Countries with parastatal sectors above 10% of GDP: France, Austria, Italy, Sweden, UK, Australia, West Germany, see: Hannah, "A failed experiment", p. 85.
[23] Schiavo-Campo, de Tommaso, and Mukherjee, "Government employment and pay", p. Table 3.

presented adjacent. The sources and assumptions made in building these time series are discussed in the appendix.

Because of the well-known problems of estimating historical GDP series in Africa,[24] Figure 2 provides an alternative perspective by presenting expenditure trends in constant per capita terms, deflated by the consumer price index. This has the added advantage of incorporating the effect of price changes for the goods traded in East Africa, rather than those produced domestically only. Given the big terms to trade swings over the 1970s and 1980s, this provides a useful view of the government's ability to sustain its spending on goods and services. Unlike GDP estimates moreover, consumer price indices are available as early as the 1940s, which makes it possible to examine these expenditure and revenue trends further back in time. Public finance data for the 1940s and 1950s, however, have only been compiled for the central government (dotted line), but nonetheless indicate the direction of change.

Figure 1 shows that the Kenyan, Tanzanian and Ugandan revenue and expenditure trajectories roughly match the global inflection points, with strong state expansion from the late 1940s through the 1970s and a stagnation or decline thereafter. Independence did not mark a break with the past. The expansion of the African state started well before decolonization and lasted until after the global shocks of the 1970s.[25] The region saw a marked rise in revenue and expenditure in the immediate postwar era, buoyed by strong demand for commodities during the postwar reconstruction and Korean War. Revenue slumped briefly in the late 1950s after the end of the Korean War, then resumed in the early 1960s and grew strongly until the early 1980s in Kenya and Tanzania, while in Uganda growth tapered off earlier in the 1970s. This was followed by Africa's growth stagnation, when GDP per capita remained flat or regressed and the level of state expenditure fell.[26] Here the contrast with other regions of the world is more marked. While many OECD and Asian countries saw public expenditure levels plateau in the 1980s, these East African cases, like some Latin American countries, experienced declines in revenue and expenditure relative to GDP and only a partial recovery in expenditure in the 2000s.

[FIGURE 1]

Yet spending expressed as a share of GDP doesn't fully account for the severity of the expenditure decline. In all three cases, deflating public expenditure by consumer prices rather than expressing it as a share of GDP shows a more marked rise and decline (Figure 2). Real per capita government spending halved in Kenya and Tanzania over the 1980s and 1990s and fell by a factor of six in Uganda (1970s), partly as a result of the rising cost of imports brought about by worsening terms of trade and currency depreciations. Per capita spending fell back to the levels of the early 1950s, or in the Ugandan case the 1940s. Government spending was therefore hit by several shocks in the 1980s-1990s: expenditure to GDP was reined back at the same time as input costs increased. Furthermore, as will soon be discussed, debt payments rose during the same period placing even further downward pressure on domestic spending.

[FIGURE 2]

Although state growth was not exceptionally fast, East African post-independence deficits were high by international standards, as spending outpaced revenue growth. Budget deficits expanded significantly in the 1970s and 1980s, peaking at almost 7 per cent of GDP in Kenya (1980), 11 per cent in Tanzania (1980) and 11 per cent in Uganda (1973). But these deficits were in large part a consequence

[24] Jerven, *Poor numbers*, p. Chapter 1.
[25] This argument has also been made by: Cooper, *Africa since 1940*.
[26] Easterly, "Lost decades".

of the dual budgeting practices of the 1960s and 1970s rather than uncontrolled consumption spending. The dotted lines in Figure 1 trace the growth in recurrent spending. During the period of strong expenditure growth (c.1960 – late-1970s, or early 1970s in Uganda), all three countries maintained their recurrent spending below revenue and allowed it to grow roughly in line with revenue growth. This practice was in keeping with the budgeting orthodoxy of the times: recurrent costs were to be kept below recurrent revenue, while capital projects with a projected rate of return above the interest rate could be debt-financed.[27] This approach had theoretical backing in the economic literature of the era, which stressed the economic catch-up potential of developing countries by importing capital and technology.[28]

These trends in revenue and expenditure also reveal important country variation. Kenya's economy held up better than its neighbours through the shocks of the 1970s and 80s. The revenue to GDP ratio increased considerably between the late 1950s and early 1980s, then plateaued and fell first in the 1990s with the introduction of structural reforms.

Tanzania's spending trend is punctured by the war with Uganda in 1978-9, which caused a sharp increase in expenditure followed by a consolidation in the 1980s. Also note that high inflation and rapid exchange rate deprecation led to a severe decline in government purchasing power in the 1980s.

Uganda stands out as the most extreme case. Revenue as a share of GDP peaked earlier in 1966, with the start of Uganda's postcolonial political upheavals. It then experienced a dramatic fiscal collapse in the mid-1970s, following Idi Amin's 1971 coup and the 1972 expulsion of the Indian community. Revenue fell from 17 per cent to 2 per cent, and expenditure from 23 per cent to 6 per cent, and in many years receipts covered less than half of all spending. The official figures probably overstate the true decline in public spending, as record keeping also deteriorated and off-budgetary transactions likely increased. Nonetheless, even as an account of official outlays only, this figure is indicative of Uganda's state implosion. After Yoweri Museveni came to power in 1986 the country experienced a rapid recovery and revenue and expenditure returned to their pre-crisis levels.

III.

These dynamics can also be examined by category of expenditure. Figure 3 presents a modified economic classification of general government expenditure to examine how the composition of spending changed over time. In contrast to a normal economic classification, defence (a functional category) is included as an independent spending category in these charts. The sources and adjustments to it are discussed in the appendix. The Ugandan estimates from the late 1970s and early 1980s should be taken with a grain of salt, but the wage bill was, if anything, the most reliable of the public expenditure estimates according to the IMF.[29]

[FIGURE 3]

This analysis shows that it was indeed the development budget which consumed most of the incremental rise in government expenditure in the first decade of independence. In Kenya and Tanzania the development budget rose from roughly 15 per cent of expenditure at independence to 30 per cent by 1971, while it peaked at 26 per cent in Uganda in 1969. An important objective of Africa's first postcolonial leaders was to develop an industrial base.[30] Concerned that an undiversified primary

[27] Discussed in: Uganda, "Background to the budget 1957/58", pp. 15-18; Uganda, "Background to the budget 1966/67", p. 43; Government of Tanganyika, "Development plan for Tanganyika, 1961/62 - 1963/64", pp. 9-12.
[28] Chenery and Strout, "Foreign assistance and economic development".
[29] International Monetary Fund, "Uganda: Recent economic developments", p. 52.
[30] Cooper, *Africa since 1940*.

commodity-based economy would perpetuate economic dependence, many African governments vigorously pursued industrial policies, taxing imports heavily and using state resources to build and subsidise a nascent domestic manufacturing industry.[31] Nationalisation policies, whereby the government formed or bought stakes in foreign-owned corporations, also provided a means of indigenizing the economy, thereby reducing foreign ownership of productive resources.[32] Big infrastructure projects, in trunk roads, power generation and port infrastructure, also featured strongly in development plans.

Funds reserved for 'development' because the prime budget objective - in budget speeches, economic analyses and development plans, officials show a preoccupation with shrinking the recurrent outlays in order to make fiscal space for investment.[33] Tanzania's third development plan for instance, stressed that 'it will be imperative (…) to control the government recurrent budget in order to realize a sizeable investible surplus'.[34] A World Bank report from 1977 noted that 'There is likely to be considerable resistance in Tanzania to any suggestion that the investment rate be reduced for the sake of macrofinancial balance. (…) it is clear from Tanzanian policy documents that maintenance of the investment rate is regarded as a principal indicator of commitment to development'.[35]

The largely debt- and grant-financed development budget therefore drove up the debt stock, which in time translated into higher interest payments. As loans were denominated in foreign currency, currency depreciations also pushed the debt burden higher. By the 1980s debt payments began to crowd out capital spending. This was particularly marked in Kenya, where subsidies and interest peaked at 30 per cent of spending in the early 1990s, displacing both capital and recurrent spending. Tanzania also experienced a high debt burden with interest payments peaking at 18 per cent of expenditure, while this was less the case in Uganda which had less access to capital markets during Idi Amin's rule and started receiving debt relief earlier than its neighbours.[36] Furthermore, the composition of capital spending grew less socially productive. In Tanzania in particular, transfers to the floundering parastatal sector grew to consume an increasing share of the development budget.[37]

Another important postcolonial expenditure shift was the growth in military spending. Under colonial rule the metropolis had effectively subsidized much of the defence of the colonies, as foreign policy and defence was an imperial matter rather than a responsibility of individual colonies.[38] Domestic military spending began to grow in the independence period and escalated towards the end of the 1960s and 1970s in response to regional and domestic political instability. In Uganda the defence budget consumed almost a quarter of the government expenditure by the close of the civil conflict in 1986. Tanzania too, which fought a war against Uganda in 1978-9, saw its military spending spike and recurrent expenditure exceeded revenue for the first time in 1979.[39] Kenya also faced growing instability on its northern border, as conflict broke out in Ethiopia and between Ethiopia and Somalia, although a stronger military may well have served domestic political purposes too. Defence spending crowded out both recurrent and development spending.

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[31] Ibid.; Austin, "The developmental state".
[32] Mamdani, *Politics and class formation in Uganda*, p. 315.
[33] Government of Tanganyika, "Development plan for tanganyika, 1961/62 - 1963/64", pp. 9-12; Uganda, "Sessional paper no.2 of 1962", p. 4.
[34] Government of Tanzania, "Third five year plan", p. 3.
[35] World Bank, "Tanzania: Basic economic report", p. 93.
[36] Birdsall, William, and Deese, "Delivering on debt", Appendix C.
[37] Eriksson Skoog, *The soft budget constraint*.
[38] Gardner, *Taxing colonial africa*, p. Chapter 9.
[39] World Bank, "Tanzania: Public expenditure review".

Against a growing capital budget, growing military spending, and later a ballooning debt burden, the civilian wage budget fell as a share of total expenditure. Far from being a protected segment of the budget that drove up the deficit and crowded out more productive spending on public goods, in all three countries the wage bill contracted as a share of the budget. As a share of GDP the wage bill remained relatively constant in Kenya and Tanzania while it declined in Uganda during the crisis decades. This relative decline in wage spending started in the 1960s, well before the economic crisis.

Another important shift in expenditure policy, not captured in the economic classification, was the rise in education spending. Table 1 estimates education expenditure as a share of total central government primary expenditure in Kenya and Uganda. The education share rose from 12 per cent in 1950 (recurrent spending only), to a peak of 33 per cent of primary expenditure in 1999/2000 in Kenya, and from 9 per cent in 1950 to 27 per cent in 1999/2000 in Uganda. Literature on the colonial state has stressed the low priority given to African education in the first decades of colonial rule, which colonial governments (at least in British Africa) largely outsourced to religious missions.[40] British colonial policy in Africa also discouraged the expansion of post-primary education, for fear that this would fuel nationalist sentiments and resistance to colonial rule.[41] These policies began to change cautiously in the interwar period and more rapidly in the 1940s, and towards the end of the colonial era the East African governments began a rapid expansion of the education system which continued into the postcolonial era. As education is a labour-intensive service, this suggests that teachers formed a growing share of the wage bill.

[TABLE 1]

IV.

As public expenditure grew in the 1960s and 1970s, so too did the level of public employment. But with growing pressure on the budget in the 1980s public employment subsequently declined. Figure 4 provides time series data on the public sector share of the labour force, disaggregated into four broad categories: general government, parastatals and state-owned enterprises, defence and the teaching force. A full discussion of the assumptions made in constructing these data series is provided in Appendix S1. While there is some uncertainty around the Tanzanian and Ugandan totals in 1980s and 1990s, the appendix provides some sensitivity analyses, which show that alternative assumptions are unlikely to alter the main conclusions. As the military was excluded from most surveys on public employment, estimates for total military personnel are taken from the International Institute for Strategic Studies annual bulletin instead. These data are only available from 1971 but suggest that the armed forces were a negligible share of public employment before the mid/late 1970s.

In absolute terms employment grew rapidly after independence; the number of public sector employees tripled in Uganda, quadrupled in Kenya and increased by a factor of five in Tanzania between 1960 and 1990. However, all three countries experienced fast population growth over the same period and in relation to the size of the labour force the public employment growth was more modest and in line with growth rates in Europe,[42] growing from roughly 4.5 per cent to 7 per cent in Kenya between 1960 and 1990, 2.5 per cent to 6.5 per cent in Tanzania, and 3.4 per cent to 4.5 per cent in Uganda. The Ugandan series exclude parastatal employment (due to the lack of long-run data), but ad hoc measures suggest that parastatal employment was lower than in the neighbouring countries, at 0.8 per cent of the labour force in 1988.[43] Even at their peaks moreover, these levels of public employment were low by

[40] Frankema, "The origins of formal education "; Gardner, *Taxing colonial africa*.
[41] Mamdani, *Define and rule*.
[42] See Section I above.
[43] Estimated at 54,000 in 1988, see: World Bank, "Uganda: Growing out of poverty", p. 104.

international standards and the public employment share then fell significantly in the 1990s.[44] By 2010 public sector employment in Kenya was 40 per cent lower than at independence, in Uganda 30 per cent lower, and in Tanzania on par with the level at independence.

Military personnel remained a small share of the total, at least in Kenya and Tanzania, rising to a high of 4 per cent of all public employment in Kenya by the early 2000s, and peaking at 9 per cent in Tanzania following the Uganda-Tanzania war in 1979. In Uganda, unsurprisingly, the armed forces grew bigger, and reached a quarter of total public employment by the early 1990s.

The sectoral public service divisions show that most of the public employment growth was due to two factors: nationalisation policies, which brought a large share of industrial employment under state direction, and the growth in the teaching force. Parastatal employment shot up in the 1960s in Kenya and Tanzania when firms were nationalised or created (many were existing employees who were reclassified from private to public sector). Parastatal growth then plateaued in the 1970s and dropped back down in the 1980s and 1990s as firms were privatized, shifting employees back from the public to the private sector.[45]

[FIGURE 4]

The teacher share of employment in contrast continued to grow throughout the austerity period. Table 2 calculates teachers (or staff of the teacher's service commission) as a share of total general government employment, drawing on records from the ministry of education and employment surveys. The teacher share grew from between 12-16 per cent of general government employment in 1960 to 50 per cent of more by 2010. The growth in the 1960s and 1970s may be overstated by the incorporation of teachers in aided schools into the public sector (where previously they had been recorded as private), but even if the early estimates were raised, the growth since the 1980s alone has been significant.

[TABLE 2]

V.

With government employment increasing and the wage bill remaining a constant or falling share of GDP, we would expect wages in the public sector to have fallen, and indeed they did. Figure 5 shows the rise and decline of average real earnings in the public sector between 1960 and the present. It shows that formal sector workers received a wage dividend in the early independence era as average earnings rose in the 1960s while prices remained stable. After this, however, public sector wages declined steadily between the early 1970s until the early 1990s, with a fall of almost 70 per cent between peak and trough in Kenya, and almost 80 per cent in Tanzania. The Ugandan wage trend is calculated as a multiple of GDP per capita rather than in constant terms due to the lack of a reliable consumer price index for the mid-1980s to 1990s. It suggests an even steeper decline in Uganda, with public sector earnings falling by 90 per cent in relation to GDP per capita and 95 per cent in real terms by the mid-1980s. Since the mid-1990s earnings have been recovering in all three countries.

[FIGURE 5]

Public sector employees were not the only ones to see falls in income during this period. But even relative to average household consumption the wage fall was significant (see dotted line in Figure 5).

[44] See comparison with: Schiavo-Campo, de Tommaso, and Mukherjee, "Government employment and pay" Table 3.
[45] For a discussion of parastatal reform, see: Nord et al., *The story of an african transition*.

Average public sector earnings can be expressed as a multiple of average household consumption (total household consumption is extracted from the national accounts and normalised assuming an average household size of five). In Kenya this ratio fell from a high of 1.8 to just below 1 in the mid-1990s, and in Tanzania from 1.8 in 1975 to under a half by the late 1980s. In Uganda it fell from 1.3 in 1967 to 0.1 in the late 1980s. At their lowest point, the average government pay check did not meet the expenses of an average household in any of the three countries.

At the same time as earnings fell, the educational level within the public service increased, as new employment in the postcolonial era disproportionately favoured teachers, nurses and other comparatively high-skilled professionals. The average earning declines therefore understate the true extent of the formal real wage falls, which were particularly severe for higher skilled staff. The base salary for a Kenyan director for instance, was KSh.6 million in 1961/2, valued in 2010 KSh.[46] This had fallen to KSh.1.1 million by 2011/2 while the ratio between the director-level salary and minimum wage fell from 30:1 to 10:1.[47]

In part then, public employment growth was financed through a reduction in salaries. By combining the data on total government employment and average earnings we can examine the relationship between them. Expressed in relation to GDP per capita, average government wages are a direct function of the size of the wage bill (in relation to GDP) and the level of employment (in relation to the population). This relationship can be expressed as follows:

Average govt wage/GDP per capita = govt wage bill/GDP / govt employment/population (1)

It follows that a relative rise in the average government earnings will be driven either to a rise in the size of the wage bill relative to GDP or a fall in government employment relative to the population. Examining how these three variables changed over time therefore gives insight into the relative priority afforded to wages or employment. Figure 6 plots these three variables, using indices to ease the comparison of change over time. These plots show an inverse relationship between relative government earnings and the level of employment and suggest that the period was characterised by three different policy phases. In the late 1950s and 1960s average government earnings rose while the level of public employment fell (albeit less so in Tanzania where employment stayed relatively flat). In the 1970s this relationship reversed and average earnings began to fall shortly after public sector employment shot up as a share of the labour force. In the 1990s the relationship reversed once more as governments restricted public employment growth in order to allow earnings to recover. These three public employment policy phases are also distinguishable in the policy literature from these periods, which discusses the justification for government employment and wage policies.

[FIGURE 6]

A large historical literature has explored late colonial employment policies in the context of decolonisation.[48] This literature has emphasised the growing discontent against colonial employment policies and the racial disparities it fostered. The averages in Figure 5 mask large racial differences in earnings. In 1947 for instance, the average European public sector employee in Kenya earned 30 times the average African wage.[49] Real wages had fallen considerably during the Second World War and a

[46] Colony and protectorate of Kenya, "1961/62 estimates", p. 141. Based on salary of director in trade and economic division, ministry of commerce, industry and communication, vote 23.
[47] Republic of Kenya, "2011/12 estimates", p. 622.; minimum wages: Appendix S1. Based on salary of director for external trade, ministry of trade, vote R16.
[48] Bigsten, *Income distribution and growth* ; Collier and Lal, *Labour and poverty in Kenya*; Cooper, *Decolonization and african society*; Freund, *The African worker*.
[49] Appendix S1.

series of strikes among dock workers, railway workers and other manual labourers in the second half of the 1940s and 1950s across cities in Africa threatened the colonial order. In response to this labour unrest and rising nationalist agitation, colonial governments sought to 'stabilize' the African formal labour force through the introduction of minimum wage legislation and responsible trade unionism.[50]

Government publications from the period speak to an explicit trade-off between employment and earnings. After the sharp rise in employment immediately after WWII, colonial governments curbed employment to make fiscal space for wage increases, to placate the increasingly militant urban working class.[51] For Africans alone, real earnings rose almost four-fold in Kenya and Tanzania and three-fold in Uganda between the late 1940s and c.1970 as minimum wages were progressively raised.[52] By independence the expatriate wage share in Kenya had fallen considerably and the European: African wage ratio was 12:1. By the early postcolonial era, a government job was an attractive prospect both for unskilled workers and the growing pool of Africans with formal education.[53]

These developments have been the basis for several theories about the Africa's excessively privileged urban labour force. Scholars argued that a powerful urban African wage working class commanded wages well above the reservation price, financed through high taxation of the agricultural sector.[54] This, it was argued, fuelled an unsustainable rural-urban migration.[55] Furthermore, the removal of racial salary scales, which brought Africans in senior positions up to the salary levels of their colonial predecessors, meant that independent governments were saddled with a senior civil service with salaries determined by labour market conditions in the colonial metropolis. Many academics predicted that these labour market imbalances would have serious economic repercussions for postcolonial states, as they created a rent-seeking, public sector class that protected its own interests and stifled private sector growth. [56]

Yet counter to these predictions, average public sector earnings began to fall in the 1970s as government employment imperatives changed. Although macroeconomic instability and weak budgetary controls may have hastened the wage decline, policy also played a role. After independence all three governments were quick to temper the demands of wage earners. All three had an institutional architecture in place for managing wage growth and made frequent policy pronouncements about the government's preferred wage path.[57] Starting in the 1960s, union powers were successively curbed across the region. Tanzania abolished unions in 1964,[58] Uganda restricted union activities in 1964 and outlawed strike action in 1970,[59] while the Kenyan government made it virtually impossible for workers to strike in 1972.[60] The number of man-days lost annually to strikes fell considerably shortly before real earnings began to decline, as evidenced for Kenya and Tanzania in Figure 7. Moreover, government salary scales were determined centrally which weakened the bargaining power of any individual public sector cadre. In Tanzania wage setting in the country's bulging parastatal sector was also (at least

[50] Cooper, *Decolonization and African society*; Weeks, "Wage policy"; Grillo, *Race, class, and militancy*; Freund, *The African worker*; Iliffe, *The African poor*.
[51] Uganda, "Background to the budget 1963/64", p. 17.
[52] Appendix S1.
[53] Cooper, *Decolonization and African society*; Freund, *The African worker*.
[54] Arrighi and Saul, "Socialism and economic development"; Bates, *Markets and states*.
[55] Todaro, "A model of labor migration".
[56] Bennell, "The colonial legacy ", p. 127.
[57] The Kenyan Industrial Court and the Tanzanian Permanent Labour Tribunal received guidelines on wage policy from the government and had the power to vet collective bargaining agreements, see: Sabot and Knight, *Education, productivity, and inequality*.
[58] Shivji, *Class struggles in tanzania*.
[59] Mamdani, *Politics and class formation in uganda*.
[60] Bigsten, *Education and income determination in kenya*.

formally) brought in line with regular governmental wage setting to avoid competition between the two sectors through the 1967 Standing Committee on Parastatal Organisations.[61]

[FIGURE 7]

Governments justified these policies on equity grounds. Concerned that senior government wages were set too high on account of the colonial wage scale and that the public sector employment was contributing to urban-rural income differentials, governments sought to prevent further wage creep. '[C]reating more jobs for the unemployed must take precedence over increasing the incomes of those already employed', was the official position of the Kenyan government in 1967.[62] Julius Nyerere made a similar plea in his inaugural speech as President in 1962, emphasising the risk of tension between highly paid civil servants and the uneducated majority.[63] When it came to salary adjustments moreover, policies stated that wages of lower-paid employees were to be raised more than those at the top, in an effort to compress the large wage spread within the public service.

In Kenya in particular, the policy discourse from the early 1970s was strongly shaped by urban unemployment concerns, particularly unemployment among secondary school leavers.[64] A series of tripartite agreements in Kenya (1964, 1970 and 1979) bound the government and private sector to increase the number of jobs by a set percentage in exchange for wage restraint on the part of trade unions, with the explicit aim of producing jobs for the unemployed.[65] While the actual impact of these agreements has been debated (some argue that it had little real effect on employment),[66] it is a testament to how politically important the government perceived the unemployment problem to be.

The wage adjustment processes differed in the three countries. Kenya's government adjusted civil services wages intermittently based on the recommendation of a series of Parliamentary-appointed commissions on public service remuneration. In 1963, at the recommendation of the Pratt commission, the Kenyan government raised public sector wages at the top of the distribution with the explicit aim of attracting Kenyans from the private to the public sector in order to speed up the process of Kenyanization.[67] The following 1967 Millar-Craig commission, however, argued for wage restraint at the higher levels of the civil service and modest wage increases only at the lower levels.[68] In 1971 the Ndegwa commission introduced a new wage scale that raised salaries at all levels.[69] But with inflation rising following the oil shocks of the 1970s, real earnings eroded quickly in the mid-late 1970s. In line with government guidance, the subsequent 1979/80 Waruhiu commission and 1985 Ramtu commission both recommended that lower paid workers should receive wage awards that fully compensated them for the rising cost of living, while those at the middle and higher level would only be partially compensated.[70] This compressed the wage scale and caused average real earnings to fall.[71] Inflation

[61] Although empirical studies suggest that the parastatals paid a wage premium, see: Lindauer and Sabot, "The public/private wage differential", p. 137.
[62] Government of Kenya, "Sessional paper no. 10 of 1967", para 8.
[63] Nyerere, "President's inaugural address", p.179-80.
[64] Abernethy, "Bureaucratic growth"; Cohen, "Importance of public service reform ", p. 455.
[65] Mukui, "1979 tripartite agreement".
[66] Ibid., p. 563.
[67] Pratt, "Commission on the Kenya civil service".
[68] Government of Kenya, "Sessional paper no. 10 of 1967", pp. 2-3.
[69] Ndegwa, "Report of the commission of inquiry".
[70] Government of Kenya, "Sessional paper no.10 of 1980", para 48; Kenya, "Civil service salaries review committee 1985", pp. 38-41.
[71] Thomas Piketty has argued that this is a general phenomena; wage inequality rises in boom years but falls in downturns as those at the lower end of the spectrum are compensated more fully for inflation, see: Piketty, *Capital in the twenty-first century*, p. 287.

spiked again in the early 1990s and rapidly drove down earnings as the structural adjustment negotiations with Kenya's donors broke down. Only in 1994, as the structural adjustment programme got back on track and the government began implementing a civil service reform programme did Kenyan formal sector salaries begin to recover.[72]

In Tanzania the wage awards continued for a few years after independence, with new minimum wage awards in 1963 and 1965 that drove up average earnings in both the public and private sectors.[73] But average earnings then plateaued with the introduction of the Arusha Declaration in 1967, which heralded Tanzania's move to the left. The government explicitly sought a solidaristic incomes policy that would lower social inequality, and reduced nominal salaries of high paid civil servants by 10-15 per cent in 1967. The 1967 Permanent Labour Tribunal Act and new incomes policy limited wage and benefits increases to a maximum of 5 per cent in any year, in an effort to reduce a perceived urban bias.[74] The government issued a further large wage award that came into effect in 1974, again targeting workers at the lower end of the distribution.[75] But high inflation in the following years quickly eroded this boon. Between 1975 and 1980 the government froze wages in the public sector, which resulted in a rapid decline in earnings. High inflation continued to eat into real earnings into the 1980s and it was only after the structural adjustment reforms began in earnest in the late 1980s, including a long-running pay reform programme with donor support, that average wages began to recover while the level of employment ceased to grow.

In Uganda in contrast there were fewer adjustments to the public sector salary structure after independence. Uganda experienced a terms of trade decline in the 1960s which raised the deficit, and already in this period the ministry of finance sought to restrain recurrent spending. In 1963 the government appointed the Ani commission on civil service salaries, with the aim of reducing the wage bill and reducing extreme disparities in pay. However, the commission concluded that salaries could not be reduced without losing scarce, skilled manpower, and recommended modest increases instead.[76] After that no new commission was appointed until 1973 (the Bikangaga commission), by which time real earnings had fallen considerably. The 1973 commission recommended a reduction in the size of the public service and an increase in taxes in order to generate the fiscal space for wage increases,[77] but its recommendations were never implemented and real earnings continued to decline. Under Obote's second Presidency in the 1980s, salaries and allowances were raised across the board, but this was quickly offset by another inflationary spike in the 1980s. A government study reported that by 1990 the base pay for an entry-level degree-holder was \$7 per month, and a Permanent Secretary officially earned \$23, although a complicated structure of allowances and benefits raised effective pay somewhat.[78]

This approach to wage setting had run its course by the 1980s. Policy discourse in East Africa shifted again and began to emphasise the unsustainable rate of employment expansion and negative effects of the public sector wage decline. The Kenyan Minister of Finance stressed in his 1985 budget speech that '[t]here is evidence that Government employment has expanded excessively. (...) if we want to avoid landing in the predicament where much of the Civil Service sits around drawing its salaries, unable to

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[72] Manda, "Incentive structure", p. 12.
[73] This section on Tanzania draws on: Valentine, "Government wage policy"; Jamal, "Chasing the elusive rural-urban gap in Tanzania".
[74] Jackson, "The disappearance of strikes", p. 231.
[75] It raised wages by Shs.100 or 15%, whichever was bigger, provided the maximum did not exceed TSh.300, see: Tanzania Bureau of Statistics, "Survey of employment and earnings 1973-1974", p. 13.
[76] Ani, "Report of the salaries commission", p. 3 and chapter 5.
[77] Bikangaga, "Report of the salaries commission 1973-74", paras 178-179; 188-179.
[78] Sendyona, "Public service restructuring", p. 90.

perform economically meaningful services for the population, we must take forceful action'.[79] Reforms started cautiously in the 1980s with employment freezes and other means of curbing new hires. From the late 1980s and on IMF and World Bank programmes across the region commonly included structural benchmarks related to restraining the wage bill and size of the civil service.

Uganda initiated a donor-supported civil service reform programmes in 1990 and Kenya and Tanzania followed in 1993.[80] These programmes were explicitly designed to reduce staffing numbers to finance increases in salaries, which both governments and donors agreed had fallen too low. In Uganda the government established a minimum living wage based on a 1989-90 living cost survey, and sought to raise the government minimum wage to this level. Staff numbers were reduced by almost half through a combination of employment freezes, payroll cleaning and removal of inactive workers, voluntary early retirement schemes and redundancies. Kenya and Tanzania saw smaller cuts in nominal civil service numbers, but employment freezes and some voluntary redundancy schemes also brought down employment relative to population. In tandem all three governments initiated programmes to reform the parastatal sector, with long-running privatization programmes that reduced the number of parastatal staff.

Although these reform programmes have been criticised for failing to bring about a meaningful change in staff capacity and civil service effectiveness,[81] in pure numerical terms they largely achieved their objectives. The number of staff fell across the civil services in all three countries, which set against continued rapid population growth resulted in a sharp reduction in the public service share of the labour force. Salaries were successively increased over the course of the 1990s and 2000s, resulting in improvements in real earnings, although some of the increase in average earnings was also due to the disproportionate number of retrenchments in the lower cadres. Adjusting for skill, base wages for senior staff remain well below the levels of the 1960s (see earlier discussion for Kenya), although various evaluation studies have found them to be roughly commensurate with pay levels in the private sector.[82]

This review of the process of salary revisions reinforces earlier findings: for much of the postcolonial era, protecting the living standards of public servants was not a key budget priority. The wage budget remained a constant or falling share of spending across the period, and during the first decades of independence all three governments explicitly prioritized employment growth over the protection of the wages of those already in employment. Policy documents from the era show that governments were aware of this trade-off, and acknowledged that they were unable to raise salaries in line with inflation. This trend was reversed with the advent of structural adjustment, when, with donor encouragement, all three governments rationalised or froze public employment to raise pay. This has had the effect of reversing the state growth of the post-independence era and reducing employment levels to below those at independence.

VI.

In conclusion, it is commonly claimed that weak postcolonial African leaders use public resources to buy the allegiances of influential social groups (ethnic, regional or religious) to hold their fragile states together. One supposed effect of this political settlement is that public employment serves patronage

[79] Government of Kenya, "Budget speech 1984/85", p. 5.
[80] Langseth, "Uganda civil service reform"; Teskey and Hooper, "Tanzanias civil service reform"; Lorete, "Kenya civil service reform".
[81] Langseth, "Uganda civil service reform".
[82] See for instance: Kenya Institute for Public Policy Research and Analysis, "Public-private sector wage differentials".

purposes; wage payments are benefits distributed through a cascading set of patron-client relationships rather than payments to workers for services to the public. Such pressures to redistribute rather than invest productively supposedly weakened the investment climate in Africa and slowed human capital accumulation.

This paper has sought to unpack the broader budget priorities in postcolonial Kenya, Tanzania and Uganda by examining how the distribution of resources changed over time and whether they are consistent with such claims. This perspective on budget policy shows the wage bill to have been the victim more than the agent of the region's macrofiscal woes. There was nothing exceptional about either the place or timing of public employment growth over the past half century, while the crisis in revenue, militarization and debt severely limited the ability of these governments to compensate staff.

Economic historians of African colonialism have long stressed that colonial policy was intimately tied to resource constraints.[83] Unsurprisingly, these constraints continued to shape the policy space after independence. As in other regions of the world, the Kenyan, Tanzanian and Ugandan state expenditure and deficits expanded in the 1960s and 1970s during a period of high economic growth, then plateaued or fell in the 1980s, or earlier, as growth slowed. The level of public employment responded with a lag to these changing economic conditions, with continued employment growth into the early 1980s followed by a sharp decline thereafter.

A long-run perspective also tempers the assessment of rapid public employment growth. Set against fast population growth, the public sector employment to labour force ratio grew rapidly for roughly a decade and a half, from the mid-1960s until the early 1980s, much as in other regions of the world. After that public employment levels plateaued and then fell as governments instituted employment freezes and redundancy programmes. In proportion to the labour force, the public services of Kenya, Tanzania and Uganda are on par or smaller today than in the mid-1960s.

Country context clearly mattered as well, but the most extreme case of state mismanaged and dysfunction - Uganda – was also the state with the greatest neglect of its public servants. On the basis of these three cases alone the correlation appears to run in the opposite direction of that proposed in the structural adjustment and patronage literature. It was the country with the largest government wage bill and highest average earnings - Kenya - that experienced the milder economic contraction in the 1980s.[84] Nor is there any clear relationship between ethnic polarization and spending on employment. Despite Tanzania's stronger national cohesion and weaker salience of ethnicity, it saw the sharpest increase in public employment and wage spending after independence.

As a consequence of prioritizing the development budget, military expenditure and debt service over growth of the wage bill, and prioritizing the expansion of the public service over wage growth for existing employees, real earnings in the public sector fell sharply between the 1970s and 1990s. As deficits widened, the wage bill was held in check through high inflation which eroded real earnings. This decline in earnings was partly a result of growing employment, which spread the shrinking wage bill ever more thinly among an increasing number of staff. Another reason for the earning declines was the falling value of the wage bill in aggregate. As the terms of trade and exchange rates declined, the import-dependent urban wage class faced sharply rising commodity prices.

Inflationary pressures in the 1970s and 1980s were not unique to East Africa, although the levels of inflation in Kenya, Tanzania and Uganda were high by global standards. An important difference between these East African cases and Western European and North American economies during this

[83] Gardner, *Taxing colonial africa*.
[84] See also: Goldsmith, "Africa's overgrown state"; Rodrik, "What drives public employment ".

same period, however, was the extent to which workers were able to incorporate compensation for inflation into their wage demands. In the 1970s many governments in industrialized countries allowed wage indexation, which pegged wages to the rate of inflation. [85] As a result, high inflation had an immediate effect on budgets, forcing up the deficit further. This vicious inflationary spiral has been blamed for runaway inflation, but an alternative interpretation is that the strong bargaining power of workers forced governments to abandon this inflationary adjustment method relatively quickly. In Kenya, Tanzania and Uganda in contrast, workers were less successful in protecting real earnings, which allowed wage declines and deficit financing to continue for longer and presumably had serious consequences for worker motivation.

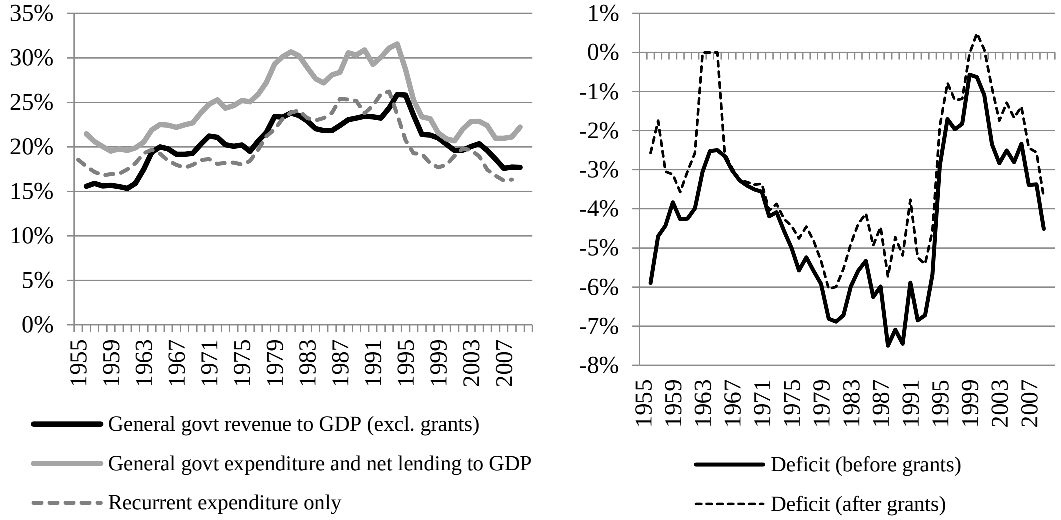
While there may have been pockets or individuals within the public service who continued to profit from their positions, the living standard of the average public sector employee must have declined. Informal rents and other means of compensating staff for falling wages may have off-set some of the decline in wages, but such compensation could only have been partial. Back-of-the-envelope calculations for Kenya and Tanzania suggests that in order to maintain constant average earnings over this period, the informal component of the public sector wage bill would have had to be three or four times as large as the official wage bill by the early 1990s, and the 'true' public sector wage bill would have consumed 30-40 per cent of GDP. This is clearly implausible.

In the search for long-standing institutional explanations for Africa's governance weaknesses and economic underperformance, many scholars have dismissed official government policies and pronouncements as smokescreens for the opaque political bargaining that informally dictate resource distribution.[86] This paper serves to caution that we shouldn't be too quick to discount the official story line. A closer look at public expenditure patterns in the early independence era shows them to be quite consistent with official policy. They testify to the importance given to industrial development and educational expansion; they show the emphasis placed on expanding service delivery and public employment rather than protecting those already in government jobs; and they suggest a considerable ambivalence towards the high-wage legacy of the late colonial era. Some of the economic predicaments of the latter decades may in fact have been the consequences of policies designed to address the legacies of colonialism.

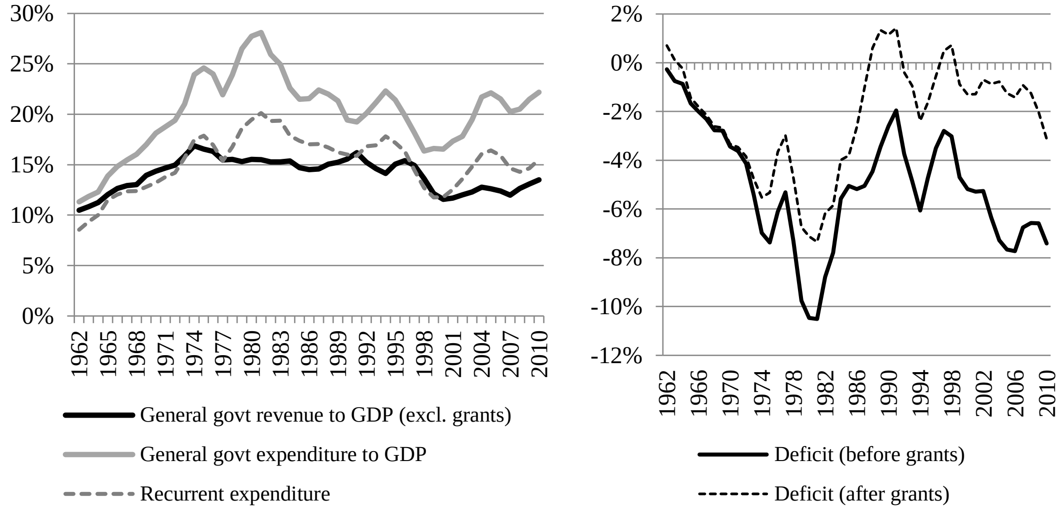
This budgetary perspective also places the crisis of the 1980s in stark relief. The combined effect of a negative revenue shock, debt crisis and military escalation left little fiscal space for patronage employment. Institutional weaknesses may well have exacerbated some of these crisis conditions, but there is little evidence that poor expenditure allocations and excessive wage spending were the mediating factors driving these crises.

[85] An overview of the literature for and against wage indexation is provided in: Jadresic, "Wage indexation and the cost of disinflation".
[86] For a recent restatement, see: Andrews, Pritchett and Woolcock, "Escaping capability traps".

Kenya



Tanzania



Uganda

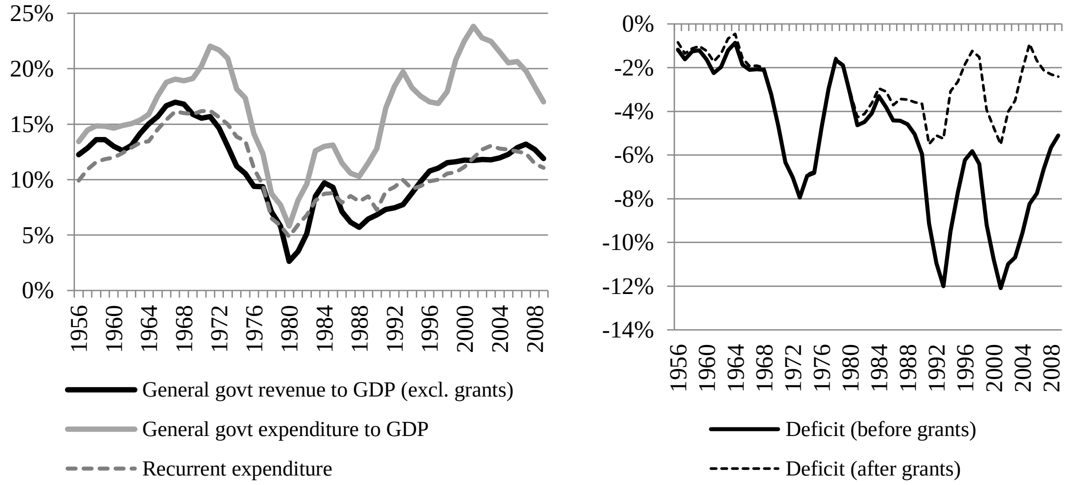


Figure 1. *General government revenue, expenditure and deficit as % of GDP, 1950s – 2010*

Notes: Smoothed using 3-year moving average.
Sources: Appendix S1.

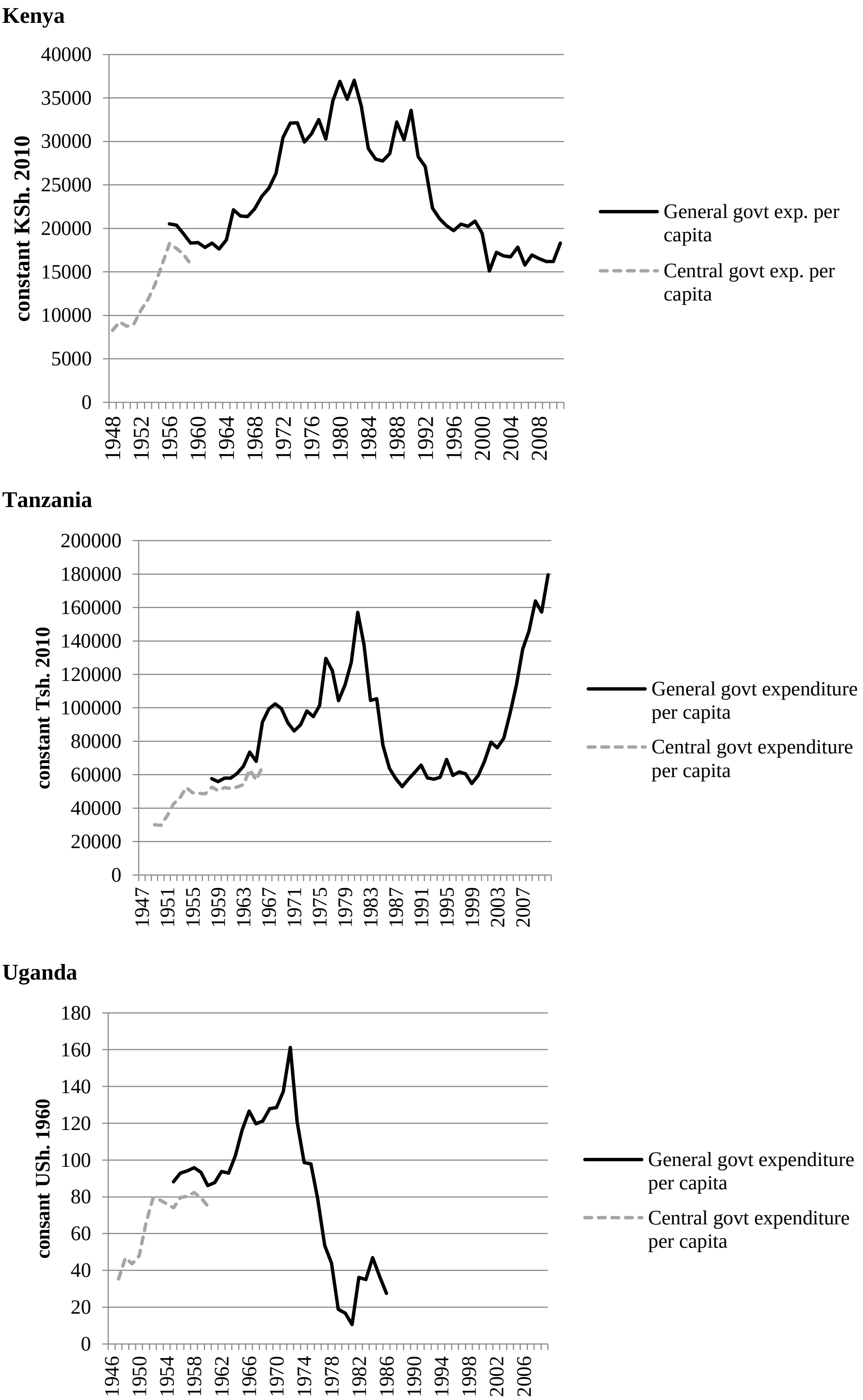


Figure 2. *Government expenditure in real per capita terms 1940s – 2010*

Sources: Appendix S1.

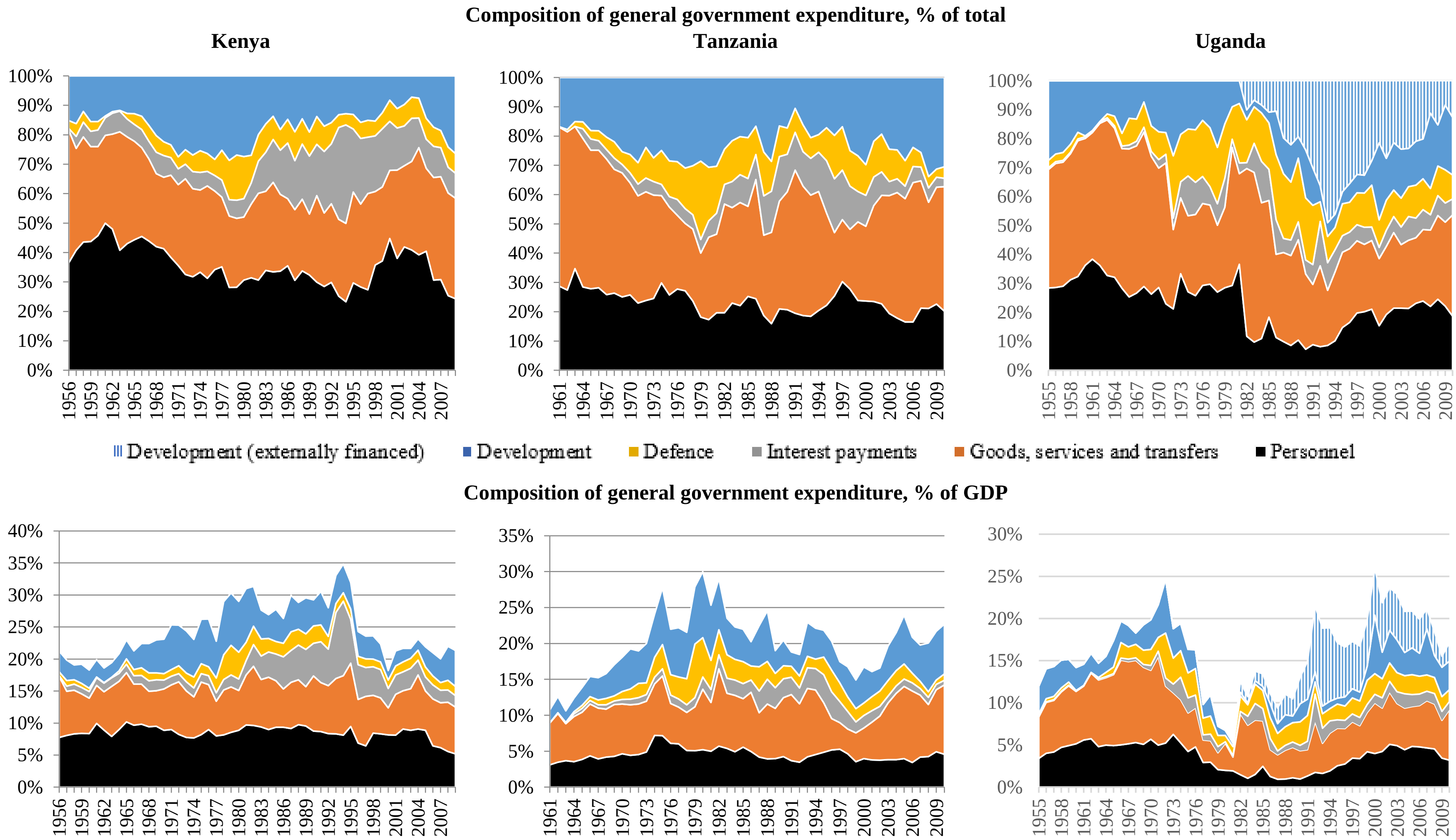


Figure 3. *Government expenditure by economic classification, c.1960 - 2010*

Sources: Appendix S1.

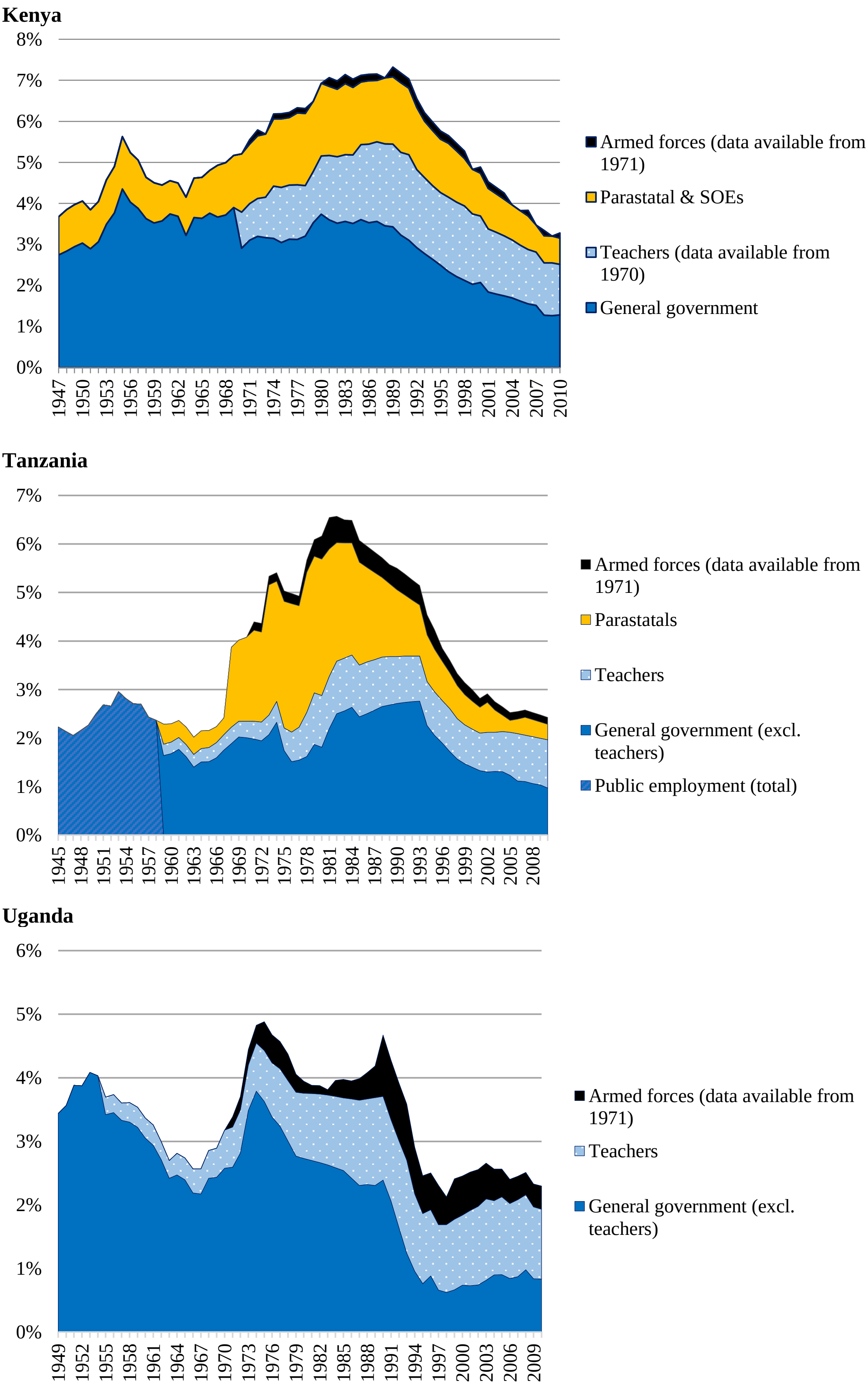
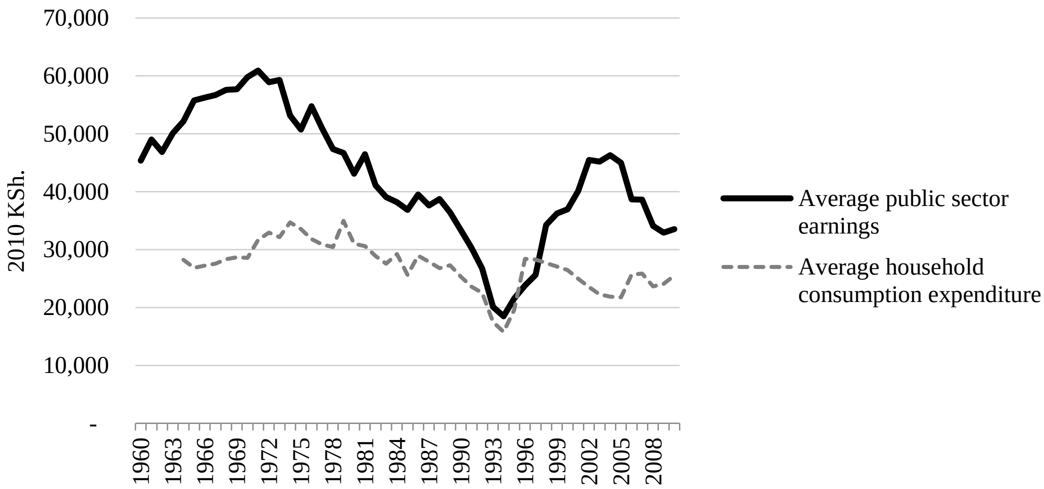


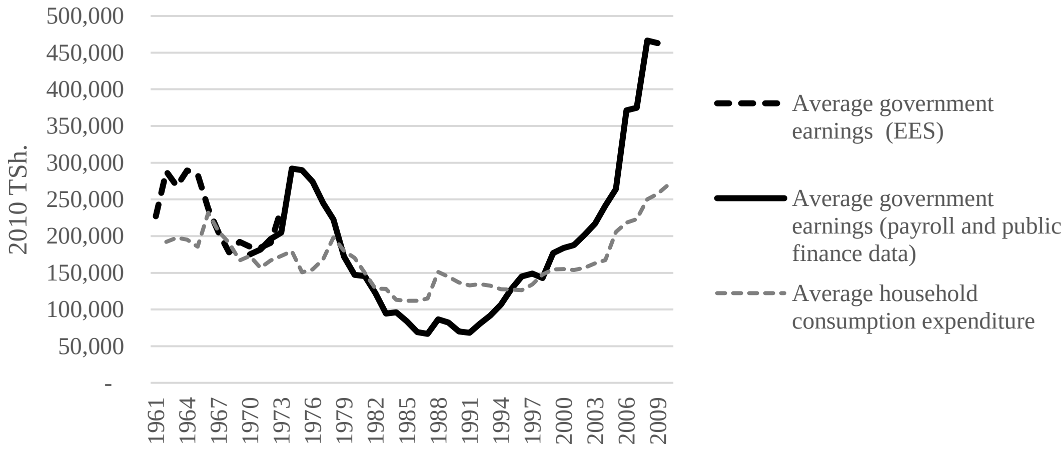
Figure 4. *Public sector employment as % of labour force, 1940s – 2010*

Sources: Appendix S1.

Kenya



Tanzania



Uganda (Note: Average earnings as a multiple of GDP per capita)

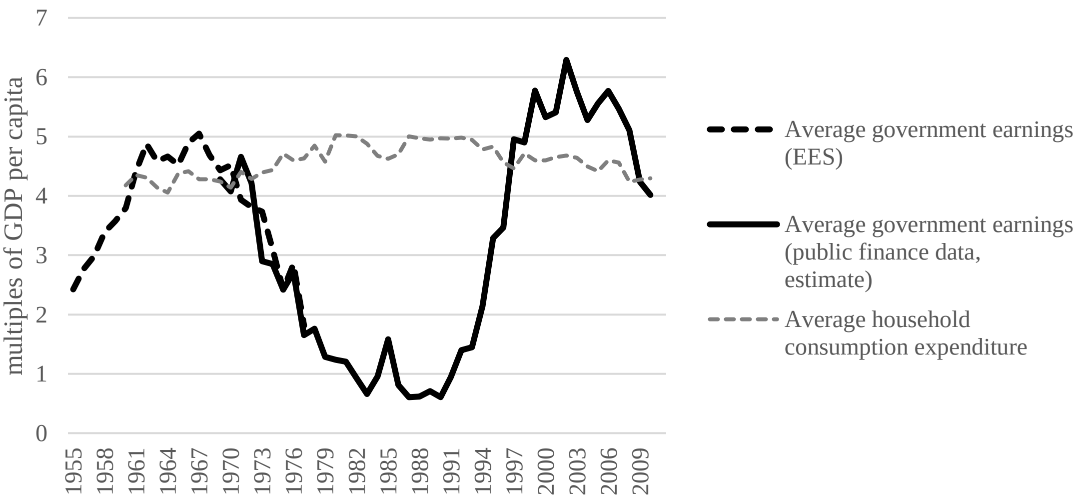
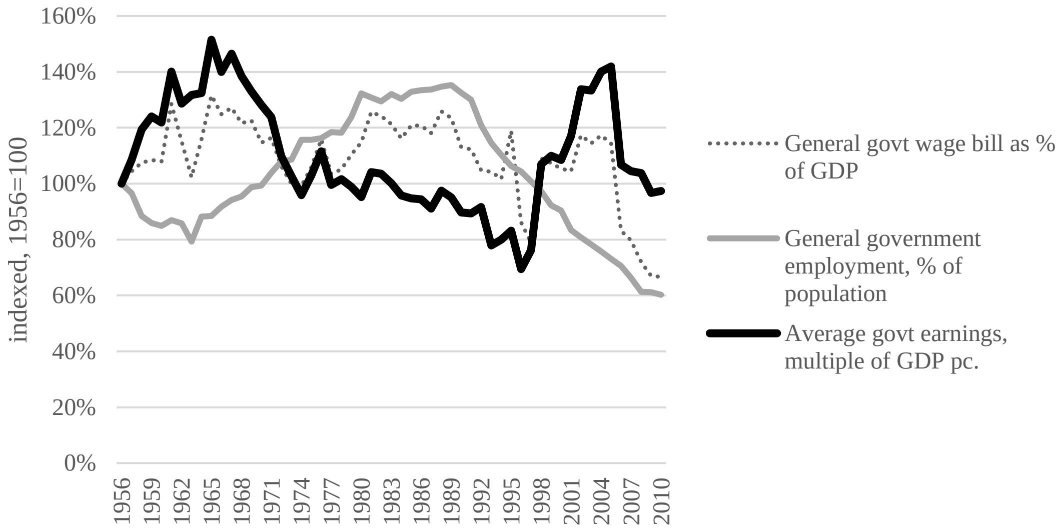


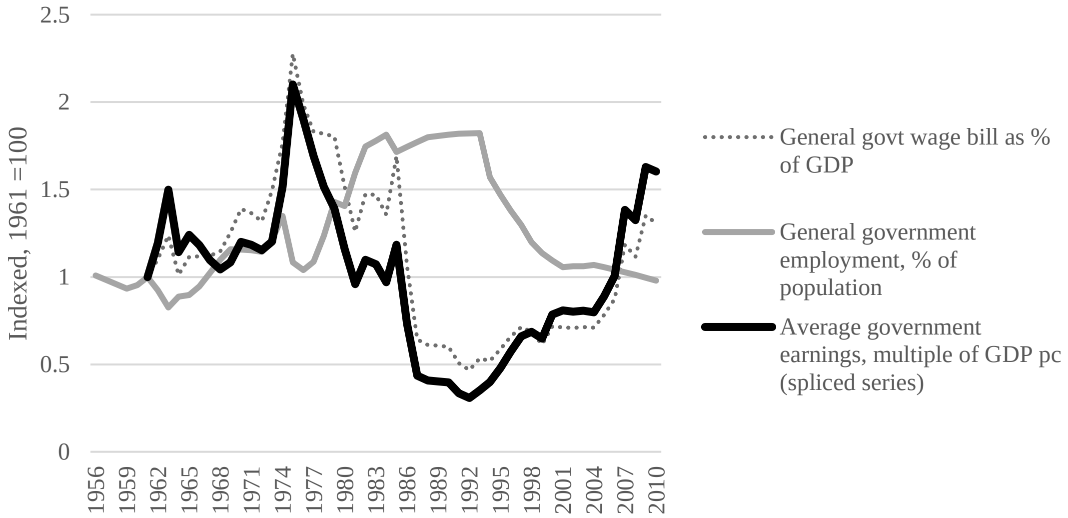
Figure 5. *Average real monthly earnings in the public sector compared to average household consumption expenditure, 2010 prices*

Sources: Appendix S1.

Kenya



Tanzania



Uganda

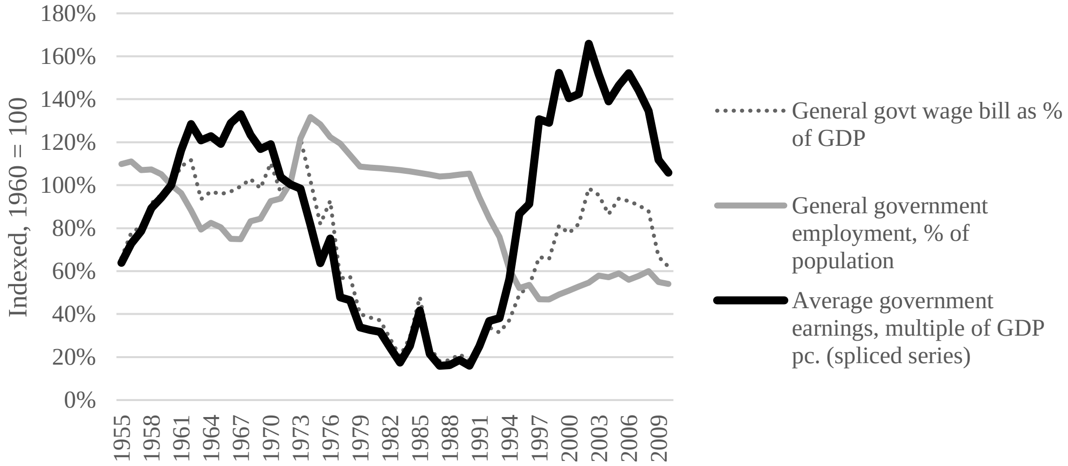


Figure 6. *Relationship between relative government wages, level of public employment and total wage bill*

Sources: Appendix S1.

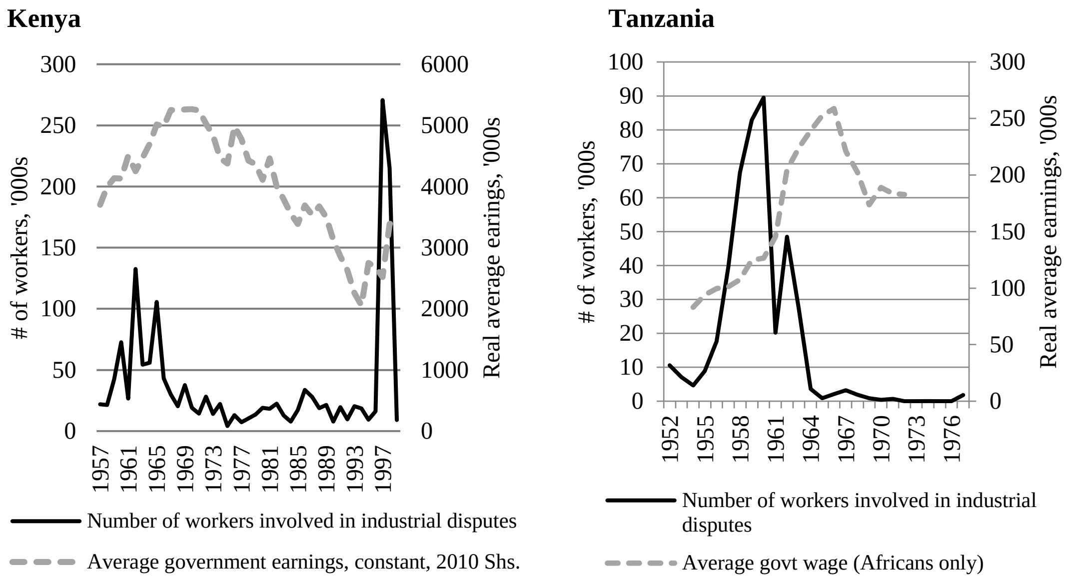


Figure 7. *Real earnings in the public sector compared to intensity of strike action*

Notes: Kenya 1997 spike due to teachers strike.
Sources: Appendix S1.

Table 1. *Education expenditure as share of primary central government expenditure, % of total*

	1950 Recurrent only	**1960/61**	**1969/70**	**1979/80**	**1989/90**	**1999/00**
Kenya	10%	17%	25%	20%	26%	33%
Uganda	9%	22%*	20%	27%	-	27%

Notes: Primary expenditure = total expenditure excluding interest payments; *1961/62 for Uganda
Sources: Appendix S1.

Table 2. *% of teachers* in general government employment*

	1960	**1970**	**1980**	**1990**	**2000**	**2010**
Kenya	16%	23%	28%	38%	44%	49%
Tanzania	12%	14%	37%	26%	36%	51%
Uganda	14%	19%	27%	36%	60%	57%

*Notes:**Teachers or employees of the teacher's service commission
Sources: Appendix S1.

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Supporting Information

Available from author on request

Appendix S1: Public expenditure and employment in Kenya, Tanzania and Uganda: data
Appendix S2: Construction of data series