

Africa's bourgeoisie of the public service? Public employment and pay in Kenya and Tanzania since independence¹

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ABSTRACT

In 1961 Frantz Fanon scathingly characterised the emerging African elite as a bourgeoisie of the civil service. Many others have since described Africa's public sector employees as a privileged rentier class that grew disproportionately large in relation to the continent's under-developed private sector. Is this characterisation accurate? Using data on employment and income from Kenya and Tanzania, this paper aims to situate public sector employees in two African countries within their respective national income distribution in order to establish the share of high-income households that were headed by public servants. It argues that public sector employees did not remain a privileged group for very long after independence in either country. To the detriment of the nascent middle class, politicians deliberately held down formal sector wages between the 1970s and early 1990s. While public sector employees started the postcolonial era as an important share of the middle and upper classes, this share subsequently declined. In 1976 Kenyan public sector employees comprised roughly 44% of those earning an average teacher's wage or above. This ratio had dropped to 30-35% by 1994 and roughly 22% by 2005/06. In Tanzania the public sector share of the top income decile fell from an estimated 25% in 1969 to 13% in 2011/12. In both countries moreover, public sector-headed households relied on multiple income sources to meet household consumption needs during the economic downturn. Without recourse to secondary incomes from farming, businesses or other employment, public sector-headed households would have seen a considerably larger income decline. The corollary to the declining share of public sector employees among high income earners was an increase in the share of private sector employees and business owners at the top of the income distribution. This suggests that after a long teething period, East Africa's private sector may finally be coming into its own.

¹ This paper was written during the LSE International Inequalities Institute Thomas Piketty Masterclass and has benefitted from the guidance and input of Thomas Piketty and other masterclass participants, as well as the continued guidance of my supervisors, Leigh Gardner and Tirthankar Roy. I have also received advice from Thandika Mkandawire, Andrew Seltzer and Eric Schneider and valuable feedback from Denis Cogneau and other participants at the Paris School of Economics Development Seminar, as well as from participants at the International Inequalities Institute Annual Conference, the International Workshop on Inequality and Middle Class Development in Africa and the APPAM International Conference on Inequalities. I also wish to acknowledge the statistical offices that provided most of the underlying data that made this research possible: the Kenya National Bureau of Statistics and the Tanzania National Bureau of Statistics.

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I. INTRODUCTION

Many scholars of the early independence era lamented that Africa's middle and upper classes were too beholden to the state, through employment or access to contracts and resources, to act as a progressive economic force or a pro-democratic interest group. While research on class stratification in Africa fell out of favour during the economic crises of the 1980s and 1990s, the resurgence in economic growth over the past two decades has brought attention to Africa's middle class once more.³ Its growth has been heralded by some as a sign of the continent's economic and political transformation.⁴ An important question to revisit, therefore, is whether the composition of the middle class has fundamentally changed since independence. In particular, has it grown less reliant on public employment? This paper analyses the income distribution in two case study countries, Kenya and Tanzania, with a focus on the role of public employment in creating and perpetuating the income elite.

Public sector employees are central characters in a number of theories purporting to explain Africa's economic failures. Marxist scholars of the early independence era regarded the heavy hand of the state in class formation and lack of indigenous capital as a hindrance to development. They predicted that the overrepresentation of politicians and public servants in the African national elite would perpetuate a rentier class that would keep African countries fettered to their former colonial masters.⁵ In the 1970s and 1980s public sector choice theorists shifted the focus to interest groups. They argued that minimum wage legislation, which particularly affected unskilled workers in the public sector, privileged urban workers over peasant farmers and fuelled an unsustainable rural-urban migration.⁶

Rejecting both the class and interest group prisms, another political economy school of thought described public employment as a form of patronage that politicians used to gain the support of particular individuals or constituencies.⁷ People rose in income and social standing by gaining a cut of the spoils collected by the state. The concept of class lost its significance as socioeconomic standing was linked to ethnic or regional identity and political clout rather than class mobilisation.

Africa's economic recovery in the 2000s brings new salience to this debate. While the optimistic 'Africa Rising' discourse has emphasised the growing importance of a vibrant, urban, private sector elite, others have pointed to business as usual, suggesting that the same political considerations have determined who has gained during this latest growth episode.⁸ This paper brings new quantitative evidence to the debate by examining where the 'privileged' public sector employees fell within the

³ Danielle Resnick, 'The Political Economic of Africa's Emergent Middle Class: Retrospect and Prospects', *Journal of International Development*, 27 (2015), 573–87; Antoinette Handley, 'Varieties of Capitalists? The Middle-Class, Private Sector and Economic Outcomes in Africa', *Journal of International Development*, 27 (2015), 609–27.

⁴ Charles Roxburgh and others, *Lions on the Move: The Progress and Potential of African Economies* (New York, 2010); Maurice Mubila and Mohamed-Safouane Ben Aissa, *The Middle of the Pyramid: Dynamics of the Middle Class in Africa*, Market Brief (Tunis, 2011).

⁵ Frantz Fanon, *The Wretched of the Earth* (New York: Grove Weidenfeld, 1963); Issa G. Shivji, *Class Struggles in Tanzania* (London: Heinemann, 1976); Mahmood Mamdani, *Politics and Class Formation in Uganda* (New York and London: Monthly Review Press, 1976).

⁶ Robert H. Bates, *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies* (Berkeley and London: University of California Press, 1981); Michael P. Todaro, 'A Model of Labor Migration and Urban Unemployment in Less Developed Countries', *The American Economic Review*, 59.1 (1969), 138–48.

⁷ Patrick Chabal and Jean-Pascal Daloz, *Africa Works: Disorder as Political Instrument* (James Currey Publishers, 1999); Michael Bratton and Nicolas van de Walle, *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective* (Cambridge: Cambridge University Press, 1997); Marc Robinson, 'Spending Reviews', *OECD Journal on Budgeting*, 2 (2013), 1–43.

⁸ For a discussion of this debate, see: Handley; Scott D. Taylor, *Globalization and the Cultures of Business in Africa: From Patrimonialism to Profit* (Bloomington: Indiana University Press, 2012).

national income distribution at different points in time in Kenyan and Tanzanian history. Did state employment create the postcolonial elite and middle class? Has its importance withered with time?

The term middle class has multiple meanings and can be measured in different ways. The Marxist notion of class is linked to the ownership of the means of production. The working class sell their labour while the bourgeoisie owns capital and employs labour; in between them is a petty bourgeois middle tier of small shop and business owners who sometimes ally with the bourgeoisie and other times with the working class.⁹ Weber broadened Marx's definition by focusing on social resources rather than the productive process only, arguing that wealth, social status and education allowed some members of society to exercise more power than others.¹⁰ He also made an important distinction between white-collar employees, who had greater incomes and opportunities, than the precarious working class. Research on the middle class has therefore used a plethora of definitions and measures, from occupation and educational attainment to asset ownership, income or economic vulnerability.

This paper, however, focuses on income rather than class per se, with the aim of identifying the sources of income and other economic characteristics of the households at the top of the distribution. It seeks to rank households in Kenya and Tanzania from poor to wealthy and locate where those headed by public sector employees fell in this rank order at different points in time. Note that the middle class is something of a misnomer in low income countries as any definition based on middle class characteristics - be it profession, education or asset ownership - will describe the upper strata of the distribution rather than the actual middle. This paper will primarily use the top 10% of the income distribution as a proxy for the middle class. It is an arbitrary cut-off but it has the advantage of simplicity. It is a large enough group to be representative of something more substantial than the ruling clique while capturing a stratum of households living above subsistence.¹¹

The case study choices were driven by practical considerations. Both Kenya and Tanzania publish an array of data series and surveys on employment and earnings. Questions of class and income inequality have also received considerable attention in both countries and as a result there is a rich secondary literature to lean on. Furthermore, other studies have used the Kenya-Tanzania matched pair design to compare two countries with similar endowments but different political trajectories after independence, using them to contrast Tanzania's African socialism with Kenya's capitalist orientation.¹² In this case, however, the focus is on similarities rather than differences. The objective is to see if two countries with different political trajectories conform (or don't conform) to the stylized story of an excessively influential public service, and whether the changes wrought by structural adjustment were similar in both countries.

This paper uses a broad definition of the public sector, including all employees of the general government, teaching services and parastatals, but unless stated, excludes the armed forces. Also note that this study considers only mainland Tanzania as Zanzibar has its own public service history and statistical collection system.

⁹ For a good discussion, see: Roger Southall, *The New Black Middle Class in South Africa* (Johannesburg: Jacana Media, 2016).

¹⁰ Max Weber, *Economy and Society: An Outline of Interpretive Sociology*, ed. by Guenther Roth and Claus Wittich (Berkeley: University of California Press, 1978), chap. IV.

¹¹ Thomas Piketty also uses the top 10% cut-off in his study of top incomes, see: Thomas Piketty, *Capital in the Twenty-First Century* (Cambridge, Mass.: Belknap Press, 2014), chap. 8.

¹² Joel D. Barkan, *Politics and Public Policy in Kenya and Tanzania*, ed. by Joel D. Barkan (New York: Praeger, 1984); Richard H. Sabot and John B. Knight, *Education, Productivity, and Inequality: The East African Natural Experiment* (Oxford; New York: Published for the World Bank, Oxford University Press, 1990); Paul Nugent, *Africa since Independence*, 2nd edn (Palgrave Macmillan, 2012).

II. BACKGROUND

The preoccupation with an African public sector elite stems from the colonial era when restrictions on the economic activities of Africans and their educational attainment curtailed social upward mobility.¹³ A particular feature of the British African colonial experience, moreover, was an educational system that limited opportunities for Africans to gain higher education for fear that it would fuel resistance to colonial rule.¹⁴ As a result the middle and senior echelons of the East African public services were largely staffed by Europeans and Asians up until independence. As late as the early 1960s, less than a third of all mid- and senior government positions in British East Africa were held by Africans.¹⁵ In order to bring more Africans into decision-making roles in government as countries prepared for independence, the British colonial states began to increase their investments in post-primary education for African students in the 1950s with the explicit aim of producing the skilled manpower required to staff public institutions.¹⁶ In tandem, racially-based salary scales were officially removed in 1954, bringing African and Asian employees in senior positions up to the European salary level.¹⁷ At the lower end of the urban income distribution moreover, governments introduced minimum wages in order to improve the living standards of low-skilled workers and consolidate a stable, urban workforce.¹⁸ These reforms had the effect of making public sector employment one of the main routes to social upward mobility for Africans in the 1950s and 1960s and skewed the secondary and tertiary education systems to the needs of the state administration.

Recognizing this historical context, a large body of literature has discussed and debated the importance and effects of a disproportionately powerful public service in postcolonial Africa. Frantz Fanon argued in 1961 that the lack of capital accumulation amongst Africans would lead to the emergence of a 'bourgeoisie of the civil service', which would subsume the role of its colonial predecessors, stifle entrepreneurship and perpetuate the social inequalities of the colonial era.¹⁹ In 1962 Rene Dumont provocatively criticised the level of excess and corruption he had observed in Francophone Africa, likening African elites to 'a modern version of Louis XVI's court', and arguing that '[a] new type of bourgeoisie is forming in Africa, that Karl Marx would hardly have foreseen, a bourgeoisie of the civil service'.²⁰ Two decades later Larry Diamond (1987) concluded that 'the state dominates modern-sector jobs in Africa to an unprecedented degree.'²¹

¹³ Handley; Larry Diamond, 'Class Formation in the Swollen African State', *The Journal of Modern African Studies*, 25.4 (1987), 567–96.

¹⁴ Ewout Frankema, 'The Origins of Formal Education in Sub-Saharan Africa : Was British Rule More Benign?', *European Review of Economic History*, 16 (2012), 335–55; Mahmood Mamdani, *Define and Rule: Native as Political Identity* (Cambridge and London: Harvard University Press, 2012). Mamdani attributes this to Lord Lugard, who stressed the need to avoid the 'Indian disease': a nationalistic, educated middle class.

¹⁵ Kenya. Ministry of Economic Planning and Development, *High-Level Manpower Requirements and Resources in Kenya, 1964-1970* (Nairobi, 1965); Government of Tanganyika, *Report of the Africanisation Commission* (Dar es Salaam: Government Printer, 1962); Uganda Protectorate, *Report of the Commissioners for Africanisation 1962, Part 1: Africanisation, Retention of Expatriates and Scholarships* (Entebbe: Government Printer, 1962).

¹⁶ See for instance: *High-Level Manpower Requirements and Resources in Tanganyika, 1962 - 1967*, 1962; Kenya. Ministry of Economic Planning and Development; Uganda Protectorate.

¹⁷ David Lidbury, *Report of the Commission on the Civil Services of the East African Territories and the East Africa High Commission 1953-54* (Margate, 1954).

¹⁸ Frederick Cooper, *Decolonization and African Society: The Labor Question in French and British Africa* (Cambridge: Cambridge University Press, 1996).

¹⁹ Fanon, p. 179.

²⁰ Rene Dumont, *False Start in Africa* (New York: Praeger Publishers, 1966), p. 78; 81.

²¹ Diamond, p. 573.

Using a public choice model, Robert Bates provided an elegant explanation for this state of affairs. He characterised the urban working class in Africa as an interest group that was able to use its important position within the independence struggle, its ability to organise politically and proximity to the seat of government, to drive up the urban minimum wage and hold down the urban-rural terms of trade to the detriment of the peasant majority.²² This theory fit neatly with the concerns of labour economists, who argued that the labour markets in developing countries failed to clear because of institutional wage setting which encouraged queuing for urban formal sector jobs.²³ Bates also identified civil servants and managers of parastatals as among the independence winners, arguing that limited state accountability enabled them to use the government budget to ensure high standards of living for themselves.²⁴

A later political economy literature sought to model power structures in Africa as a large patronage game rather than asymmetrical competition between interest groups. According to these theorists, public sector jobs were a rent that politicians distributed to favoured members of society on the basis of their ability to deliver political support.²⁵ Diamond puts it succinctly when he describes how African 'state offices become "entitlements", giving incumbents immense discretion to use the patronage resources of office not only to enrich themselves, but to assist clients and followers and thereby maintain - and perhaps enlarge - their political base. In such a system, the public offices are themselves the most dearly desired type of patronage resource.'²⁶

But as the economic crisis of the 1980s wore on, some writers came to question the presumed privilege of waged or salaried employees in Africa which underlay these theories. Tracing the falls in the purchasing power of the minimum wage in a number of countries, Jamal and Weeks challenged the existence of an urban-rural bias. Similarly, Valentine's 1980s study on Tanzania concluded that formal sector salaries, particularly in the public sector, had been falling for a long period. The erosion in formal sector earnings was also documented in the grey literature as the main international organisations, the IMF, and World Bank, cautioned that it was having a detrimental effect on public sector efficiency.²⁷ Cooper's historical study of the labour movement in British and French colonial Africa provided an explanation for this. He argued that while Africa's independence leaders had allied with the urban working class during the decolonisation struggle, they made a U-turn after independence, quickly curbing the powers of unions and insisting on wage restraint in an effort to tame the labour movement and stamp out rival political interest groups.²⁸

In the following sections of this paper employment and income data is used to trace the changing fortunes of public sector employees in Kenya and Tanzania with the aim of adding further quantitative evidence to this debate.

²² Bates.

²³ Todaro; John R. Harris and Michael P. Todaro, 'Migration, Unemployment and Development: A Two-Sector Analysis', *The American Economic Review*, 60.1 (1970), 126–42.

²⁴ Similar argument also made by: David Abernethy, 'Bureaucratic Growth and Economic Stagnation in Sub-Saharan Africa', in *Africa's Development Challenges and the World Bank: Hard Questions Costly Choices*, ed. by Stephen J. Commins (Colorado: London: Rienner, 1988).

²⁵ Chabal and Daloz; Bratton and van de Walle; Daron Acemoglu and James a. Robinson, 'Why Is Africa Poor?', *Economic History of Developing Regions*, 25.1 (2010), 21–50.

²⁶ Diamond, p. 582.

²⁷ Ian Leinert and Jithendra Modi, *A Decade of Civil Service Reform in Sub-Saharan Africa*, IMF Working Paper (Washington D.C.: International Monetary Fund, 1997); David L. Lindauer, *Rehabilitating Government: Pay and Employment Reform in Africa*, ed. by David Lindauer and Barbara Nunberg (Washington D.C.: World Bank, 1994).

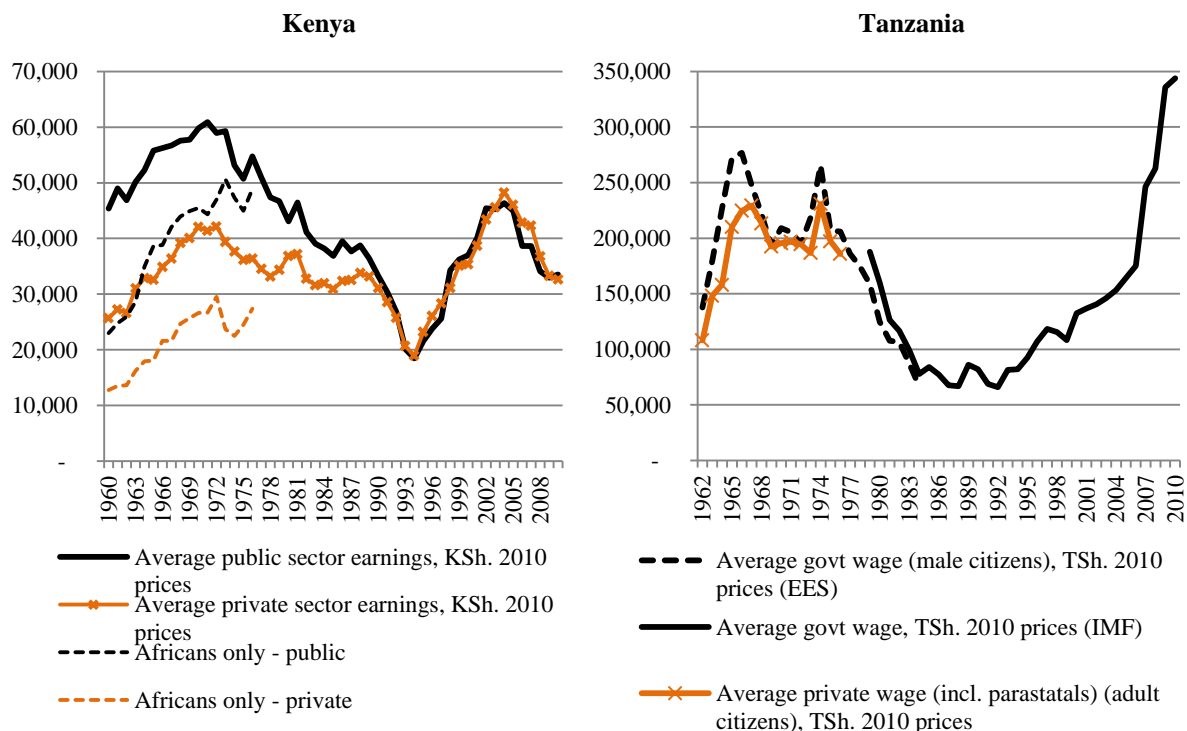
²⁸ Cooper.

III. WAGE AND EMPLOYMENT DYNAMICS IN KENYA AND TANZANIA

Kenyan and Tanzanian survey data on earnings and employment allow us to trace the full evolution of the rise and decline in public sector pay. This data has been collected from the annual Employment and Earnings Survey (EES) and supplementary sources, which provide data about the formal labour market (roughly 10-15% of the total labour force).²⁹ The GDP and population data is from the World Development Indicators and public expenditure data from various national statistical publications. All sources are listed in Appendix I.

Figure 1 shows the rise and decline of average real earnings in the public and private sectors between 1960 and the present. It supports the argument that formal sector workers received a wage dividend in the early independence era as average earnings rose in the 1960s. After this, however, public sector wages declined steadily between the early 1970s until the early 1990s, with a fall of almost 70% between peak and trough in Kenya, and almost 80% in Tanzania. Relative to GDP per capita the average Kenyan public sector wage fell from a high of more than 7 times GDP per capita to just over 3 times in 1996, and in Tanzania from roughly 7 times GDP per capita in the mid-1960s to 2 times in 1991 (Figures 2 and 3). Given an average household size of five or six, this means that the average wage fell below the average national household income in both countries. Private sector wages fell as well although not as steeply as in the public sector. Since the mid-1990s earnings have been recovering in both countries and both sectors, in real terms and in relation to GDP per capita.

Figure 1. Average real monthly earnings in the public & private sectors, 2010 prices (sources: see Appendix 1)



²⁹ This survey has slightly different titles in different periods, initially referred to as *the Annual Enumeration of Employees in Kenya*, and subsequently *Employment and Earnings in the Modern Sector*. The Tanzanian publication was initially titled *Survey of Employment and Earnings*. For ease of reference, they will collectively be referred to as the EES hereafter. While dedicated EES reports are available for some years, in other years these survey results were included in the Statistical Abstract.

Earnings in these surveys cover cash payments (base salary, cost of living allowances and bonuses) and in-kind benefits including rations and housing, but exclude pensions and national insurance contributions.

The fall and recovery in public sector earnings was directly linked to the rise and fall in the volume of public employment, as these two priorities competed for fiscal space. Figures 2 and 3 show how the relative public sector wage (average wage/GDP per capita) related to the level of employment, expressed as a share of the labour force. The figures illustrate a clear inverse relationship between wages and employment, as the governments effectively traded public sector earnings against a higher overall level of employment between the early 1970s and 1990s, after which they restricted employment growth to allow earnings to recover from the mid-1990s and on.

Figure 2. Kenya: trade-off between earnings and employment (wage = left axis; employment share = right axis) (sources: see Appendix 1)

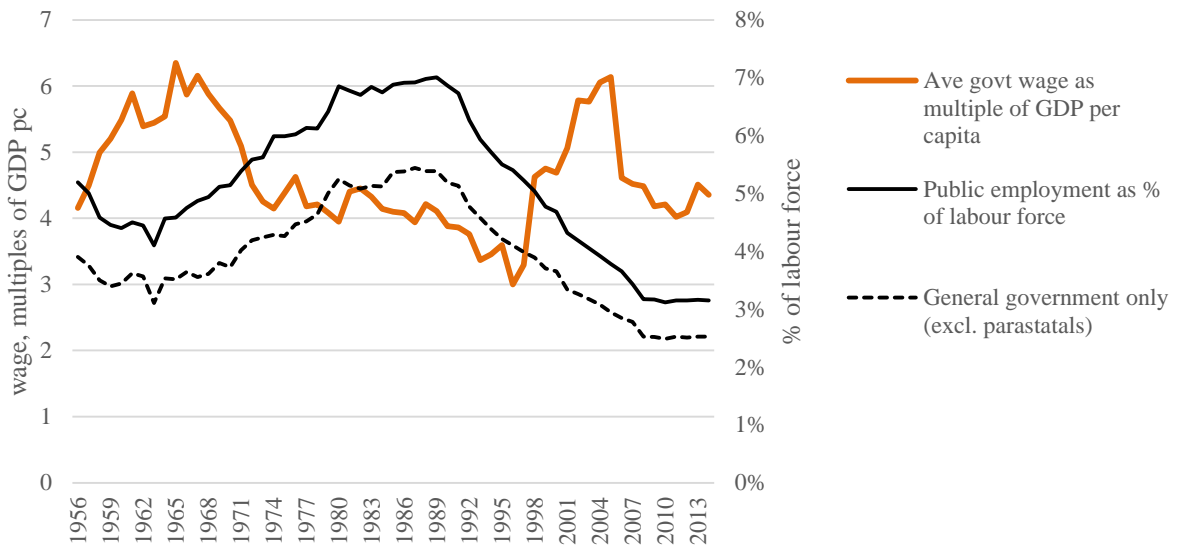
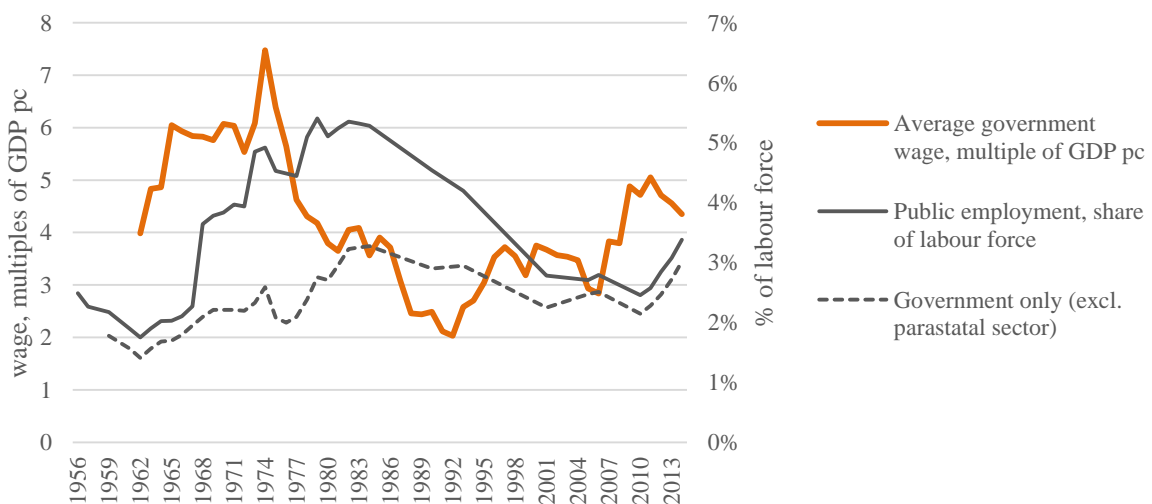


Figure 3. Tanzania: trade-off between earnings and employment (wage = left axis; employment share = right axis) (sources: see Appendix 1)



While the large wage decline of the 1970s and 1980s may have been aggravated by macroeconomic instability and weak budgetary control, the policy pronouncements from the era show that it was at least in part an active government choice. Both Kenya and Tanzania had an institutional architecture in place for managing wage growth and made frequent policy pronouncements about the government's preferred wage path.³⁰ After independence union powers were successively curbed in

³⁰ Sabot and Knight. 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.

both countries. Tanzania abolished unions in 1964, and in Kenya in 1972 the government made it virtually impossible for workers to strike, which limited their power in wage negotiations.³¹ The number of man-days lost annually to strikes fell considerably in both countries.³² Moreover, government salary scales were determined centrally in both countries. In Tanzania wage setting in the country's bulging parastatal sector was also (at least formally) brought in line with regular governmental wage setting in to avoid competition between the two sectors through the 1967 Standing Committee on Parastatal Organisations.³³

Many of the peaks and troughs in employment and wages observed in Figures 1-3 can be linked to particular policy pronouncements. In the late colonial era both governments prioritized wage growth, particularly for low skilled workers, with the aim of 'stabilizing' the until then largely migrant unskilled labour force by providing salaries high enough to sustain settled, urban families.³⁴

In Tanzania the wage awards continued for a few years after independence, with new minimum wage awards in 1963 and 1965 driving up average earnings in both the public and private sectors.³⁵ 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 reduce social inequality, even reducing nominal salaries of high paid civil servants by 10-15% in 1967. The government issued a further big wage award that came into effect in 1974, again targeting workers at the lower end of the distribution.³⁶ But high inflation in the following years quickly eroded this boon. Between 1975 and 1980 the government froze wages in the public sector (in order to counter the perceived urban-bias) 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.

The main driver of growth in public employment in Tanzania was the parastatal sector. The sharp rise in employment in 1968 following the 1967 decision to nationalise much of Tanzania's industry was in part due to the re-classification of previously private sector employees as parastatal employees (see Figure 3). From the late 1980s and on the public sector share of the labour force began to decline as the government limited new employment and divested from the parastatal sector, effectively shifting workers back from the public to private sector once more.³⁷

³¹ J. T. Mukui, 'The Politics and Economics of the 1979 Tripartite Agreement in Kenya: A Note', *African Affairs*, 82.329 (1983), 559-63; Arne Bigsten, *Education and Income Determination in Kenya* (Hampshire and Brookfield: Gower Publishing Company, 1984).

³² Shivji; Bigsten.

³³ Although empirical studies suggest that the parastatals paid a wage premium, see: David L Lindauer and Richard H Sabot, 'The Public/private Wage Differential in a Poor Urban Economy', *Journal of Development Economics*, 12 (1983), 137.

³⁴ Cooper.

³⁵ This section on Tanzania draws primarily on: Theodore Valentine, *Government Wage Policy, Wage and Employment Trends, and Economic Instability in Tanzania since Independence*, Economic Research Bureau Paper (Dar es Salaam, 1981); Vali Jamal, 'Chasing the Elusive Rural-Urban Gap in Tanzania', *Journal of Contemporary African Studies*, 19.1 (2001), 25-38.

³⁶ 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, 1969 - 1976* (Dar es Salaam, 1969), no. 1975/76.

³⁷ For a discussion of the parastatal reform programme, see: Roger Nord and others, *The Story of an African Transition* (Washington D.C., 2009).

Kenya's postcolonial government raised 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.³⁸ 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.³⁹ In 1971 the Ndegwa Commission introduced a new wage scale that raised salaries at all levels.⁴⁰ 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 for inflation, while those at the middle and higher level would only partially be compensated.⁴¹ This compressed the wage scale and caused average earnings to fall.⁴² Inflation 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.⁴³

As earnings fell in the 1970s and 1980s, the size of the public service expanded. The Kenyan policy discourse from the early 1970s was influenced by concerns about urban unemployment, particularly among secondary school leavers, and therefore advocated wage restraint in the interest of employment creation.⁴⁴ 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.⁴⁵ Furthermore, the big drive to raise educational attainment resulted in a rapid increase in the teaching force, which comprised 40% of general government employment and 30% of the recurrent budget by 1991.⁴⁶ From the early 1990s and on rationalisation of the public sector and freezes on new hires helped to reduce the public employment share of the labour force.

Another significant driver of employment growth in both countries was the direct relationship between the education system and the public service. Having designed education policies with the needs of the public administration in mind, both the Kenyan and Tanzanian governments had introduced employment guarantees for graduates from government training institutions and some

³⁸ L. J. Pratt, *Report of the Commission on the Kenya Civil Service, the Kenya Teaching Services, the East African Posts and Telecommunications Administrations and the General Fund Services of the East African Common Services Organisation* (Nairobi, 1963).

³⁹ Government of Kenya, *Sessional Paper No. 10 of 1967, Proposals by the Government of Kenya for the Implementation of the Recommendations Contained in the Report of the Public Service Salaries Review Commission, 1967*; Republic of Kenya, *Kenya Civil Service Salaries Review Committee 1985 (Chairman: T.C. Ramtu)* (Nairobi, 1985).

⁴⁰ D. N. Ndegwa, *Report of the Commission of Inquiry: Public Service Structure and Remuneration Commission 1970-71* (Nairobi, 1971).

⁴¹ Republic of Kenya, *Sessional Paper no.10 of 1980 on the Acceptance and Implementation of the Recommendations of the Civil Service Review Committee, 1979/80* (Nairobi, 1980).

⁴² Piketty argues 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; *Capital*, p. 287.

⁴³ Damiano Kulundu Manda, *Incentive Structure and Efficiency in the Kenyan Civil Service*, Discussion Paper, 2001, p. 12.

⁴⁴ Abernethy; John. M Cohen, 'Importance of Public Service Reform : The Case of Kenya', *The Journal of Modern African Studies*, 31.3 (1993), 449-76.

⁴⁵ Mukui.

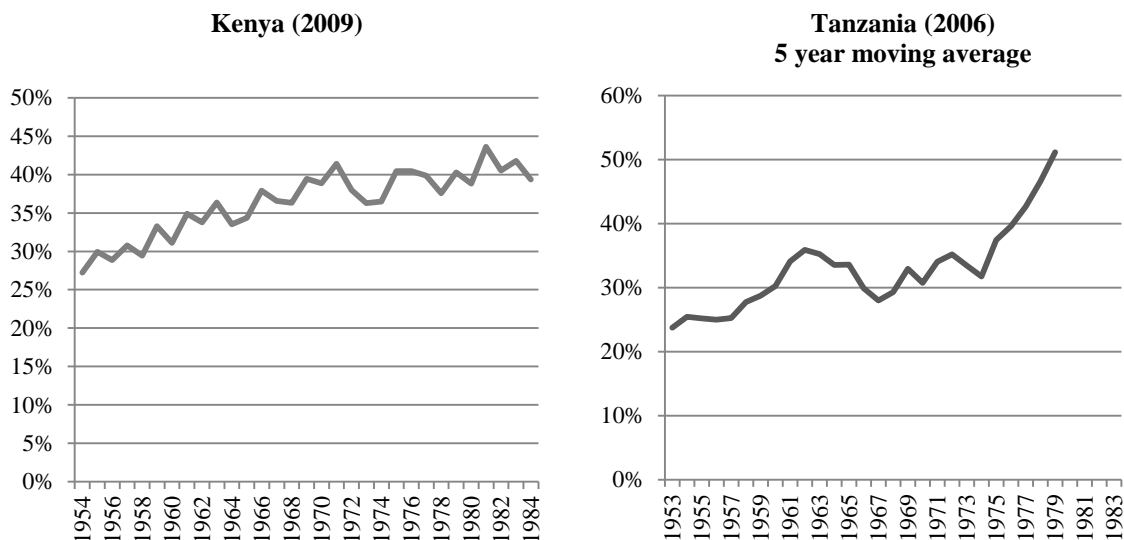
⁴⁶ Kenya. Central Bureau of Statistics, *Statistical Abstract, 1955 - 2015* (Nairobi, 1955), no. 1992.

university courses, which compelled governments to continue employing graduates even after the public service was saturated.⁴⁷ Kenya eventually abolished this guarantee in 1986 on the grounds that it was fiscally unsustainable,⁴⁸ while Tanzania retained the guarantee on paper, if less so in practice.

This emphasis on jobs that required a relatively high level of education also changed the composition of public employment. While average earnings fell, the skills level increased markedly. In fact, the average earning declines in Figure 1 understate the true extent of the formal real wage falls as it does not control for skills. In Kenya the share of public sector employees with at least four years of secondary education increased from an estimated 14% in 1972 to 79% in 2009;⁴⁹ In Tanzania the share rose from 8% in 1962 to 58% in 2006.⁵⁰

In addition, the public service grew more female. The female share of public sector jobs has increased steadily over time, as shown by the considerably higher share of younger women within the public service. Among public sector employees born in the mid-1950s roughly 30% were female in Kenya and 25% in Tanzania; for those born in the 1980s this had increased to 40% in Kenya and 50% in Tanzania. Among secondary and tertiary graduates, women in both countries today have a higher probability of entering the public service than men.⁵¹ This also has distributional consequences: more high earning women in the public service will decrease the share of public sector headed households, if their husbands continue to be classified as household heads, and will likely concentrate income further if the rising share of high-earning women marry high-earning men.⁵²

Figure 4. Kenya and Tanzania: Percentage of women in total public employment by year of birth



⁴⁷ K. Husbans, T. Konyango and T Pinckney, 'Education and Agricultural Productivity in Africa', in *The Evaluation of Public Expenditure in Africa* (Washington D.C.: World Bank, 1996).

⁴⁸ Republic of Kenya, *Sessional Paper, Economic Management for Renewed Growth*, 1986.

⁴⁹ Kenya. National Bureau of Statistics, 'Statistical Abstract' (Nairobi, 1974); Minnesota Population Center., 'Kenya 2009 Population and Housing Census, Integrated Public Use Microdata Series, International: Version 6.3 [Machine-Readable Database].' (Minneapolis: University of Minnesota, 2014).

⁵⁰ Government of Tanganyika, *High-Level Manpower Requirements and Resources in Tanganyika 1962-1967* (Dar es Salaam, 1962); Tanzania. National Bureau of Statistics, 'Tanzania Integrated Labour Force Survey 2006', 2006.

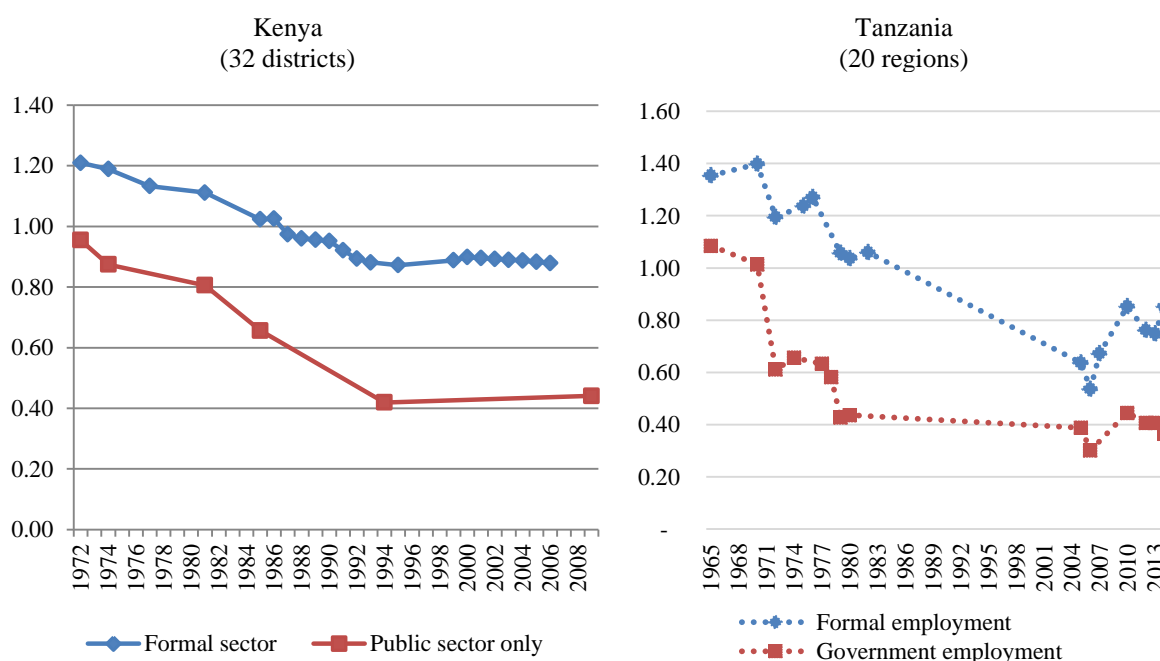
⁵¹ Rebecca Simson, *Patronage or Meritocracy?: Public Sector Employment in Postcolonial Kenya, Tanzania and Uganda*, Working Paper, 2016.

⁵² Jeremy Greenwood and others, 'Marry Your Like: Assortative Mating and Income Inequality', *The American Economic Review*, 104.5 (2014).

Sources: Calculated from: Kenya 2009 Population and Housing Census, Minnesota Population Center; Tanzania 2006 Integrated Labour Force Survey.

Lastly, public sector jobs are more equitably distributed on a geographic basis today than they were 40 years ago. The public employment to population ratio by district has converged considerably, as more frontline service jobs (particularly in primary schools) were created in peripheral parts of both countries and as migrants flocked into the urban areas after the colonial restrictions on labour movement were lifted. In Figure 5 the employment to population ratio was calculated for each of Kenya's 32 district and Tanzania's 20 regions and the coefficient of variation measured across districts/regions. It shows a steep decline in regional inequality in job distribution in both Kenya and Tanzania. The ratio fell both for the public sector and the formal sector as a whole. As a result, the share of public sector jobs in urban areas declined significantly.

Figure 5. Kenya and Tanzania: Coefficient of variation – employment to population ratio, by district/region (sources and method, see Appendix 2)



This long-run perspective on earnings and employment challenges the notion of a politically protected public service. The main policies enacted by politicians in both countries – from wage adjustments that compressed earnings, to educational reforms that placed more jobs in remote areas – were not in the interest of the white-collar public sector employees who at the beginning of the period constituted something of a middle class. Politicians chose to expand employment at the expense of wages, wage policy favoured low-skilled workers over the professional and semi-professional cadres, and jobs were disproportionately created in rural areas or smaller towns, at the expense of the urbanites. The increased feminization of an occupation also tends to be a sign of its falling social status.⁵³ As an interest group then, public sector employees proved surprisingly weak and unsuccessful in protecting their socioeconomic position.⁵⁴

⁵³ Asaf Levanon, Paula England and Paul Allison, 'Occupational Feminization and Pay: Assessing Causal Dynamics Using 1950-2000 U.S. Census Data', *Social Forces*, 88.2 (2009), 865–91.

⁵⁴ An irony previously noted by Vali Jamal and John Weeks, 'The Vanishing Rural-Urban Gap In Sub-Saharan Africa', *International Labour Review*, 127.3 (1988), 271–92; Thandika Mkandawire, 'Thinking about

Average earnings, however, give only a partial perspective on the relative socioeconomic standing of public sector employees compared to other occupational groups. We therefore turn to an analysis of the relative position of public sector workers within the national income distribution. Did they truly dominate the nascent middle or upper class ranks in the early independence era, and if so, did this relative privilege continue?

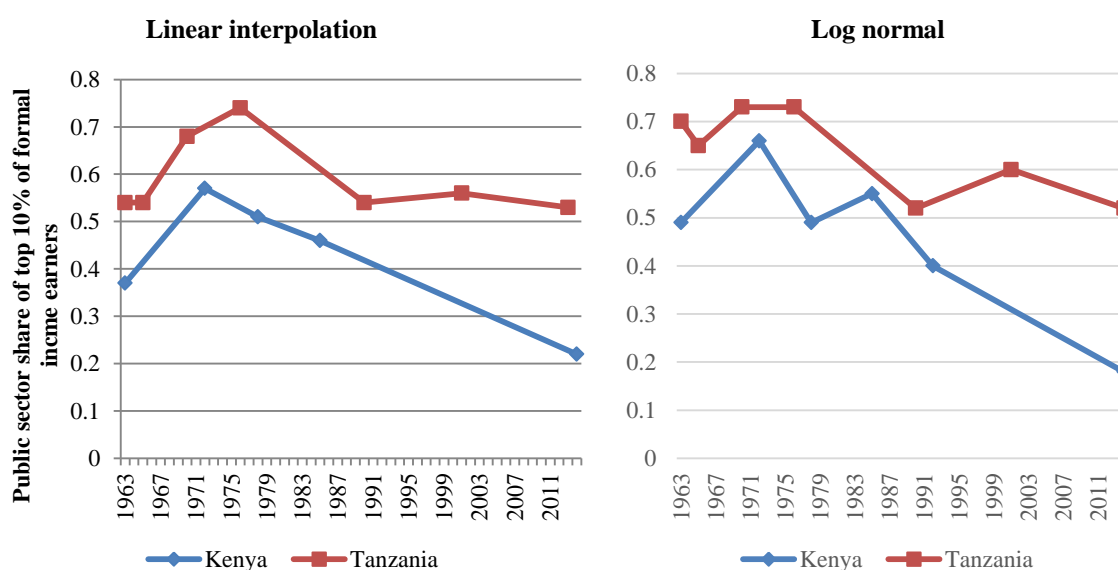
IV. PUBLIC SECTOR EMPLOYEES AND THE NATIONAL INCOME DISTRIBUTION

The public sector share of the formal labour market

Within the formal labour market alone the relative standing of public sector employees mirrors the rise and decline in average earnings. Figure 6 gives estimates of the public sector share of the top decile of formal sector income earners and shows that public sector employees rose in relative standing in the 1960s and then fell steeply relative to private sector employees from the 1970s and on. Because of the way in which the underlying data is structured, two alternative estimation methods are used to locate the top 10% cut-off and determine the public-private shares within it. The first method uses linear interpolation, which assumes an even distribution of people within each wage group. The second method models the distribution using a log-normal probability model. Both methods are described in Appendix 3. The choice of method does not significantly alter the trend.

In the 1960s the share public sector employees in the top decile of formal sector workers initially increased, as public sector earnings rose and foreign private sector employees left in large numbers. After that however, the public sector lost ground to the private sector. In Tanzania public sector employees constituted as much as three-quarters of all formal sector income earners in the top decile by the mid-1970s but fell to roughly half by 2014. In Kenya public sector share fell from roughly 60% in the early 1970s, to 20% by 2014, with the largest decline taking place in the 1990s and 2000s as well-paying private sector jobs increased. The higher overall level in Tanzania reflects the small size of Tanzania's formal private sector following the nationalisation policies of the 1960s.

Figure 6. Public sector share of top 10% of formal sector employees, Kenya and Tanzania (sources: see Appendix 3)



Formal sector employees are only one segment of the labour force however, and comprised only about 10-15% of the labour force over this period, as most Kenyans and Tanzanians were self-employed farmers or business owners. The next sections therefore seek to place these formal sector households within the full national income distribution.

Public sector employees and the national household income distribution: method and data

In order to examine the relative standing of public sector employees, this section aims to establish what share of households in each income decile was headed by a public sector employee and how these shares changed over time. In the absence of any single, comprehensive data source on incomes or consumption this analysis draws on a number of different nationally-representative surveys, which raises various comparability challenges.

The biggest data limitation is that while we have microdata sets for the latter period that allow us to identify public sector headed households within the sample and thus get very detailed information about their household economics, no such datasets are available for the 1960s or 1970s. Instead estimates for the 1960s and 1970s have been calculated by comparing the salaries of public sector employees (drawn from the EES), with survey estimates of the national household income distribution. This assumes that all public sector employees head one household and that their reported pre-tax primary salary is an acceptable approximation of their total household income. It is not clear whether and in what direction this assumption will bias the results and underscores the need to treat the 1960s and 1970s results as ones with considerable margins of error.

The more recent survey data identifies public sector-headed households within the sample, but these sources raise further questions about how to rank households from poor to wealthy. While the early surveys tend to provide distributions based on income, recent surveys favour the ranking of households on a consumption basis as consumption is easier to measure with accuracy in low income contexts. Furthermore, measures of consumption may differ slightly in approach and content; some place a monetary value on own-produced food and goods for household consumption, some impute rent for households that own their own homes; others provide more basic measures of routine household expenditure. We are therefore forced to rely on inconsistent measures of socioeconomic rank across surveys. While this would be a major problem if we wanted to measure inequality,⁵⁵ it should be less problematic when studying rank order, however, as these different measures should be highly correlated. In cases where I suspect that it may be introducing biases I explore the potential size of such biases in the appendices 4 and 5. Furthermore, as an alternative to income, it is also possible to use asset wealth (or other household characteristics) to stratify the population. An extension in appendices 4.4 and 5.4 uses this method (for those surveys containing questions on assets), to validate the main results. Encouragingly, these alternative indicators of socioeconomic status give relatively similar results to consumption-based measures.

The household rankings will also be affected by whether the data is presented on a household or per capita basis. While total household income is correlated with the number of adults in the household, a per capita value has the drawback of over-representing single-person households in the top of the distribution. A per capita measure means that two public servants with the same salary could end up at different points in the distribution depending on their number of dependents. As a compromise I normalize by number of adults in the household rather than total household members, as the focus of this study is ability of different types of households to generate income rather than living standard per

⁵⁵ See discussion by: James Galbraith, *Inequality and Instability: A Study of the World Economy Just before the Great Crisis* (New York: Oxford University Press, 2012), chap. 2.

se. Note, however, that the earlier survey results are based on aggregate household consumption or income. Further discussion on the construction of variables and various sensitivity tests to gauge possible biases in the data are discussed in Appendices 4 and 5.

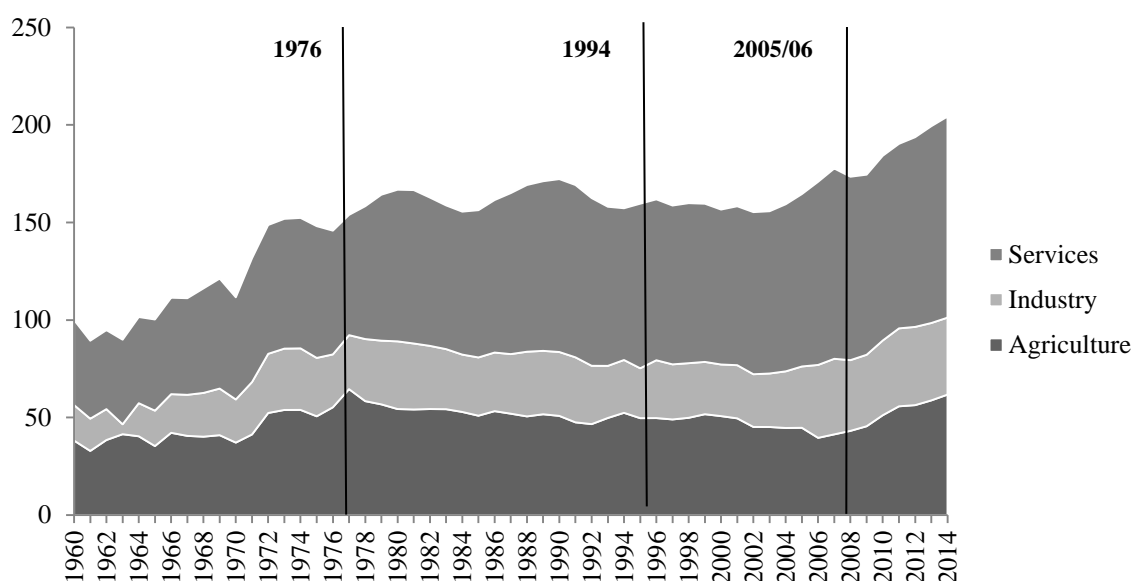
Table 1. Description of surveys used in analysis

Source	Abbreviation	Data access	Sample size (# households)	
Kenya				
1976	Crawford and Thorbecke (drawing on EES, Integrated Rural Survey)	Social table	Published report	N/A
1994	Welfare monitoring survey, second round	WMS	Microdata available	11,000
jg2005/06	Integrated household budget survey	KIHBS	Microdata available	13,000
Tanzania				
1969	Household budget survey	HBS	Published report	2,800
1976	Household budget survey	HBS	Published report (and reported in Sarris and van den Brink)	3,000
1993	Human Resource Development Survey	HRDS	Microdata available	5,000
2000/01	Household budget survey	HBS	Microdata available	22,000
2011/12	Household budget survey	HBS	Microdata available	10,000

Kenya: public sector employees and the national income distribution

With these caveats we now move to examining the share of public sector headed households within the upper income echelons of Kenyan society. The available data allows us to examine this at three points in time: in 1976 using a social table constructed by Crawford and Thorbecke; in 1994 using the Welfare Monitoring Survey; and in 2005/06 using the Kenya Integrated Household Budget Survey. Figure 7 shows where these three surveys fall in Kenya’s growth trajectory. The 1970s were a period of strong economic growth and in 1976 average public sector wages were close to their 1971 peak (Figure 1). By 1994 Kenya had reached a trough, both in GDP terms and real wages, as high inflation had eroded formal sector pay. By 2005/06 wages had recovered substantially and the level of employment had been curbed, but GDP per capita at only partially recovered, leading to a spike in average public sector wages to GDP per capita (Figure 2).

Figure 7. Kenya: Index of real GDP per capita, disaggregated by sector (1960=100) (Source: World Development Indicators)



Decomposing the Kenyan middle class

The 1976 social table divides Kenyan households into rough categories on the basis of earnings (e.g., large farm owners, small farm owners, informal sector workers etc.) and gives estimates of household earnings by group. This table is used to identify the number of households above a given income level and disaggregate them by their main economic activity. The table was constructed by Crawford and Thorbecke using data from various Kenyan surveys. Where possible I have complemented the 1976 table with more disaggregated data (see Appendix 4.1 for full details). Despite these adjustments the results are relatively coarse, as they rely on rough assumptions about average earnings and presume that households fall neatly into one category or another rather than straddling different groups.

Because the 1976 data is grouped rather than individual observations, I use a convenient monetary cut-off rather than share of households to define the middle class cut-off.⁵⁶ The middle class floor is defined as the average wage for teachers in 1976 – KSh.8,000 per month – roughly US\$710 in 2015, or assuming an average family size of four, approximately \$6 per day. Roughly 13% of all households had incomes above this cut-off in 1976. This threshold is converted into 1994 and 2005 prices (using the CPI from the World Development Indicators) to provide a middle class floor in 1994 and 2005/06 that holds real income steady. In addition, rather than holding the income constant, I also keep its size constant and provide a second middle class measure defined as the top 13% of the income distribution.

Table 2. Monthly household income cut-offs used to designate the Kenyan ‘middle class’

1976	1994	2005/06
KSh. 800	KSh. 12,000	KSh. 27,000

In order to compare the 1976 data with that from 1994 and 2005/06 I then estimate the number of public and private (formal) sector households earning above the threshold **on the basis of their salaries and benefits alone**, as well as calculating the number of business and farming households with total household expenditure above the income threshold. In the interest of maintaining

⁵⁶ If we chose the top 10% instead, it would be necessary to assume a distribution within some occupational brackets in order to find the threshold point.

comparability with 1976, I therefore disregard data on total household consumption and income for formal sector employees for the time being.

Table 3. Sectoral composition of Kenya’s middle class, 1976, 1994 and 2005/06, **based on formal sector earnings of household head** (sources: see Appendix 4)

Sector of employment	SHARE OF MIDDLE CLASS HOUSEHOLDS					
	Measure 1: Real income of above KSh.800/month in 1976 prices			Measure 2: Top 13% of the distribution		
	1976	1994	2005/06	1976	1994	2005/06
Public sector employment	44%	10%	19%	44%	7%	17%
Private (formal) sector employment	27%	15%	22%	27%	9%	13%
Self-employed / informal sector	4%	44%	32%	4%	33%	34%
Farming (incl. livestock)	25%	30%	15%	25%	48%	22%
Other		2%	13%		3%	14%
<i>Income cut-off (KSh./month)</i>	<i>≥KSh.800</i>	<i>≥KSh.12,000</i>	<i>>KSh.27,000</i>	<i>≥KSh.800</i>	<i>≥KSh.7,800</i>	<i>≥KSh.17,000</i>
<i>Middle class share of total households</i>	<i>13%</i>	<i>4%</i>	<i>6%</i>	<i>13%</i>	<i>13%</i>	<i>13%</i>

Using this method of comparison, it appears that the public sector share of the middle class fell considerably between 1976 and 1994, from 44% to 10% on the basis of a constant real earnings, or 7% when holding the household share constant. It then partially recovered between 1994 and 2005/06 to just under 20%. The formal private sector followed a similar trajectory, as earnings also declined considerably for wage earners in private firms, while the self-employed and informal sector gained in share. At first glance then, the Kenyan middle class has strongly transitioned away from its public sector roots.

The government wage or salary was rarely the only source of income available to these households, however, and the results look considerably different if we rank households on the basis of their full household earnings or expenditure rather than just their formal salaries. In Table 5 the earlier analysis is repeated but the 1994 and 2005/06 formal sector headed households are ranked on the basis of their **average monthly consumption** rather than the salaries and benefits of the household head. This changes the picture markedly. While public servants still declined as a share of the middle class, the drop between 1976 and 1994 is much smaller: from 44% to 35% in 1994, or 30% if using the broader middle class definition. They then continued falling between 1994 and 2005/06 to just above 20%. This highlights the importance of diversified income streams; middle class households appear to at least partly have off-set the wage declines of the 1980s and 1990s by relying on multiple source of income.

Table 4. Sectoral composition of Kenya’s middle class, 1976, 1994 and 2005/06, **based on household consumption** (sources: see Appendix 4)

Sector of employment	SHARE OF MIDDLE CLASS HOUSEHOLDS					
	Measure 1: Real income of above KSh.800/month in 1976 prices			Measure 2: Top 13% of the distribution		
	1976	1994	2005/06	1976	1994	2005/06
Public sector employment	44%	35%	23%	44%	30%	22%
Private (formal) sector employment	27%	22%	24%	27%	21%	18%

Self-employed / informal sector	4%	25%	28%	4%	23%	29%
Farming (incl. livestock)	25%	17%	14%	25%	25%	19%
Other		1%	11%		1%	12%
<i>Income cut-off (KSh./month)</i>	<i>≥KSh.800</i>	<i>≥KSh.12,000</i>	<i>>KSh.27,000</i>	<i>≥KSh.800</i>	<i>≥KSh.7,800</i>	<i>≥KSh.17,000</i>
<i>Middle class share of total households</i>	<i>13%</i>	<i>8%</i>	<i>6%</i>	<i>13%</i>	<i>13%</i>	<i>13%</i>

Table 6 examines these secondary income sources. It measures the share of households (in the public and formal private sector) that report additional incomes by income stream. Close to 60% of public sector headed households in 1994 had either a business or farm that generated income beyond their salaries or wages, and 49% had at least one additional wage income earner. These shares were higher among public sector-headed households than among formal private sector-headed households, although this may be an artefact of more urban-based households in the private sector, which limited agricultural opportunities. Either way, it appears that formal sector households were able to augment their salaries by straddling different economic sectors, including employment, farming and business.

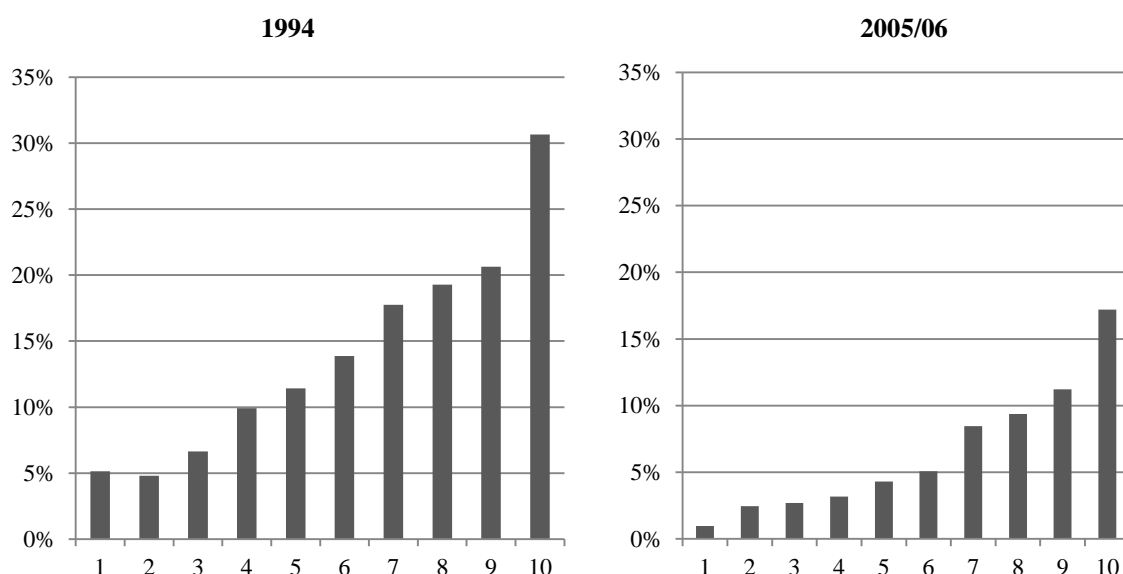
In 2005/06 the share of households with a farm or enterprise income had fallen to just below 50% among public sector-headed households and 24% among private sector-headed households (although the formal private sector measure may not be entirely consistent across surveys). The share of households with a second salary or wage earner had also fallen quite considerably, although the number of households with two public sector employees increased marginally (likely reflecting the growing share of women in the public service).

Table 5. Kenya: Percentage of public and private sector-headed households who have secondary incomes, by source (calculated from 1994 WMS and 2005/06 KIHBS)

Sources of secondary income	1994		2005/06	
	Public	Private	Public	Private
Operate business	31%	27%	19%	13%
Have farm land	54%	43%	48%	24%
Have farm and sell crops	33%	23%	25%	10%
Livestock	20%	11%	25%	12%
Spouse/other family member in public service	16%	5%	18%	2%
Spouse/other family member in other employment	39%	42%	26%	23%
<i>Have either business, farm or livestock that is earning income</i>	<i>58%</i>	<i>46%</i>	<i>49%</i>	<i>24%</i>

In Figure 8 the share of public sector-headed households is calculated by consumption decile to give a sense of where the public sector fell within the full national income distribution (now normalized by number of adult household members). It shows that public sector workers continued to be concentrated at the top of the distribution in both years, and in that sense were a comparatively privileged strata of Kenyan society. In 1994 they comprised 31% of the top decile, compared to 14% of all households nationally; this fell to 17% of the top decile in 2005/06 compared to 6% of households nationally. Yet a significant share of these households were also found in the middle of the Kenyan income distribution. In both years roughly half of all public sector-headed households were in bottom three-quarters of the consumption distribution, which can hardly be considered a privileged position by international standards. The figure also clearly illustrates that it was not income changes so much as the falling size of the Kenyan public service that accounted for its declining share of the top deciles over the late 1990s and early 2000s.

Figure 8. Kenya: public sector-headed households as percentage of consumption decile, 1994 and 2005/06, normalized by number of adults in household



The Kenyan middle class and the public service, decade by decade

The 1976 results support the characterisation of the African middle class as a group dominated by public servants. Public sector employees were the largest single group and comprised roughly 44% of those earning above KSh.800 a month. That said, the data also shows that other groups were far from unimportant; there were a sizable number of Kenyans with agricultural or private sector earnings that placed them comfortably in the middle class. Kenya’s comparatively successful land reform programme had by 1976 succeeded in creating a comparatively wealthy Kenyan farming class.

However, these results rest on the assumption that the household head’s primary wage was the only source of household income. While this was clearly a problematic assumption in 1994, evidence from other surveys shows that household incomes were less diversified in the 1960s and 1970s. An urban household survey from 1968/69 showed that salaries from regular employment account for the vast majority of household income in Nairobi, Mombasa and Kisumu, with business income at roughly 4% of overall household earnings and sales of produce and casual earnings at negligible levels; this pattern was particularly pronounced among the high income earners.⁵⁷ In addition, the few women in high-earning positions in either the public or private sectors suggests that the classic male breadwinner household reliant on one main formal sector wage was common. In 1975 women accounted for only 14% of formal sector employees (compared to 37% in 2014).⁵⁸

Moreover, up until 1971 civil servants had been restricted from owning property and businesses. On the basis of the recommendations of the 1971 Ndegwa Commission on the Public Service Structure and Remuneration the government lifted this restriction in order to aid the process of Africanisation of the private sector (as public servants were well placed to buy out foreign-owned enterprises).⁵⁹ By the mid-1970 critics were already complaining that this reform created a conflict of interest, as civil servants now served ‘two masters’.⁶⁰ But although some public sector-headed households may have

⁵⁷ International Labour Organisation, *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya* (Geneva, 1972), pp. 348–352.

⁵⁸ Kenya. Central Bureau of Statistics, no. 1976 & 2015.

⁵⁹ Ndegwa.

⁶⁰ H. J. Nyamu, *The State of the Civil Service Today: A Critical Appraisal* (Nairobi, 1974).

ventured into business by 1976, it was unlikely to have reached the scale of the 1990s. Either way, this would bias the results downward rather than upward, thus 44% may in fact be an underestimation of the public sector share of the middle class.

By 1994, however, the Kenyan economy had been performing poorly for several years with inflation in double digits.⁶¹ Formal sector salaries were at their nadir as high inflation had eroded earnings and the rapid growth of the public service limited the fiscal space for nominal wage increases. Wage earners had seen their incomes decline substantially relative to farmers and business owners. The public sector share of high income earners therefore fell to 35% of those households with incomes above a 1976 teachers wage, or roughly 30% of the top 10-15%, compared to 44% in 1976. This relative decline was much milder than what the wage data alone would suggest as public sector-headed households, at all levels of the income distribution, relied on other incomes in addition to their primary salary.⁶² In 1994 the median public sector-headed household earned 60% of household income from its public sector salary and the other 40% from farming, business profits or the salaries of other household members. The middle class had changed in other ways too. While the formal private sector share of the middle class declined along with the public sector shares, the informal sector had grown dramatically in size. Compared to 1976 a much larger share of comparatively prosperous households earned their income from family enterprises.

Following the 2002 multiparty election Kenya's economy began to grow in GDP per capita terms while the structural adjustment reforms of the 1990s held down public employment growth and enabled wages to rise. The growth in real wages far outpaced GDP growth and helped to increase the concentration of wage earners in the top decile again. But the overall level of public employment had fallen, thus measured on both an income and consumption basis, their share of the middle class fell to around 20%. The recovery in salaries coupled with particularly low agricultural prices in 2006 appears to have reversed the trends of the 1990s and ensured that the household's primary salary accounted for a larger share of total household income. The median public sector-headed household earned 80% from the household head's primary salary. At the top of the distribution private sector employees were increasing their share of the middle class, along with business owners and others in the informal sector, while farming households saw a relative economic decline.

At the very top of the distribution, among the top 1% instead of the top 10%, this pattern of change was even starker. Between 1994 and 2005/06 the public sector share in the top 1% fell from 31% to 13% while the formal private sector almost doubled in share. These formal private sector employees were primarily managers or professionals in the service, including a considerable share in the financial sector. By 2005/06 a large share of wealthy households were also found in the 'other' category, which comprised retirees and other unclassifiable households. Most of this top elite (66%) were resident in Nairobi, where the public sector share the top deciles was particularly low.

Table 6. Household head sector of employment in top 1% of households (consumption basis), 1994 and 2005/06 (Sources: 1994 WMS and 2005/06 KIHBS)

Household head sector of employment	1994	2005/06
Public	31%	13%
Formal private	18%	34%

⁶¹ International Monetary Fund, *Kenya: Recent Economic Developments* (Washington D.C., 1995).

⁶² Also discussed by: S. N. Waruhiu, *Report of the Civil Service Review Committee 1979/80* (Nairobi, 1980); Mwangi wa Githinji, *Ten Millionaires and Ten Million Beggars: A Study of Income Distribution and Development in Kenya* (Hampshire and Burlington: Ashgate Publishing Limited, 2000).

Informal sector / business	42%	31%
Agriculture	10%	4%
Other	-	18%

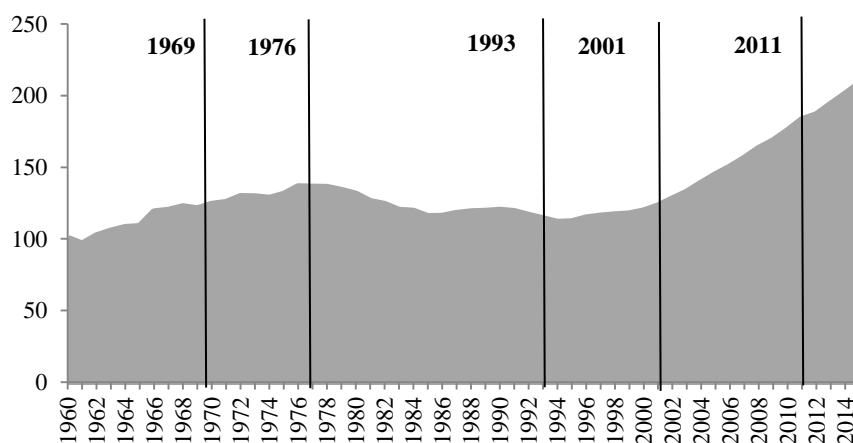
Over the course of the postcolonial era then, Kenya saw a significant reduction in the share of high income households employed in the public sector. While the estimate for 1976 comes with a considerable margin of error, it suggests that public sector employees constituted just below half of all middle class household heads in the early decades of independence. But even if we disregard this result, the decline between 1994 and 2005/06 alone was considerable, from 31% to 17% in the top decile, and 31% to 13% in the top percentile. In their place the private formal sector and self-employed business owners have risen in importance. While it may be too soon to tell, this suggests that an important economic transformation is underway. The urban economic elite that came to the fore in Kenya in the 2000s comprised a considerably different set of actors to the upwardly mobile during the 1960s and 1970s growth period.

Tanzania: public sector employees and the national income distribution

We now turn to Tanzania to examine how the relative position of Tanzanian public servants compares to that of Kenya. The Tanzanian analysis draws on the 1969 household survey, the 1976/77 household survey, the 1993 human resources development survey and the 2000/01 and 2011/12 household budget surveys. Microdata sets are only available for the three latter surveys, which raises similar comparability problems as in Kenya. Appendix 5 provides more details about each of the survey and some simple robustness results point to the potential direction of any bias. In all cases the analysis is limited to mainland Tanzania (i.e., excludes Zanzibar).

Figure 10 shows where these five surveys fall in Tanzania's economic growth trajectory. While the country experienced growth in the 1960s and 1970s, the fiscal situation began deteriorating already in the early 1970s, exacerbated by Tanzania's dirigiste economic policies.⁶³ The 1980s truly were Tanzania's lost decade, when per capita GDP fell by 15%. The country liberalised the economy in the late 1980s and has seen strong growth from the mid-1990s until the present. These surveys thus present a snapshot during the period of growth in the 1960s and 1970s, at the end of the economic crisis in 1993, and at the beginning of the recovery in 2000, and after 15 years of growth, in 2011/12.

Figure 9. Tanzania: Index of GDP per capita (1960=100), with survey years marked out (source: Maddison)



⁶³ Nord and others.

Table 7 summarizes the best estimates of the public sector share of the top 10% and top 1% of households. These rely on different estimation techniques and the data quality is variable. Taking the results at face value nonetheless suggests a rapid fall in the public share of the top income decile in the 1970s, from 25% in 1969 to 10% in 1976. This was followed by a recovery between the 1970s and 1990s and then a continued decline in the 1990s and 2000s, from 24% in 1993 to 13% in 2011/12. Somewhat counterintuitively, much of the reduction took place after structural adjustment, when public sector salaries were rising but the relative size of the public service was reduced. The government's divestures from the comparatively high-paying parastatal sector explains most of this reduction. Furthermore, the fact that the public sector share of the top decile fell less than the relative decline in wages suggests that, as in Kenya, public sector-headed households weathered the economic shocks of the 1970s and 1980s by relying on multiple income streams.

Table 7. Tanzania: Public sector headed households as % of top decile and percentile, best estimates

Year	Public sector headed households as % of top 10% (general govt, excl. parastatals, in parenthesis)	Public sector headed households as % of top 1%	Public sector households % of all households	Income or consumption basis?	Source	Bias
1969	25% (18%)	42%	5%	Income (cash only)	1969 household survey combined with EES	Unclear
1976/77	10% (6%)	14%	8%	Income (cash and own-consumption)	1976/77 household survey combined with EES	Down
1993	24% (17%)	35%	11%	Expenditure (excl. own-consumption) (per adult)	1993 HRDS	Upward
2000/01	19% (13%)	22%	5%	Consumption (per adult)	2000/01 HBS	
2011/12	13% (11%)	25%	4%	Consumption (per adult)	2011/12 HBS	

It is also noteworthy that the level of public sector workers in the middle or upper class was never that large to begin with. Tanzania inherited a smaller colonial public service than Kenya and did not expand relatively high skilled labour intensive social services (particularly education) by the same amount. What it does show however, is a greater public sector concentration at the very top of the distribution compared to Kenya; in the top 1% of the Tanzanian distribution public sector employees still constitute a quarter today, compared to 13% in Kenya.

The Tanzanian middle class and the public service, decade by decade

The 1969 estimates were derived by comparing the 1969 national income distribution (on a cash basis) with the salaries of public and formal private sector employees as shown in Table 8. As in the Kenyan analysis, this rests on the assumption that gross public sector cash earnings are a good approximation of the total income of public sector-headed households. These and other assumptions are discussed in Appendix 5, which underscores that these results have a considerable margin of error.

Public sector salaries in Tanzania peaked in the late 1960s on the account of rising minimum wages, while pay at the top of the salary scale began to fall towards the end of the decade following the Arusha Declaration's promise of a more equitable wage scale. Despite these early efforts to compress the public sector pay scale, however, public sector headed households were still a large share of the top 1-2% of households in 1969, with as much as 42% of those earning above TSh.12,000 per year working for the government or a parastatal, and 36% of those earning between TSh.6,000 –

TSh.12,000 (Table 8). Roughly 70% of these high earning public sector workers were employed by the general government while the remaining 30% worked for parastatals. Compared to Kenya however, the public sector made less of an imprint on the middle tier of semi-professionals and skilled workers, and only around a quarter of the top decile worked for the state. The public sector shares tapered off rapidly in the lower deciles, with public sector-headed households comprising only 1% of the bottom three-quarters of households.

Table 8. Tanzania 1969: Estimated public sector share by household income bracket (see Appendix 5.1)

TSh. /year	% households	Public sector share of income group	Private sector share of income group	General government only	Parastatals only
0-1499	78%	1%	1%	1%	0%
1500-3599	16%	20%	13%	15%	5%
3600-5999	4%	23%	10%	16%	6%
6000-11999	1%	36%	20%	28%	8%
>12000	1%	42%	24%	28%	14%
Top 10% (estimate)	10%	25%		18%	7%

By 1976 Tanzanian formal sector salaries were already considerably lower than at independence, having fallen by an average of 40% compared to their 1960s peak. In contrast, agricultural and enterprise incomes had increased modestly in the mid-1970s as the government deliberately raised food prices by over 50% between 1975 and 1980 and export crop prices in 1977 in an effort to improve rural living standards.⁶⁴ This policy had the effect of reducing the relative income of formal sector employees considerably.

Table 9 compares the number of public sector workers against total households by income group. As above, the formal sector income groups are based on gross wage or salary earnings only, which understates total household income, although the lack of correction for taxation provides a countervailing bias. On balance, however, the 1976 results are most likely underestimates of the public sector share of top deciles.

The results show that public sector-headed households comprised only 14% of the top percentile and roughly 10% of the top decile, despite a continued growth in the size of the public service! A large share the high income public sector households were headed by employees in the parastatal sector (40%), as the bulging parastatal sector paid higher salaries on average. A significant share of public sector-headed households were positioned roughly in the middle of the distribution, with roughly 12% of households in the 5th – 7th deciles headed by public sector employees.

Table 9. Tanzania 1976/77: Formal sector share by household income bracket in percentage terms (sources: see Appendix 5.2)

% of households	Public sector share of income group	Private sector share of income group	General government only	Parastatals only
<1999	8%	0%	0%	0%
2000-3900	32%	5%	5%	3%
4000-5999	28%	12%	4%	4%

⁶⁴ Alexander Sarris and Roger van den Brink, *Economic Policy and Household Welfare During Crisis and Adjustment in Tanzania* (NYU Press, 1993); Jamal.

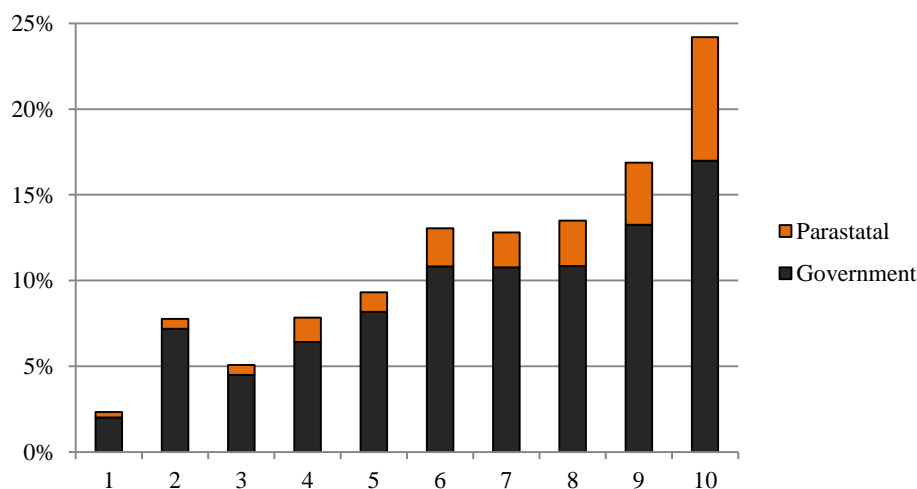
6000-7999	13%	9%	2%	5%	4%
8000-9999	6%	13%	4%	8%	5%
10000-24999	10%	9%	3%	5%	4%
>25,000	1%	14%	7%	7%	7%
Top 10% (estimate)	10%	10%	6%	4%	4%

In 1993 formal sector salaries had reached their nadir, having fallen by close to 80% on average from their 1960s peak. But the farming sector was not performing well either. The real average farmer cash income fell continuously from 1980 until 1998, with a fall of 28% between 1985 and 1998 alone.⁶⁵ With everyone poorer then, it is less clear how public servants fared relative to others.

There are few comprehensive sources on household incomes from this era and the 1993 analysis relies on the 1993 Human Resource Development Survey, which was not designed with labour market analysis in mind. This survey considerably over-estimated the number of public servants compared to other contemporary sources, which may bias the results upward. Moreover, households are ranked on the basis of cash and barter expenditure per adult rather than consumption (i.e., auto-consumption is excluded), which skews the estimates in favour of the non-agricultural sector and may also bias the public sector shares of the top income decile upward. Thus the 1993 results are likely an overestimation of the public sector share of top incomes, see full discussion in Appendix 5.

With these caveats the results nonetheless reveal some interesting patterns, suggesting that roughly 24% of households in the top expenditure decile were headed by public sector employees, roughly the same share in 1969 despite a doubling in the share of public sector households within the country. The relative improvement compared to 1976/77 may reflect the absolute decline in agricultural incomes as much as a real improvement in public sector-headed household living standards. Moreover, the relative position of public sector employees and parastatal employees differed in this period. General government sector employees were spread quite evenly throughout the top half of the income distribution while parastatal employees were heavily concentrated at the top, suggesting that the parastatal sector had protected its workers better from the two decades of wage erosion.⁶⁶

Figure 10. Tanzania 1993: Share of public sector headed households by expenditure decile, normalized by adults in household (Source: 1993 HRDS, see Appendix 5.)



⁶⁵ Jamal.

⁶⁶ Other support for this argument, see: Lindauer and Sabot.

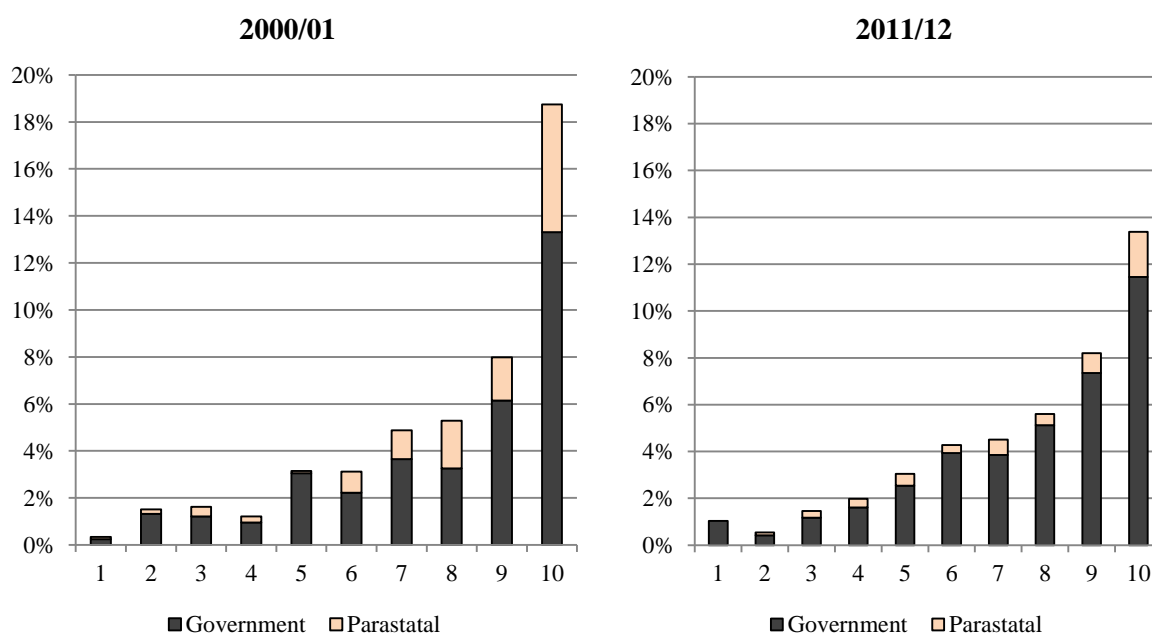
Moreover, in 1993 most Tanzanian public sector-headed households reported having more than one income stream over the preceding 12 months.⁶⁷ Among government employee-headed households, 85% reported having at least one further source of income and 55% report two or more additional income sources. The levels were lower for those in parastatal employment, at 83% and 46%. The table below shows the share of public sector-headed households that report having a further household income by source. Almost 60% of public sector-headed households report a farming or fishing income, while business income or private employment was relatively rare. Interestingly, it is also one of the few surveys that asked if households relied on savings; fully 25% of public sector headed households financed part of their consumption needs from savings.

Table 10. Tanzania 1993: Public sector-headed households, secondary income sources (Source: 1993 HRDS, see Appendix 5.)

Secondary income source	Share of pub sector households who report having income from this source
Farming, livestock or fishing	58%
Business income	5%
Private sector wage	4%
Monetary savings	25%
Other	16%

By the 2000s Tanzanian public sector salaries had increased significantly and by the end of the decade were close to their 1960s level, while the level of employment had fallen as the government instituted hiring freezes and divested from the parastatal sector. On balance the falling level of employment rather than recovery in earnings had the greater impact on the public sector share of top income earners, with the public sector share of the top decile falling to 19% in 2000/01 and 13% in 2011/12. This decline was driven largely by divestures from the parastatal sector. Parastatal households fell from 5% to 2% of the top decile while the general government share fell from 13% to 11%.

Figure 11. Tanzania 2000/01 & 2011/12: Public sector headed household share of consumption decile, normalized by adults in household (Sources: see Appendix 5.)



⁶⁷ Also reported by Jamal.

Secondary income sources remained important in the 2000s, albeit somewhat less so than in 1993. In 2000/01 roughly 53% of public sector-headed households had additional income from farming or business activities and 27% had a spouse or child in paid employment. Somewhat unexpectedly the share of public sector-headed households with agricultural incomes then rose between 2000/01 and 2011/12, which may be a result of the falling share of parastatal employees in public employment, who were less likely to own farms than their general government counterparts. Nonetheless, the persistently high share of households with secondary incomes in the 2000s is striking and may reflect a lack of trust in continued public sector wage stability. In the private sector in contrast, the share of households with secondary incomes fell substantially, possibly reflecting a growth in more secure, high income, urban employment.

Table 11. Tanzania: Public and private sector-headed household shares with secondary incomes, by income source, 2000/01 and 2011/12

Additional income beyond primary employment earnings	2000/01		2011/12	
	Public	Private	Public	Private
Business/self-employment income	26%	33%	26%	22%
Agricultural income	39%	24%	44%	20%
Spouse/other family member has employment income	27%	23%	27%	22%
<i>Have either business or farm that is generating income</i>	53%	46%	58%	38%

With this falling importance of public employment to the top income deciles in Tanzania, who then constituted the income elite of the 2000s? The table below disaggregates the top 10% of households by main economic activity for 1993, 2001 and 2011/12, and the top 1% for 2000/01 and 2011/12 only. It shows a rise in the importance of paid employment between 1993 and 2011/12 driven by the growth in the formal private sector. Agricultural (or fishing) households declined in share over the 2000s, while the share of self-employed business households remained roughly a third throughout the period. The falling importance of the parastatal sector is notable, while the private sector rebounded. In the top 1%, as opposed to the top 10%, public sector employment remains a larger share of the households, along with business-owners, while the farming share is considerably lower.

Table 12. Tanzania: top consumption decile and percentile by main activity of the household head, 1993, 2000/01 and 2011/12

Main activity of household head	Top 10%			Top 1%	
	1993*	2001	2011/12	2001	2011/12
Paid employees	34%	34%	40%	36%	48%
<i>Government</i>	17%	13%	13%	8%	18%
<i>Parastatal</i>	7%	6%	2%	13%	10%
<i>Private / other</i>	10%	15%	24%	15%	20%
Farming or fishing	30%	33%	20%	19%	10%
Business / Self-employed	33%	26%	35%	40%	39%
Not working (retired, housemaker, student etc.)		5%	3%	3%	2%
Unknown / other	3%	1%	2%	0%	1%

*1993 distribution on a cash expenditure rather than consumption basis.

Overall then, it appears that the Tanzanian public service fluctuated as a share of the top income decile in the 1960s and 1970s, but then fell considerably from roughly 24% in 1993 to 13% in 2011/12. Even if we disregard the more uncertain data points from the early independence period, the relative fall in the size of the public service, in particular the reduction in the high-paying parastatal sector, led to a decline in the public sector shares of top incomes following the introduction of structural adjustment reforms.

Another important finding is that the public sector shares of the top decile were never that large to begin with. Contrary to popular perception, Tanzania did not generate as many skills-intensive, high paying public sector jobs per capita as its richer, pro-capitalist neighbour. At the very top of the distribution, among the top 1%, this pattern is reversed however. In 2005/06 the top 1% of Kenyan households comprised 13% headed by public sector employees compared to 34% by private sector employees. In Tanzania in contrast, public and private sector households comprised roughly a quarter of the top percentile each. In both countries the top 1% was concentrated in the capital cities, with 66% of the Kenyan elite living in Nairobi (and another 7% in Mombasa), compared to 59% of the Tanzanian elite in Dar es Salaam. Thus at the very top of the income distribution it appears that Kenya has moved further in the direction of a strongly urban, private sector dominated economic elite, while among the top 10% (the broader strata of middle class households) the Kenyan public sector share has remained larger than in Tanzania.

V. CONCLUSION

Many scholars of African postcolonial history have ascribed an important political and economic role to African public sector employees. Whether they are thought to be rentiers or political clients, public sector employees are associated with undue privilege, and their disproportionate share of Africa's middle and upper classes is thought to have had negative economic and political consequences for the continent.

Yet the fate of public sector employees in the decades following independence reveals a more complicated story. Public sector employees saw a steep decline in real wages between the 1970s and early 1990s despite their rapidly increasing educational attainment. In Kenya and Tanzania average real earnings in the public sector declined by 70-80% between the 1970s and early 1990s, falling from 7 times GDP per capita to just above 3 times in Kenya, and from 7 times GDP per capita to 2 times in Tanzania. If public sector employees truly constituted an influential interest group, it is hard to see how the Kenyan and Tanzanian governments could have succeeded in reducing real wages by such amounts. While some public sector employees may well have gained from the economic uncertainties of the 1970s and 1980s by capitalising on the price distortions and income opacity, the majority would surely have favoured wage stability and slower employment growth overall. Furthermore, the changing composition of the public service, with a greater proportion of public sector jobs created outside the main urban centres and a growing share of female employees, also point to the falling social status of public sector employment.

As a result, the share of public sector employees in the top income deciles declined. This paper has sought to reconstruct the Kenyan and Tanzanian income distributions at different points in time to see where in the rank order public sector-headed households were positioned. While they constituted in the order of 44% of households in Kenya with incomes over Sh.800 per month in 1976, this share had dropped to 30-35% by 1994 and roughly 22% by 2005/06. The Tanzanian public sector share of the top 10% of income earners started lower, falling from an estimated 25% in 1969 to 13% in 2011/12. A sizeable share of public sector households were not very privileged at all, with 40% of Kenyan and

30% of Tanzanian public sector-headed households reporting consumption levels that put them squarely in the middle half of the income distribution (25 – 75th percentiles) in the 2000s. In both countries moreover, public sector-headed households relied on multiple income sources to meet their consumption needs. Without recourse to secondary incomes from farming, businesses or multiple salaries, public sector-headed households would have fallen further relative to their compatriots.

This story of change provides a cautiously optimistic tale. The urban economic elite that has come to the fore during East Africa's economic recovery in the 2000s is dominated by households in the private sector. Compared to the first two decades of independence, a larger share of the relatively prosperous Kenyan and Tanzanians are today business owners and employees at banks and in other service jobs. In 1961 Frantz Fanon predicted that Africa's 'bourgeoisie of the civil service' would hamper entrepreneurship, capitalist accumulation and political accountability. Over the half-century that followed the prominence of the bureaucratic class declined considerably, and while it may be too soon to tell, the private sector appears to be playing a bigger role in the creation of high-skilled employment opportunities.

However, although a growing high-paying private sector may be a positive sign of economic and political change, its effect on income inequality may be less sanguine. As public sector salary scales tend to be more compressed than in the private sector, a relative decline in public employment may well be driving changes to the income distribution. Studies from East Africa have noted greater wage compression in the public than private sector.⁶⁸ All else being equal, therefore, an increase in the share of private to public employment would increase inequality.

How these trends will play out in the future, moreover, are far from certain. Kenya's 2010 decision to devolve power to county governments has raised concerns that local governments are beginning to expand the level of public employment as well as creating a new tier of high-paying political posts at local level.⁶⁹ This may boost the importance of public sector jobs in county capitals, but could also trigger future wage deciles. It may also lead to a continued divergence between the employment distribution in Nairobi and Mombasa and those in the peripheral towns. Economic setbacks could also slow the ongoing transition, if falling demand reduced the growth of high-paying private sector jobs.

Nonetheless, this paper has underscored that African economies have been far from static over the past half-century and are unlikely to become so in the future. Political economy interpretations of the continent's postcolonial performance need to take greater cognizance of the dramatic changes to the structure of household earnings in the decades since independence, and identify the winners and losers of these shifts in different eras. Public sector employment was an important source of income for the nascent Kenyan and Tanzanian middle class at independence, but the political and social status of public servants ebbed and flowed over the following decades.

⁶⁸ Manda.

⁶⁹ Michelle D'Arcy and Agnes Cornell, 'Devolution and Corruption in Kenya: Everyone's Turn to Eat?', *African Affairs*, 115.459 (2016), 246–73.

APPENDIX 1: DATA SOURCES FOR FIGURES 1-3 AND 6

Employment and earnings

Kenya	Pre-1946: East Africa Economic and Statistical Bulletin 1946-1960: Kenya Statistical Abstracts, 1955 - 1962 1960 – 1990: Kenya: Economic Survey, 1960 – 1990 1991-2010: Kenya Statistical Abstracts, 1991-2010
Tanzania*	<i>Employment and earnings:</i> Pre-1960: East Africa Economic and Statistical Bulletin 1961 – 1980: Bureau of Statistics Tanzania survey of employment and earnings <i>Employment:</i> 1981-1984: World Bank, <i>Tanzania: Public Expenditure Review</i> (Washington D.C., 1989). 1987-1988: World Bank, <i>Tanzania: Public Expenditure Review 1994</i> 1990: 2011 Statistical Abstract (based on 1990 labour force survey) 1996: World Bank, <i>Tanzania: Public Expenditure Review, 1997</i> 2001-2002 & 2007: Employment and earnings survey reports 2005 & 2006: 2011 Statistical Abstract (based on labour force survey) <i>Wage bill:</i> 1981 – 2010: IMF Recent Economic Developments and Article IV Consultation Reports

*Note: Tanzania average government wage series constructed from average earnings for male citizen in the government services sector for period 1960 – 1978; after that the average is based on the total government wage bill divided by general government employment (imputed for missing years).

Cost of living indices

Kenya	1955 – 1960: Kenya: Statistical Abstract – Nairobi cost of living index 1961 – 2012: World Development Indicators – Inflation, Consumer prices
Tanzania	1961 – 1965: Monthly statistical bulletin – Dar es Salaam wage earners index of consumer prices 1965 – 2012: World Development Indicators – Consumer price index

GDP

- World Bank (2014), World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>
- Pre-1960 (Kenya only): PENN World Tables: Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2013), "The Next Generation of the Penn World Table" www.ggd.net/pwt

Population*

- Pre-1960: East Africa Economic and Statistical Bulletin
- 1960- Present: World Bank (2014), World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>

*Note: labour force estimated as a fixed percentage of the working age population (15-64), based on those estimates available in World Development Indicators.

APPENDIX 2: REGIONAL DISTRIBUTION OF EARNINGS: FIGURE 5

Figure 5 was constructed by using regionally disaggregated data on the population and the total number of public/formal sector employees. The public/government employee to population ratio and formal sector employee to population ratio was calculated for each district in Kenya and each region in Tanzania. I then calculate the coefficient of variation across these data points by year and plot how the CoV changed over time. Note that in the Tanzanian case the red line includes only general government employees (i.e., it excludes the parastatal sector).

Kenyan and Tanzanian subnational boundaries have changed somewhat over time. The data has been constructed on the basis of the 1970s borders. Further details available upon request for exact modifications made in order to harmonize subnational divisions.

The table below provides detail on the data sources used for the analysis.

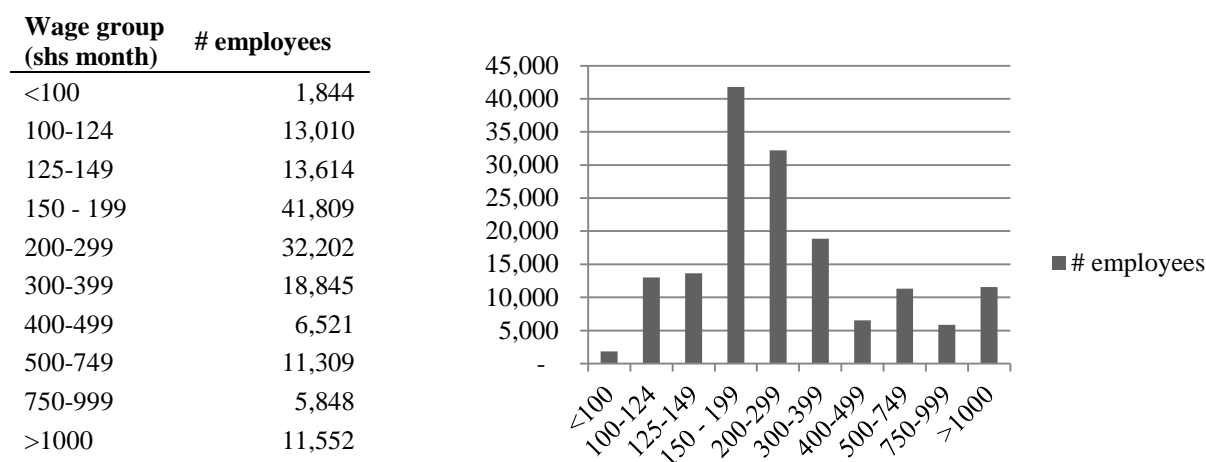
Kenya	Formal sector employment 1972 – 2005: EES Public sector employment 1972 – 1985: EES 1994: WMS 2009: Census Total population Censuses from 1969, 1979, 1989, 1999, 2009; population assumed to grow linearly between census years.
Tanzania	Government and formal sector employment 1965 – 2014: EES Total population Censuses from 1967, 1978, 1988, 2002 and 2012; population assumed to grow linearly between census years; population for 2013 and 2014 estimated assuming an even 2.6% population growth in each region.

APPENDIX 3: FORMAL SECTOR DISTRIBUTION: FIGURE 6

Most of the data points for this figure come from the EES, see sources listed in Appendix 1; the 1990 estimate for Tanzania uses the 1990/91 labour force survey instead. The Tanzanian measure changed slightly over time; the estimates for 1963 and 1965 are based on adult African male employees only, while the 1970 measure includes all adult male citizens. The data from 1976 and on in contrast covers both men and women.

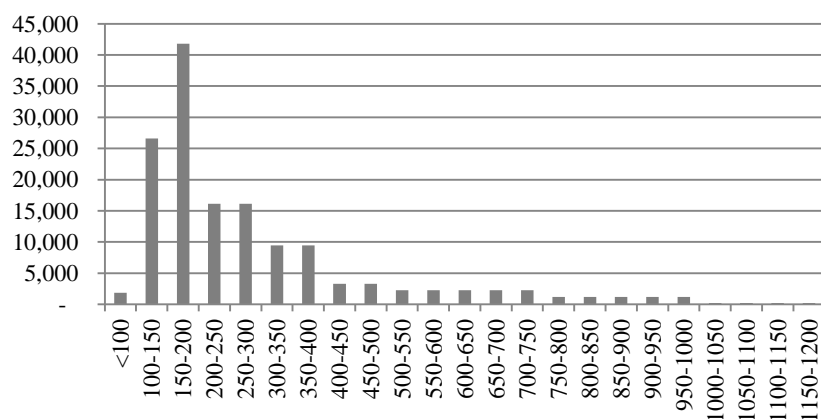
Both the data on public sector wages and household incomes (in the 1960s and 70s) is given in the form of number of employees/households per wage group, see example below for Tanzania 1969. For the purpose of the comparisons in this chapter, it is necessary to transform this wage group data into a continuous distribution.

Figure 12. Tanzania: distribution of public sector employees by wage group, 1969



I use two methods to estimate distribution within each wage group. The simplest approach is to assume a linear distribution within each wage group.⁷⁰ Converting the 1969 data above into even bin sizes to facilitate comparison with other data imposes the following pattern to the data (Figure 13).

Figure 13. Tanzania: distribution of public sector employees by wage group, 1969, assuming linear distribution within bins

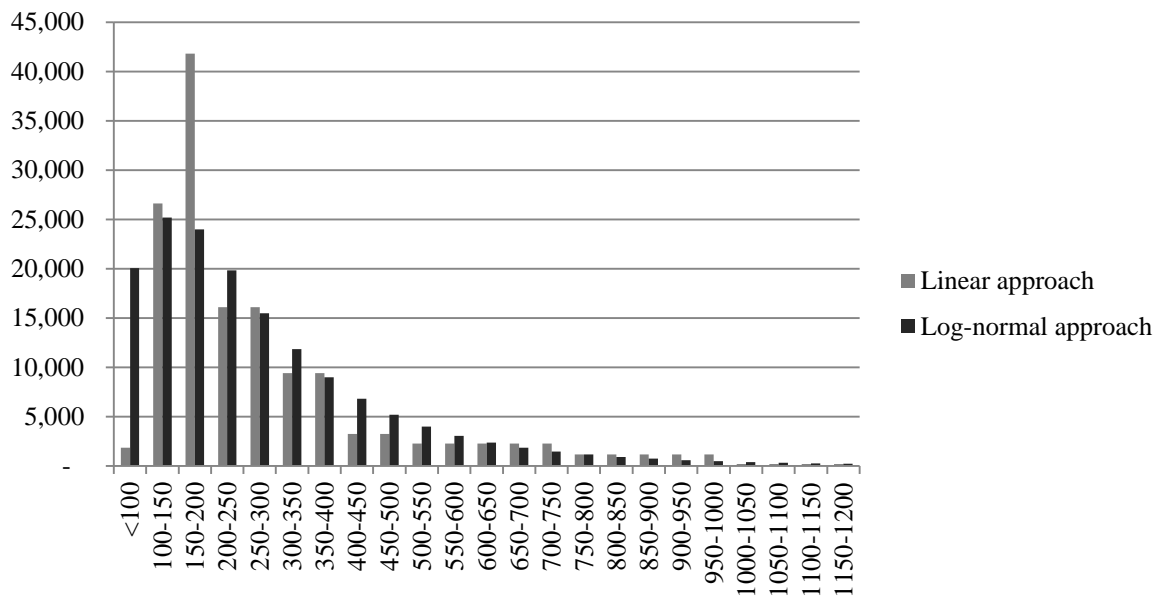


⁷⁰ Following the example of Richard Weisskoff, *Income Distribution and Economic Growth in Puerto Rico, Argentina and Mexico*, Review of Income and Wealth, 1970; Michael Hodd, 'Income Distribution in Kenya (1963-72)', *The Journal of Development Studies*, 12.3 (1976), 221-28.

However, a more sophisticated approach that smooths the distribution, thus reducing the step changes between brackets brought about by arbitrary bin sizes, is to model the distribution assuming a log-normal probability distribution. There is a considerable literature that argues that income data tends to conform well to a log-normal distribution.⁷¹ The challenge in this case is that for most of the available data we lack knowledge of the mean and standard deviation. The mean and standard deviation are therefore estimated so as to minimize the difference between the log-normal distribution and the linear distribution. I start by assuming that all observations fall at the mid-point of their respective income bracket, and that all observations in the bottom bracket fall at the top cut-off, and all observations in the top bracket are twice the bracket cut-off. The mean and standard deviation is then adjusted to minimize the difference between the linear interpolation model and the log-normal model.

For the Tanzanian 1969 data above, this gives the following distribution in comparison to the linear approach. The match is relatively good for the upper part of the income distribution but fits less well for the bottom part of the distribution; since our focus is the high income earners this is less problematic. The analysis in this paper provides estimates using both approaches.

Figure 14. Tanzania: distribution of public sector employees by wage group, 1969, comparing the two estimation methods



⁷¹ See previous use by: Maxim Pinkovskiy and Xavier Sala-i-Martin, *Parametric Estimations of the World Distribution of Income*, NBER Working Paper Series (Cambridge, Mass.).

APPENDIX 4: KENYAN DATA SOURCES: TABLE 3-6; FIGURE 8

4.1 *The 1976 social table, Table 3 and 4*

The 1976 middle class measure is derived from the table below, reproduced from Crawford and Thorbecke. Below I describe the exact method of arriving at the economic activity shares.

Table 13. Kenya 1976 social table: reproduced from Crawford and Thorbecke, 1978

Economic activity	Households	Population	Ave household income (KSh. annum)	Ave household income (KSh. Month)
Urban				
Modern				
Private				
Unskilled	193,883	581649	3920	327
Semi-skilled	58,068	174204	12720	1060
Office	35,163	105489	19578	1632
Skilled	17,743	53229	29474	2456
Professional	17,743	53229	30630	2553
Public (excl. parastatals)	88,700	266100	10830	903
Informal (CBS)	95,000	285000	7400	617
Other informal	40,367	121100	2400	200
Rural				
Modern				
Private				
Unskilled	211,491	1057455	8920	743
Semi-skilled	63,342	316710	12720	1060
Office	38,357	191785	19578	1632
Skilled	19,355	96775	29474	2456
Professional	19,355	96775	30630	2553
Public (excl. parastatals)	94,300	471500	10830	903
Informal	66,000	30000	3000	250
Agriculture				
Small farms (poor)	618,535	3401937	1650	138
Pastoralists	195,000	1365000	2000	167
Landless	210,000	735000	2000	167
Large farm squatters	200,000	800000	2500	208
Small farm (ave)	728,721	3956268	5000	417
Irrigation	4,750	28800	6500	542
Small farms (rich)	70,670	459450	12000	1000
Gap farms	40,000	270000	20000	1667
Large farms	3,350	20000	50000	4167
TOTAL	3,129,893	15237455		

The grey rows are captured in full or part in the 'middle class' (i.e., households earning above Shs.800/month). As the rural/urban distinction is not of importance for this analysis, the rural and urban modern sector rows are combined. The table below shows how the households above have been re-ordered into those earning above versus below Shs.800/month. Details of the assumptions made are described below.

Table 14. Kenya 1976 social table, reordered into 'middle class' and remainder

Middle class' (monthly earnings above KSh.800/month) - TOP 13%			
Economic activity		% of 'middle class'	Notes
Modern (formal) sector			
(a) Public (incl. parastatals)	177,828	44%	Based on EES
(b) Private	110,446	27%	Based on EES
(c) Business owners	3,000	1%	Based on 1978/77 LFS
(d) Informal	14,000	3%	Based on informal survey
Small farms (rich)	70,670	17%	
(e) Gap farms (intermediate farms)	26,000	6%	Based on rural survey
Large farms	3,350	1%	
Subtotal	405,294		
Remaining households (monthly earnings below KSh.800/month) - BOTTOM 87%			
		% of lower class	
Modern (formal) sector			
Public (incl. parastatals)	151,737	6%	
Private	273,626	10%	
Casual employees (public and private)	143,863	5%	
Informal	187,367	7%	
Gap farms (intermediate farms)	26,000	1%	
Small farms (poor)	618,535	23%	
Pastoralists	195,000	7%	
Landless	210,000	8%	
Large farm squatters	200,000	7%	
Small farm (ave)	728,721	27%	
Irrigation	4,750	0%	
Subtotal	2,739,599		
TOTAL	3,144,893		

(a & b) The modern sector data in Crawford and Thorbecke is derived from the 1976 Enumeration of Employees Survey. I have used the same source to provide a more detailed breakdown of the formal sector, using average earnings by occupation to group the workers earning above or below the average teacher wage (KSh.800). Of the total 'modern sector', roughly 177,000 public sector and 110,000 private sector employees earned above KSh.800. Note, however, that these results are quite sensitive to the monetary thresholds used to designate the middle class, as a large share of the public sector middle class were teachers (over 50%). If the bar was set above the average teacher's wage the public sector number would fall substantially.

(c) Formal sector business owners were not included in the social table, but are by all accounts a small number. In 1969 there were roughly 2,000 companies that filed income taxes and reported earnings of more than K£500 per annum (roughly Shs.800/month).⁷² A 1968/69 household survey of Nairobi, Mombasa and Kisumu reported income from employment and business profits separately. Of the total income accruing to those with household incomes above Shs.1000 per month, only 2% was business profits: almost all income in the upper end of the distribution came from regular employment.⁷³

⁷² International Labour Organisation, p. 355.

⁷³ Calculated from Technical Paper 4 tables: International Labour Organisation, pp. 348–350.

Lastly, the 1977/78 urban labour force survey estimated that 0.6% of adult men were ‘employers’. Assuming that these are household heads, it gives roughly 3,000 employers in urban areas, we therefore settle on 3,000 for this measure.⁷⁴

(d) The informal sector estimate is drawn from the Informal Sector Survey for 1976, republished in Crawford and Thorbecke, Appendix B. It gives average earnings and number of employees by sub-industry. All sub-industries with average earnings above Sh.800 included, and a share of the large categories (food retail and trade) that likely have a significant proportion of workers earning above the threshold.

(e) The number of gap farms proved the most difficult to estimate. These were estimated with a considerable degree of uncertainty by Crawford and Thorbecke. After the publication of their study, an intermediate farm survey was carried out in 1979. It found that there were 52,000 farms in this category, but summing the value of their crop and livestock sales suggests considerably lower incomes than estimated by Crawford and Thorbecke. The calculations are shown below, which use total value of crop and milk sales, and add estimates for the other production items, suggests an average household income (incl. auto-consumption) of roughly Sh.900/month. Making the assumption that the median income falls a bit below the mean farm, roughly 50% of these farm households would fall into the middle class category.

Table 15. Back of the envelope estimate of average income on intermediate (‘gap’) farms, Kenya, 1976

VALUE OF PRODUCTION		SOURCE / ASSUMPTIONS
Total value of crop sales (million, Sh. Annum)	92	Intermediate Farm Survey, p.139
Total value of milk sold (million, Sh. Annum)	114	Intermediate Farm Survey, p.137
Livestock (million, Sh. Annum)	228	Assumed at twice value of milk, based on ratio of total value added from the statistical abstract in the same year
Auto-consumption (million, Sh. Annum)	170	Based on IRS 1974/75 estimate for wealthiest rural income category, assuming 10% price rise
Non-agricultural incomes	200	Based on IRS 1974/75 estimate for wealthiest rural income category, assuming 10% price rise
<i>Minus costs of inputs (million, Sh. Annum)</i>	<i>53</i>	<i>Intermediate Farm Survey, p.139</i>
<i>Minus costs of labour (million, Sh. Annum)</i>	<i>13</i>	<i>Based on IRS 1974/75 estimate for wealthiest rural income category, assuming 10% price rise</i>
Net income (million, Sh. Annum)	738	
Net income per farm (Sh. / month)	1183	
Adjusted to 1976 prices/volume	922	Based on total growth in agric output between 1976 and 1979

To sense-check this assumption, the 1974/75 Integrated Rural Survey provides an income distribution that appears to cover the intermediate and small farms (the estimate of farms above 20 acres is broadly in line with the intermediate farm estimate). It estimates 179,000 rural households with incomes above Sh.8000/per year (roughly equivalent to our middle class cut-off, assuming 1-2 years of inflation); considerably more than our estimate above. However, the breakdown of income for this group shows a sizable value attributed to crop and livestock valuation change, in effect asset appreciation, as well as remittances and gifts received. Net cash incomes plus own-consumption was

⁷⁴ Results from the 1977/78 labour force survey reported in: Kenya. Central Bureau of Statistics, no. 1982.

25-30% lower than the reported total income. Moreover, it includes a sizable proportion of earnings from employment, and thus means some double counting across rural household groups (those straddling farming and wage employment). If the valuation changes and gifts are removed from income high income farm group, their average annual household income falls from Sh.12,000 to Sh.9,600. This means roughly half of the 179,000 households – 90,000 or less – had incomes above Sh.800/month. This estimate fits well with that in the social table above, if we combine rich small farmers and intermediate farmers (96,000).

A smaller estimation error of high income farmers will not make a major difference to our results. Estimating the number of middle class farmers at 120,000 instead of 96,000 would only reduce the public sector share of the ‘middle class’ from 44% to 42%.

4.2 *The 1994 and 2005/06 household surveys*

Table 16. Details of Kenyan surveys used in analysis

	Welfare Monitoring Survey 2, 1994*	Kenya Integrated Household Budget Survey 2005-2006
Coverage	National	National
Sample size (households)	11,279	13,430
Sampling frame	National Sample Surveys and Evaluation Programme (NASSEP III) sample frame, based on the 1989 Population and Housing Census	NASSEP IV sampling frame, based on the 1999 Population and Housing Census
Sampling	Three-stage sampling technique, sampling by enumeration area, cluster and household, for a total of 1,377 clusters and 11,279 households. Sampling was stratified by district and urban/rural status.	It covered 1,343 clusters, selected randomly on a district basis, and 13,430 households (10 selected randomly per cluster), stratified by district and urban/rural status.
Response rate		
Data collection time period	Started June 1994	May 2005 - May 2006
Data collection	Face to face interviews	Face to face interviews. Households kept diaries to record goods and services purchased and consumed by the household
Produced by	Kenya National Bureau of Statistics, with technical and financial support from the World Bank	Kenya National Bureau of Statistics Funded by: Government of Kenya, DFID, USAID and General Data Dissemination System (GDDS)

***Note:** the 1994 WMS was part of a series of three Welfare Monitoring Surveys (1992, 1994 and 1997). The 1994 survey was chosen for use in this paper because the quality of the survey was superior to that of 1992,⁷⁵ and because it contained more detailed employment and earnings data than the other surveys.

4.3 *Construction of variables*

Public sector-headed households: designated household head reports working in the public sector.

- 1994 WMS: Based on variables mainoccu & empsecto, excluding observations where respondents report zero income from public sector employment and removing daily wage labourers who report less than 20 days of work in a year.
- 2005/06 KIHBS: Based on sector of employment, variable e17

⁷⁵ World Bank, *Kenya Poverty Assessment* (Washington D.C., 1995), Annex 1.

A point to note is that in contrast to the EES the household surveys do not explicitly exclude the military, although they tend to be limited to private households and thus exclude army barracks. However, the military was only 8% of total public sector employment and their inclusion thus make only a minor difference to the final results.

Main economic activity of household head:

- 1994 WMS: Based on variable empsecto
- 2005/06 KIHBS: Based on economic activity, variable e03. Paid employees were subsequently divided into public, private and informal sector on the basis of sector of employment (e17). In order to reduce the other category (where household head reports being retired, looking for job or gave no information), all households in this category which reported agricultural income or business incomes of 50% or more of household expenditure were recategorized to the agricultural or business/informal sectors.

Total household consumption:

- 1994 WMS: Based on variable hh_expen (total household expenditure). Includes auto-consumption, but does not impute rent.
- 2005/06 KIHBS: Based on variable htexp.

It should be noted that I do not control for differences in cost of living in different localities. While price differences will significantly influence measures of poverty it should have less of an impact at the top of the distribution where a larger proportion of consumption is on goods and services marketed nationally.

Total household income:

- 1994 WMS: Variable constructed on the basis of all listed income sources, from employment, agriculture, business, transfers, rents etc. Includes own consumption. Agriculture, livestock and business income is net of all reported expenses. Sale of livestock included as a source of income.
- 2005/06 KIHBS: Variable constructed on the basis of all listed income sources. Agriculture, livestock and business profits net of reported expenses. Labour costs were excluded as it is unclear if the value of family labour was included. Business profits recalculated to a 12 month basis; those that reported losses were simply excluded (zero business income), to avoid including households with negative income. Only family-owned business income included.

4.4 Robustness Checks

i. Do the household surveys underestimate the wealthy?

The systematic under-reporting of top incomes in household surveys is a well acknowledged problem.⁷⁶ Households from the top of the distribution tend to be missing both because of the relative scarcity of such observations which reduces the likelihood that they will be represented in the sample in the first place, and because wealthier households tend to be less likely to agree to be interviewed.⁷⁷ This is a particular problem for our analysis when comparing household survey results to those of the

⁷⁶ Anthony B. Atkinson, *Inequality: What Can Be Done?* (Cambridge and London: Harvard University Press, 2015).

⁷⁷ Atkinson, p. 49.

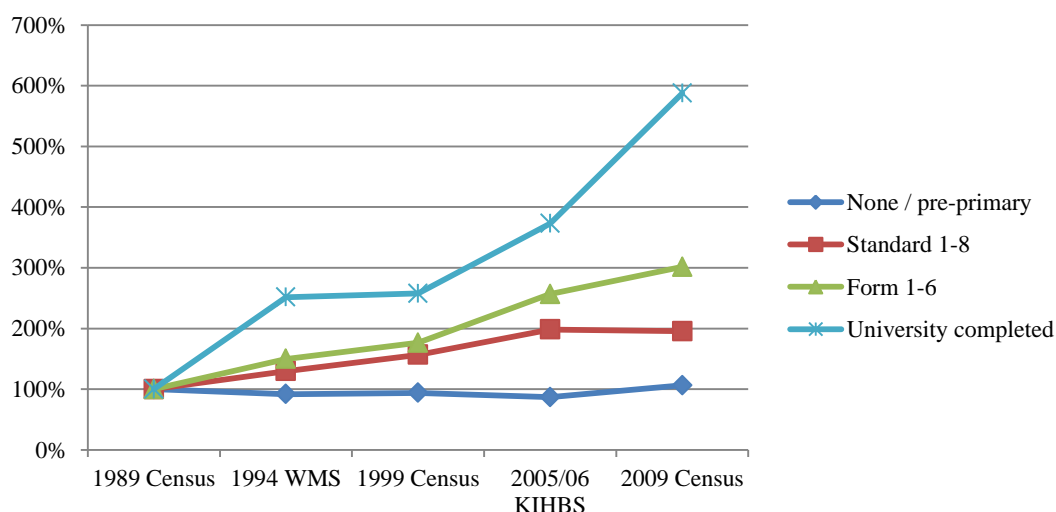
EES which drew on data from employers. Presuming that the census doesn't suffer from this same bias (given that every household is legally required to participate), we can compare variables related to wealth across our surveys to see if the 1994 and 2005/06 surveys appear to under-represent the elite (censuses give no income data). One such measure is to compare the educational distribution across samples, presuming that higher education is correlated with income.

Table 19 compares the Kenyan population disaggregated by broad educational attainment level for each of the household surveys along with the 1989, 1999 and 2009 census results. It suggests a plausible growth in the level of educational attainment over time, with the secondary and tertiary stock growing considerably, the primary educated population growing until 2005/06 and then remaining constant, and the number of people without any education remaining roughly constant, (growth shown in figure 13, where all trends are indexed to 100 in 1989). The 1994 WMS measure of people with university degrees looks too high for the overall trend, and is likely explained by the inclusion of people in the university category who have some university education rather than a completed university degree. Presuming a strong correlation between income and education, it does not appear that under-enumeration has made a significant dent on the top 10% of the distribution. Given that university graduates are only around 1% of the population, and likely concentrated in the top income brackets, the fact that their number is not significantly underestimated suggests that the under-enumerated top of the distribution is likely to be quite small.

Table 17. Kenya: number of people by educational attainment, household surveys and censuses compared

Level of education completed (respondents ≥ 10 years old)	1989	1994	1999	2005/06	2009
None / pre-primary	4,065,300	3,727,437	3,818,800	3,530,151	4,321,240
Standard 1-8	7,594,460	9,844,807	11,900,920	15,069,541	14,831,710
Form 1-6	2,282,720	3,421,677	4,026,200	5,858,245	6,882,970
Trade tests / polytechnics	0	94,923	0		109,660
University completed	55,520	139,684	142,980	207,066	326,210
Other / not stated	67,720	236,637	0	102,357	443,190
	14,065,720	17,465,165	19,888,900	24,767,360	26,914,980

Figure 15. Kenya: Growth in stock of people by level of education, household surveys and censuses compared (indexed, 1989=100%)



Another way to examine whether the top of the income distribution is under-represented is to compare assets or household characteristics associated with wealth. The results below show the percentage of households reporting household characteristics associated with income: whether the household has a flush toilet, access to electricity, and whether it uses gas as cooking fuel (as opposed to paraffin, wood etc.). The electricity series suggests a relatively even and plausible growth trajectory. The flush toilet measure shows both the 1994 and 2005/6 surveys to have shares below the census trends, and the measure of cooking gas similarly shows a very low level for 1994. These results suggest that there may be some under-representation of the elite but the missing share is likely quite small – possibly in the order of 1%.

Table 18. Percentage of population with elite characteristics, household survey and censuses compared

Household characteristics (% of households)	1989 census	1994 WMS	1999 census	2005/06 KIHBS	2009 census
Toilet (flush/WC) (in dwelling)	9.7%	8.9%	10.0%	8.4%	
Electricity	8.9%	10.2%	13.8%	18.3%	22.2%
Gas as main cooking fuel	2.7%	1.5%	2.4%	3.6%	4.9%

ii. Accuracy of consumption and income aggregates

In this paper I primarily report findings on the basis of household consumption rather than income, as income measures are generally less reliable. Table 21 compares the average and median per capita income and consumption for each survey to GDP per capita in each year. While the reported consumption per capita is plausible in relation to official GDP per capita, although most likely over-valued for 1994, the income measures are less reliable. While the 1994 mean income per capita is significantly larger than GDP per capita (very implausible), the 2005/06 income measure is clearly an under-estimate, as we'd expect incomes to be higher than consumption.

These summary statistics suggest different consumption and income estimation methods across surveys, or weaknesses in the sampling. Either way, unless the biases have a disproportionate effect on public sector-headed households they shouldn't affect the results. They do show that income-based measures should be treated with caution, particularly when comparing the 1994 and 2005/06 surveys; we therefore focus mostly on consumption rather than income measures.

Table 19. Kenya: Income and consumption averages, household surveys compared to GDP per capita (auto-consumption included)

	1994	2005/06
Consumption per capita (mean)	13,608	27,171
Consumption per capita (median)	11,384	21,228
Income per capita (mean)	21,025	20,589
Income per capita (median)	11,060	10,287
GDP per capita nominal KSh. (WDI)	15,000	40,000*
Consumption as % of GDP	91%	68%
Poverty headcount (<i>povcal net</i>)	19%	34%

*2005

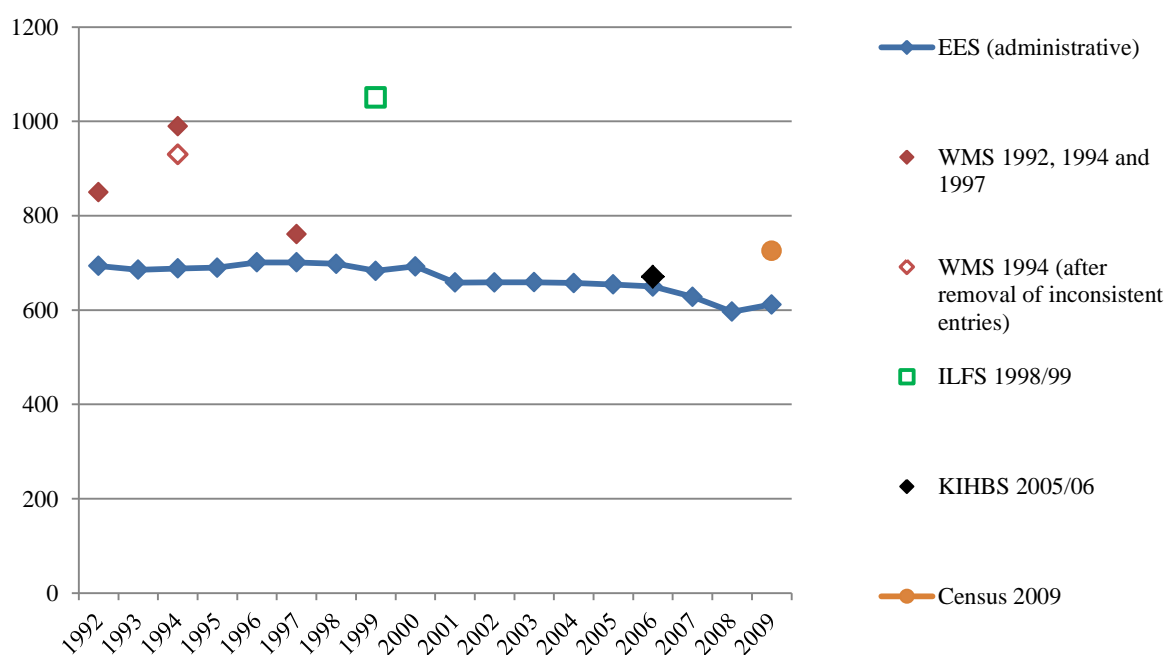
iii. The public sector sample: reliability of reported level of employment and income

Lastly, I examine how well these surveys capture public sector workers, as compared to the Kenyan administrative and census data. On the whole the household surveys and the 2009 census tend to over-

estimate the number of public sector employees, as compared to administrative data, as demonstrated in the chart below which plots all available household datasets against the EES series. The 2005/06 survey, however, is very close to the administrative data (it also has the most detailed questions about sector of employment), while the 1994 WMS significantly overestimates the size of the public service, even after we exclude inconsistent entries.

Given that the survey sampling appears relatively robust, one possible explanation for this inconsistency is a looser definition of public sector employee in the household surveys, and possibly also a failure of the central government to properly account for all staff in its administrative records. Keep in mind that the EES captures data from employers while the household surveys interview employees. The question in the household survey is generally phrased “who does [RESPONDENT] work for?”, with a list of allowable answers that include either general public sector category, or a breakdown by broad arm of government (central, local, teachers service commission etc.). One likely difference is that when posed the question, people who are not formally on the government payroll (contractors, consultants, short-term casual labourers – a cleaner at a school paid by a community contribution), will also identify with a public sector employer, while the government’s administrative data uses a more stringent definition based on contract type. There also seem to be genuine transcription errors (although these ought to be randomly distributed).

Table 20. Kenya: Estimates of number of public sector employees (‘000) by data source



The 1994 WMS estimates a considerably larger number of public sector employees – 990,000 compared to 688,000 in the EES for 1994. Removing outliers and observations with inconsistent classification (e.g., daily wage labourers who only report working a few days a year) reduces it to 930,000 – still 40% larger than EES. Average earnings are reported as lower in the WMS, at Shs.4,111/month⁷⁸ compared to Shs.4,607/month according to the EES (11% lower), which supports the hypothesis that the WMS is capturing more low-skilled and poorly remunerated casual workers.

⁷⁸ Because the earnings data is collected so as to facilitate annual earnings, this estimate is based only on monthly earners and those daily and weekly earners who report working for the entire year.

In Table 24 we break down public sector employees by industry using the 1994 WMS data and compare it to the 1994 EES. The biggest discrepancies are in the agriculture category, which reports far more public sector employees than the EES, and public administration (titled general gov't in the EES). The earning discrepancies are biggest in the sectors dominated by parastatals or frequent use of casual labour – construction, electricity/water, trade and finance, while in education and health for instance, the averages are relatively close. This further supports the hypothesis that the over-estimation is due to the inclusion of low-skilled, part-time or contract workers who are not captured fully by the administrative data. This bias then should have less of an effect at the top of the income distribution (our main focus). Moreover, to the extent that it does reflect poor sampling, it should bias the public sector share by consumption decile upward – the 1994 shares may thus be slightly lower than reported and the drop between 1976 and 1994 even larger than suggested above.

Table 21. Kenya: Estimates of public sector employees by industry, EES 1994 vs. WMS 1994

Industry	Total employees		Monthly earnings (Shs.)	
	EES 1994	WMS 1994	EES 1994	WMS 1994
Agriculture	67,934	150,345	2,318	2,993
Mining and quarrying	717	3,511	5,516	3,462
Manufacturing	39,311	32,062	4,146	3,286
Construction	29,323	26,610	4,016	3,338
Electricity/water	20,820	18,591	7,115	5,380
Transport/Storage	40,653	50,818	6,258	6,138
Wholesale/Retail trade & Restaurants	6,942	18,297	5,728	3,722
Finance, Insurance, Real estate etc.	17,892	15,660	11,207	5,099
General Government / Public Administration	76,294	237,701	4,723	4,108
Education	217,180	266,335	3,043	4,157
Health	52,271	55,255	4,372	4,517
Other	118,282	115,775	-	
TOTAL	687,619	990,960	4,607	4,111

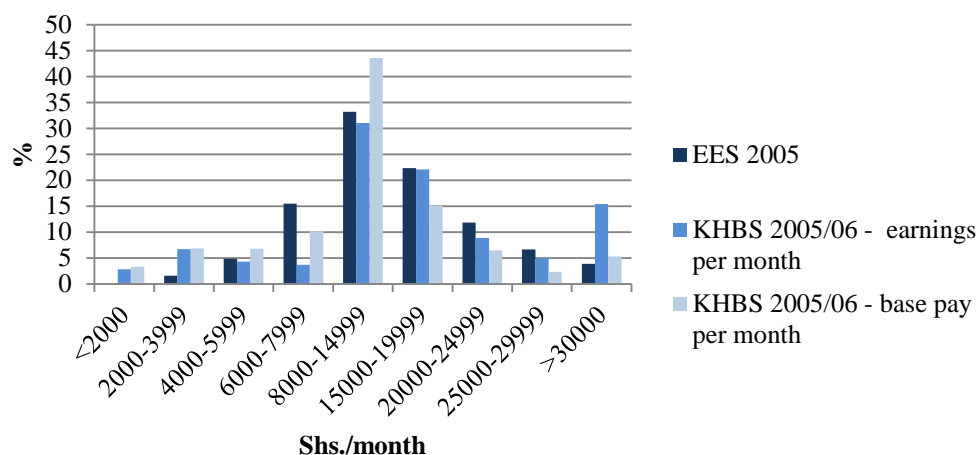
For 2005/06 however, we have the opposite problem, if on a milder scale. The table below compares the 2005/06 survey with the EES for 2005, and finds the estimates to be relatively consistent on both an aggregate and disaggregated basis, if marginally lower than the EES estimate.

Table 22. Kenya: Estimates of public sector employees by branch of government, EES 2005 vs. KHBS 2005/6

	Number of employees		Average earnings*		Standard deviation
	EES 2005	KHBS 2005/06	EES 2005	KHBS 2005/06	KHBS 2005/06
Central government	189,500	223,526	17,432	17,764	15,460
Local government	87,600	85,948	15,608**	16,178	27,538
Teachers service commission	232,800	208,465	20,407	19,636	10,931
Majority-owned public companies	46,900	45,254	48,897	29,861	37,558
Parastatals/SOEs	97,500	83,399	37,015	21,343	36,868
Total	654,300	646,592			

Figure 18 compares the wage distribution in the two datasets. It is not entirely clear however, whether the EES wage group data for 2005 includes benefits or only base pay. Nevertheless, comparing the total public sector distribution for the two data sources, both with and without allowances for the KHBS data, shows a reasonably consistent, if not perfect fit. If anything, it appears that the EES data rather than the household survey data, underestimates the right-hand tail.

Figure 16. Kenya: public sector wage distribution, EES 2005 vs. KHBS 2005/06



In Table 25 we also compare the public sector sample by educational attainment to the 2009 population and housing census, the only one of Kenya’s recent censuses to provide data on sector of employment. Note that the EES does not provide a disaggregation of employment by educational attainment and therefore our only anchor is the 2009 census. The 1997 WMS is also added to give one further year of observation.

Overall the findings are relatively consistent with earlier observations. The 1994 survey clearly overestimates the number of unskilled and primary educated public sector employees, as shown by the rapid fall in these categories between the 1994 and 1997 WMS. In the higher educational categories (secondary and tertiary), the 1994 estimations look more plausible, given the rapid growth in educational attainment over this same period.

Of greater worry is the underestimation of university graduates in the 2005/06 sample compared to 1997 and 2009. While the number of university graduates was rising rapidly over this time, the discrepancy within the public sector sample is larger than that for the labour force as a whole, which suggests that a disproportionate share of the most highly educated and thus highly paid civil servants were excluded from the sample or chose not to partake in the survey. The biggest discrepancy are in Nairobi and the Central province, which are also the areas which are comparatively under-sampled (weights are considerably higher for these two provinces). This may bias our estimates of the public sector share of the top decile downwards.

By estimating the number of missing entries of university educated public sector employees we can provide some estimates for the possible size of the bias that this may be imposing in Figure 8 and Tables 3-4. Between 1999 and 2009 the stock of university graduates grew by roughly 6% per year; assuming a similar rate of growth in the number of public servants with university education puts the corrected 2005/06 number at 75,000 instead of 45,000, i.e. 30,000 more. Assuming that all of these graduates are household heads and that all have incomes that place them in the top decile (a generous assumption), raises the public sector-headed household share of the top decile from 17% to 21%.

While not insignificant, this does not change the broader trend; even with such a correction the 2005/06 public sector middle class share still represents a considerable decline compared to 1994 (31%).

Table 23. Kenya: Public sector employees by educational attainment, different surveys

<i>Age above 25</i>	1994	1997	2005/06	2009
None / pre-primary	45,064	20,595	23,661	14,020
Standard 1-8	231,753	134,152	100,251	78,430
Form 1-6 and college	541,812	466,076	472,926	446,680
University	45,593	52,302	45,561	94,740
Other	53,668	41,242	24,842	8,010
TOTAL	917,890	714,367	667,241	641,880
<i>Percentage terms</i>				
None / pre-primary	5%	3%	4%	2%
Standard 1-8	25%	19%	15%	12%
Form 1-6 and college	59%	68%	71%	70%
University	5%	7%	7%	15%
Other	6%	6%	4%	1%

4.4. Kenya: public sector shares of the asset wealthy

How does the public sector share of the top income deciles or percentiles (Figure 8) compare to the public sector share of the asset-wealthy? In the table below we consider a number household characteristics and assets, indicative of middle class lifestyles. What share of households with these characteristics are headed by public sector employees?

In all cases, the public sector share of households with middle class characteristics fell between 1994 and 2005/06, in many cases considerably. The share of households with flush toilets, roughly 10% of households, which were headed by public sector employees fell from 35% in 1994 to 16% in 2005/06. Assuming that the 9% of households with flush toilets in 1994 were the wealthiest 9% of the population, these results are quite consistent with the public sector shares by consumption decile/percentile. In 1994 public sector headed household comprised 31% of the top 10% of households on a consumption basis, compared to 35% of flush toilet owners; in 2005/06 they comprised 17% of the top 10% of households on a consumption basis, compared to 16% of flush toilet owners. The other wealth indicators are also relatively consistent with results in Figure 8.

Moreover, at the very top of the distribution – those households able to own computers for instance – the public sector shares fall, which supports the findings in this paper that in Kenya the public sector was a larger share of the top decile than the top percentile.

Table 24. Kenya: middle class household characteristics and public sector headed households

Household characteristics	% of households nationally		% of asset-owning households that are public-sector headed	
	1994	2005/06	1994	2005/06
Flush toilet	9%	11%	35%	16%
Electric lighting in home	10%	17%	36%	17%
Modern' cooking fuels (elec., gas or paraffin)	14%	17%	27%	10%
Piped water	32%	33%	22%	10%
TV ownership		19%		17%
Car ownership		2%		19%
Computer ownership		1%		13%

APPENDIX 5: TANZANIAN DATA SOURCES

5.1 Data for 1969 (Table 8)

The 1969 estimate was derived by comparing the 1969 national income distribution (on a cash basis) with the salaries of public and formal private sector employees (given by the EES). As in the Kenyan analysis, this comparison rests on the assumption that gross public sector cash earnings are a good approximation of the total income of public sector-headed households. This will underestimate earnings somewhat, as the 1969 survey results showed that employees in the services industry (primarily government) earned on average 82% of household cash earnings from wages and salaries and the other 18% from a variety of sources (crops, trade and business).

In addition, the distributional data from the Employment and Earnings Survey covered only regular adult citizens. While the number of female high-earning household heads was likely low at this time, there were 3,700 non-citizens in the public sector in 1969 and 8,700 in the private sector. The average salary for non-citizens in 1969 was roughly TSh.14,000 per year in the public sector and TSh.13,000 in the private sector. While their exclusion may bias the top 1% public sector share down, foreign public sector workers constituted only one percent of the 280,000 households in the top decile, and therefore have a marginal effect on the core results.

Possibly biasing the public sector share upward instead however, is the incomplete income data in the national distribution table, which excluded production for own consumption and therefore underestimates the incomes of rural households. Moreover, the EES reported gross earnings, before taxes and other deductions, which may not correspond well to the survey results, where many of the reported income sources would be net of tax.

These countervailing biases makes it difficult to estimate the likely direction of bias or its rough magnitude. These results should be treated as preliminary and with a considerable margin of error.

Table 25. Employment by wage group, reproduced from EES, 1969

TSh./annum	TSh./month	All employees (adult male)	Government (adult male)	Parastatal (adult male)	Public (total) (adult male)	Private sector (adult male)
<1200	<100	11,987	1,457	387	1,844	10,143
1200 - 1499	100-124	24,091	11,947	1,063	13,010	11,081
1500 - 1800	125-149	28,041	10,000	3,614	13,614	14,427
1800 - 2400	150 - 199	68,767	33,450	8,359	41,809	26,958
2400 - 3600	200-299	50,402	21,990	10,212	32,202	18,200
3600 - 4800	300-399	26,411	13,212	5,633	18,845	7,566
4800 - 6000	400-499	10,583	5,033	1,488	6,521	4,062
6000 - 9000	500-749	17,900	9,048	2,261	11,309	6,591
9000 - 12000	750-999	5,642	2,570	1,278	3,848	1,794
>12000	>1000	9,607	4,082	2,070	6,152	3,455
	Total	253,431	112,789	36,365	149,154	104,277

Note: orange cells denotes income thresholds common to both the EES and the household survey

Table 26. Tanzania 1969: Estimated public sector share by household income bracket, EES (grey), total households from 1969 household income survey

TSh. /year	% of households	Total households	General govt	Parastatal sector	Public sector (total)	Private sector	Govt empl. share of income group	Parastatal emp. share of income group	Public sector share of income group	Private sector share of income group
0-1499	78%	2,184,000	13,404	1,450	14,854	21,224	1%	0%	1%	1%
1500-3599	16%	448,000	65,440	22,185	87,625	59,585	15%	5%	20%	13%
3600-5999	4%	112,000	18,245	7,121	25,366	11,628	16%	6%	23%	10%
6000-11999	1%	41,720	11,618	3,539	15,157	8,385	28%	8%	36%	20%
>12000	1%	14,560	4,082	2,070	6,152	3,455	28%	14%	42%	24%
Total		2,800,280	112,789	36,365	149,154	104,277				

5.2 Data for 1976 (Table 9)

The 1976 estimates are calculated using the same method as for 1969, which compares the number of public sector workers against total households by income group (unlike the 1969 survey however, household income includes auto-consumption, valued at market prices). As above, the formal sector income groups are based on gross wage or salary earnings only, which understates total household income. On average public sector-headed households derived 20% of household income from sources other than wages in 1976/77.⁷⁹ As in 1969 we also ignore the differential effect of taxation (which was not insubstantial and fell disproportionately on formal sector employees).

The distributional data on public sector salaries from the Employment and Earnings Survey covered only regular adult citizens. However, youth and casual employees comprise a small share of total employment, and likely a negligible share of the top income groups. By 1976 there were only two thousand non-citizens working for the Tanzanian public sector so their numbers would not influence the distribution by very much.

Table 27. Employment by wage group, reproduced from EES, 1976

TSh./annum	TSh./month	All employees	Government	Parastatal	Public (total)	Private sector
<1200	<100	503	294	41	335	168
1200 - 1500	100-124	265	11	1	12	253
1500 - 1800	125-149	532	5	1	6	526
1800 - 2400	150 - 199	1857	394	3	397	1460
2400 - 3600	200-299	59819	5419	18184	23603	36216
3600 - 4800	300-399	68956	30645	17587	48232	20724
4800 - 6000	400-499	103962	56149	27027	83176	20786
6000 - 9000	500-749	56722	25820	20246	46066	10656
9000 - 12000	750-999	27086	12254	7880	20134	6952
12000 - 24000	1000-2000	25463	11192	8359	19551	5912
>24000	>2000	8974	3024	2992	6016	2958
	TOTAL	354,139	145,207	102,321	247,528	106,611

⁷⁹ Sarris and van den Brink.

This monthly wage group data from the EES is converted into annual earnings and overlaid with the income group data from the 1976/77 household survey reproduced by Sarris and van den Brink (Table 28, p.77). As the income group cut-offs do not match, I assume that employees are evenly distributed within each wage group and then subdivide the wage groups to match the second distribution. I.e., to estimate the number of employees earning above 10,000, I simply assume that 2/3 of the employees in the 9,000 – 12,000 bracket earn above 10,000. This simplification has at most a minor impact on the results.

Table 28. Tanzania 1976/77: Estimated public sector share by household income bracket, EES (grey), total households from 1976/77 household survey reproduced by Sarris and van den Brink.

TSh. annum	% of households	Total households	General govt	Parastatal sector	Public sector (total)	Private sector	Govt empl. share of income group	Parastatal emp. share of income group	Public sector share of income group	Private sector share of income group
<1999	8%	249,100	310	43	353	947	0%	0%	0%	0%
2000-3900	32%	985,400	21,136	26,981	48,116	48,038	2%	3%	5%	5%
4000-5999	28%	864,300	71,472	35,821	107,292	31,148	8%	4%	12%	4%
6000-7999	13%	399,700	19,365	15,185	34,550	7,992	5%	4%	9%	2%
8000-9999	6%	191,400	14,624	10,315	24,939	7,299	8%	5%	13%	4%
10000-24999	10%	313,100	15,781	11,484	27,265	8,722	5%	4%	9%	3%
>25,000	1%	35,700	2,520	2,493	5,013	2,465	7%	7%	14%	7%
Total		3,038,700	145,207	102,321	247,528	106,611				

5.3. Tanzania household surveys, 1993, 2000/01 and 2011/2

Table 29. Details of Tanzanian surveys used in analysis

	1993 Human Resource Development Survey	2000/01 National Household Budget Survey	2011/12 National Household Budget Survey
Coverage	National, including Zanzibar (excl. for this analysis)	Mainland Tanzania	Mainland Tanzania
Sample size (households)	4,953	22,178	10,186
Sampling frame	National Master Sample frame	National Master Sample frame, based on 1988 census	National Master Sample frame, based on 2002 census
Sampling	Drew from all of the 222 clusters of the National Master Sample frame, although two had to be excluded due to inaccessibility.	two-stage sampling on the basis of the National Master Sample; 1,161 primary sampling units were selected (621 urban and 540 rural), and within these, 24 households from each PSU	Households drawn from 400 clusters (120 from Dar es Salaam, 120 from other urban areas, and 160 from rural areas).
Response rate		The replacement rate	The response rate (for

		(where the originally selected households could not be located or contacted) was relatively high, at 12%.	originally selected households) was 94% (out of a planned sample of 10,400), and a further 398 replacement households were added to increase the sample size to 10,186 ⁸⁰
Data collection time period	Sept-Oct 1993	May 2000 – June 2001	October 2011 and October 2012
Data collection		Each household was visited regularly throughout a month, to assemble monthly data on household expenditures (two households a month in each PSU).	Expenditure and consumption was tracked over a 28 day period, with each household member above the age of 5 given a diary to record purchases and consumption.
Produced by	University of Dar es Salaam with support from British Overseas Development Administration, the Government of Japan and the World Bank	National Bureau of Statistics	National Bureau of Statistics

5.4 Construction of variables

Public sector-headed households: designated household head reports working in the public sector.

- 1993 HRDS: Based on economic activity, variable i24, but excluding households that do not report public sector income as a most important or second most important household income.
- 2000/01 NHBS: Based on main activity, variable s2q08a. Those who reported zero employment income were excluded.
- 2011/12 NHBS: Based on main economic activity, variable S12Q20. Inconsistent entries were removed (roughly 5% of entries); those that reported a public sector employer but not paid employment as an activity, nor any income from this employer.

A point to note is that in contrast to the EES the household surveys do not explicitly exclude the military, although they tend to be limited to private households and thus exclude army barracks. However, the military was only 4% of total public sector employment and their inclusion thus make only minor difference to the final results.

Main economic activity of household head:

- 1993 HRDS: Based on economic activity, variable i24. Those who reported public sector employment but did not report income from this source have been recoded on the basis of their main reported source of income.
- 2000/01 NHBS: Based on main activity, variable s2q08a.
- 2011/12 NHBS: Calculated based on S12Q9, S12Q10A and S12Q20.

Total household consumption/expenditure:

⁸⁰ The United Republic of Tanzania, *Household Budget Survey Main Report, 2011/12* (Dar es Salaam, 2014).

- 1993 HRDS: Variable constructed based on data on reported weekly, monthly and annual data on expenditure. Dataset contained no aggregate variables so these were constructed (multiplying weekly exp with 52 and monthly with 12). Includes in-kind (barter) trade but excludes consumption of own-production.
- 2000/01 NHBS: Based on exp_adeq.
- 2011/12 NHBS: Based on totc. Includes consumption of own-production. Unlike other surveys it also includes imputed rent.

It should be noted that I do not control for differences in cost of living in different localities. While price differences will significantly influence measures of poverty it should have less of an impact at the top of the distribution where a larger proportion of consumption is on goods and services marketed nationally.

Total household income:

- 1993 HRDS: N/A. Ranking of sources of income by importance from file HR11.
- 2000/01 NHBS: Calculated based on all listed income sources, including employment, agriculture and business. Includes production for auto-consumption. Respondents asked to estimate income over past 12 months for each income category.
- 2011/12 NHBS: N/A. Does not contain consistent income.

5.5 Robustness checks

i. Do the household surveys underestimate the wealthy?

Household surveys tend to underestimate the number of high income earners, both because they are few in number and because wealthier households often decline to partake in surveys. This may bias the results if we are missing a large share of the top of the distribution and if this top has different economic characteristics to those just below them in the distribution (for instance, if no household in the top 3% of the distribution agreed to be interviewed, and public servants comprised the majority of these respondents, then their exclusion would bias our public sector share decile results downwards). By comparing the household survey population estimates, stratified by characteristics associated with wealth, with census results, we can estimate the likely order of magnitude of this under-reporting. As all households are by law required to partake in censuses, and as the census questions do not contain questions on income, they should provide a reasonably accurate coverage of the entire population, including the elite.

In Table 31 the population (above age 10) is disaggregated by educational attainment. While some of the inconsistencies across years are due to differences in classification (as the surveys provide inconsistent classifications for qualifications such as diplomas, post-secondary certificates etc.), there are some signs of under-reporting, particularly amongst university graduates. The 1993 HRDS did not capture a single respondent with a university degree (although with only 0.3% of household heads holding such a degree and a sample size of 5,000 households, this is not entirely implausible). The 2000/01 and 2011/12 household surveys also estimate a lower share of university graduates than the corresponding censuses, which provides further indication of under-reporting. In all cases, however, the household surveys over-estimate the post-secondary category compared to the census, which may also suggest some classification inconsistencies. Either way, the extremely low share of university graduates and diploma/certificate holders suggests that this bias will be fairly small. Treating the full discrepancy in university graduates between the 2002 census and 2000/01 household survey as

missing entries would only add 0.3% to the total number of respondents. The effect on our measures of the top 10% would thus be marginal.

Table 30. Tanzania: population estimates by highest level of education achieved (aged 10 and above), household surveys and censuses compared

Educational attainment	1988 census	1993 HRDS	2000/01 HBS	2002 census	2011/12 HBS	2012 census*
None or some primary	10,187,140	9,098,559	12,004,522	12,453,990	3,057,718	682,855
Primary (St.7 and above)	4,811,062	6,612,419	8,930,758	8,924,994	8,930,758	11,230,000
Secondary (Form IV and above)	261,682	507,327	699,634	850,823	1,713,794	1,745,016
Post-secondary (incl. diploma courses)	68,379	87,359	96,192	72,878	249,155	114,922
University	21,634		32,759	117,588	146,197	324,000**
Other / unknown	25,567	514,236		2	12,088,245	
Total	15,375,464	16,819,900	21,763,865	22,420,275	26,185,867	14,096,793
In percentage terms						
None or some primary	66%	54%	55%	56%	12%	
Primary (St.7 and above)	31%	39%	41%	40%	34%	
Secondary (Form IV and above)	2%	3%	3%	4%	7%	
Post-secondary (incl. diploma courses)	0.4%	0.5%	0.4%	0.3%	1.0%	
University	0.1%	0.0%	0.2%	0.5%	0.6%	
Other / unknown	0.2%	3.1%	0.0%	0.0%	46%	

*Note: 2012 census report only provides data on respondents who have completed their studies; for post-secondary graduates this should not provide any major bias, but means the 'none' and 'primary' categories are significantly smaller than in other years.

** University and other related education.

Table 32 repeats this exercise using household characteristics indicative of wealth. It compares the share of households reporting high status household characteristics across the household surveys and censuses. While there are some inconsistencies that are likely due to data quality problems (it is unlikely that electricity access fell between 1993 and 2002 for instance), on the whole the trends are reasonably accurate. The household surveys underestimate the share of households with flush toilets marginally, while overestimating access to electricity. On the whole the margin of error is in the order of 1-2%. While not conclusive, this does suggest that we are capturing a broadly representative share of the top decile, although our measures of the top percentile may be less accurate.

Another point of note moreover, is the low share of households with characteristics associated with middle class lifestyles. Less than 10% of Tanzanian households have flush toilets, and only in recent years has electricity access exceeded 10%. More than 95% of households still do their household cooking over coal or wood fires. This is indicative of just how narrow the Tanzanian elite remains. Even our top 10% then, is a fairly diverse group of households, containing households with considerable wealth as well as those towards the bottom of the bracket who still live in modest homes without electricity or running water.

Table 31. Tanzania: indicators of household wealth, household surveys and censuses compared

Assets/characteristics, % households	1988 census	1993 HRDS	2000/01 HBS	2002 census	2011/12 HBS	2012 census
Flush toilet	4%	2%	2%	3%	8%	13%
Electricity	6%	11%	10%	9%	18%	
'Modern' cooking fuel (electricity, gas or kerosene)		3%	6%	5%	4%	5%

ii. Accuracy of consumption and income aggregates

Table 33 looks at the accuracy of the consumption module across surveys compared to the estimates from the national accounts. This shows some discrepancies. While the 2011/12 estimate is relatively accurate, the 2000/01 estimate is somewhat lower than that given by the national accounts, with the 1993 estimate is considerably larger.

The 1993 survey significantly over-estimated expenditure compared to GDP. The 1993 survey had a very simple expenditure module based on household recall. Respondents were asked to estimate their weekly, monthly, and annual spend on recurrent, occasional, and durable expenditure items respectively. Moreover, these estimates did not impute a value for auto-consumption of own-produced food or other goods. The over-estimation of expenditure could be due to the multiplication of weekly expenditure by 52, which leads to a significant overestimation if the week under consideration was a comparatively prosperous one or estimates rounded up (the survey was carried out in the immediate post-harvest season).⁸¹ Similarly, poor price data could significantly distort the findings.

The 2000/01 estimate meanwhile, which was based on far more carefully collected expenditure data, was 20% lower than that given by the national accounts. This could be driven by a number of factors on the national accounts or household survey side, but I consider this estimate to be close enough to the national accounts value to suggest that the consumption module has reasonable integrity.

Table 32. Tanzania: household survey estimates of per capita consumption compared to GDP per capita (Tsh.)

TSh. annual	1993 HRDS	2000/01 HBS	2011/12 HBS
Consumption per capita (mean)	65,723	147,564	620,275
Consumption per capita (median)	47,688		536,208
GDP per capita (natl accounts)	63,119	257,622	947,237
Final household consumption (pc) from natl accounts	N/A	193,216	598,760

Note: GDP and final household consumption for 2000/01 and 2011/12 calculated as simple average of the two relevant calendar years.

Given the possibility of quality problems, particularly with the 1993 dataset, I test below whether the consumption ranking is well correlated with measures of asset wealth. All three datasets show a strong correlation between expenditure decile and the likelihood of owning a refrigerator, TV or flush toilet, with a concentration of these asset owners in the top decile. The correlation is not worse for the 1993 sample than for latter two. The concentration of asset-owners in the top decile drops as the prevalence of the asset increases – as we would expect. This gives some comfort that the consumption/expenditure variables are a genuine measure of socioeconomic standing.

Table 33. Tanzania: % of each household consumption decile that own asset

Consumption decile	% with refrigerator/ deep freezer			% with Flush toilet			% owning TV		
	1993	2000/01	2011/12	1993	2000/01	2011/12	1993	2000/01	2011/12
1	0%	0%	1%	1%	0%	0%	0%	0%	1%
2	0%	0%	1%	1%	0%	1%	0%	0%	2%
3	0%	0%	2%	1%	0%	2%	0%	0%	4%
4	0%	0%	2%	1%	1%	3%	0%	0%	5%

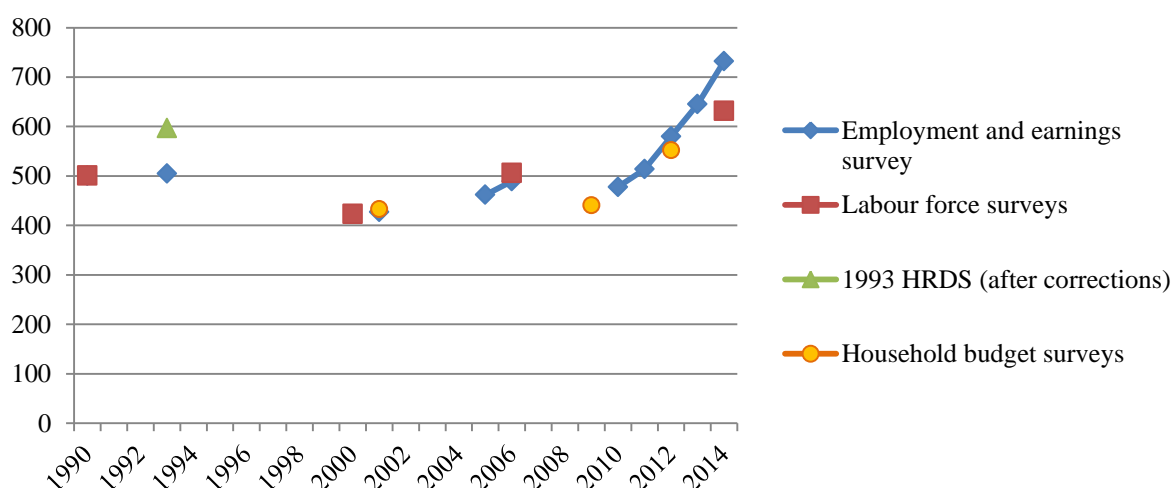
⁸¹ Although the World Bank concluded that GDP was undervalued rather than the survey results overvalued, see: World Bank, *Tanzania: Social Sector Review* (Washington D.C., 1999).

5	0%	1%	3%	2%	1%	5%	0%	0%	7%
6	0%	1%	5%	2%	1%	8%	0%	1%	12%
7	3%	2%	6%	3%	1%	10%	1%	1%	14%
8	2%	2%	11%	3%	2%	11%	1%	2%	24%
9	2%	4%	13%	3%	4%	15%	1%	5%	33%
10	10%	14%	31%	7%	12%	28%	3%	16%	55%
<i>Share of asset-owning households in the top decile</i>	59%	57%	42%	28%	54%	34%	51%	60%	35%

iii. The public sector sample: reliability of estimated level of public employment

Most of the surveys give reasonable estimates of the total number of public sector employees, albeit with an estimate from the 1993 Human Resource Development Survey which is somewhat higher than other contemporary sources (even after cleaning of the data).

Figure 17. Tanzania: estimated size of public employment ('000), various sources



The 1993 survey was not designed with labour market analysis in mind and the questions on employment are therefore very limited, making it hard to assess the robustness of the measures. However, as a simple exclusion criteria, people who report public sector employment as their economic activity but do not list public sector pay as an important income source (i.e., first or second most important source of income) were excluded from the pubemp variable. Despite this adjustment, the number of respondents reporting themselves as working for the government is considerably higher than the estimate from administrative sources (479,000 compared to 355,000), while the number in the parastatal sector is slightly lower than contemporary sources. Moreover, their educational attainment on the whole appears to be lower than what the 1990/91 labour force survey would suggest. The sample thus likely includes households relying on occasional or part-time public employment. If only those households that reported public sector pay as their main income source were included, the number would fall to substantially to 326,000 in the government sector and 90,000 in the parastatal sector. The choice of public sector employee definition has some, although not massive, effect on the public sector share of the top decile. Without any correction to the variable, the top decile share would rise to 27%; using the even tighter defining – those households who report public sector pay as their main source of income – the share drops to 20%.

5.4. Tanzania: public sector shares of the asset wealthy

How does the public sector share of the top income deciles or percentiles compare to the public sector share of the asset-wealthy? In the table below a number of assets or building characteristics have been selected that are indicative of middle class lifestyles, such as owning a refrigerator, or cooking with fuels other than wood or coal. The jumpy trajectory in terms of overall share of household owning said asset suggests that the indicators are not entirely consistent across surveys, or that the surveys suffer from sampling biases – it is hard to believe that more modern stoves would have decreased in prevalence between 2001 and 2011 for instance. Even with asset wealth indicators then, we face problems of comparison.

Nevertheless, most of the indicators do show a steady downward trend in the share of households owning the asset that are headed by a public sector employee. The share of refrigerator-owning households headed by public employees, for instance, fell from 39% in 1993, to 31% in 2001 and 19% in 2011/12. The exceptions are TV ownership and cooking fuels, where the results do not follow the expected time trend.

The numbers are relatively consistent with the public sector shares of the top consumption deciles or percentiles. Assuming that the 2% of households with a flush toilet were the richest 2% of households in 1993 and 2001, then the public sector share of flush toilet dwellers, at 34% in 1993 and 29% in 2001, is relatively consistent with their share of the top 1% on a consumption basis, at 35% and 26% respectively. Moreover, the share of public sector-headed households is on average larger for the more elite goods; although the fit is not perfect, the public sector share appears to drop as the pool of people owning said asset grows. This supports the argument made earlier that the public sector concentration in Tanzania has remained higher among the top 1% than the top 10%. Overall, these results give some comfort to the main results of the paper; the main results would not change dramatically if we used asset wealth rather than household consumption as our measures of socioeconomic status.

Table 34. Tanzania: middle class household characteristics and public sector headed households

Household characteristics	% of households nationally			% of asset-owning households which are public-sector headed		
	1993 HRDS	2000/01 HBS	2011/12 HBS	1993 HRDS	2000/01 HBS	2011/12 HBS
'Modern' cooking fuel (gas, electric or kerosene)	4%	7%	4%	32%	11%	13%
Flush toilet	2%	2%	8%	34%	29%	16%
Refrigerator	2%	3%	7%	39%	31%	19%
TV/video	1%	3%	16%	20%	34%	16%
House with 4 or more bedrooms		6%	9%		10%	9%

VI. BIBLIOGRAPHY

Household Surveys, Censuses and databases

Kenya

Kenya National Bureau of Statistics. Welfare Monitoring Survey 1992, First Round, [ID# KEN_1992_WMS-I_v01_M]. Nairobi.

Kenya National Bureau of Statistics. Welfare Monitoring Survey 1994, Second Round, [ID# KEN_1994_WMS-II_v01_M]. Nairobi.

Kenya National Bureau of Statistics. Integrated Household Budget Survey 2005/06, Nairobi.

Kenya Housing and Population Census 2009. Minnesota Population Center. Integrated Public Use Microdata Series, International: Version 6.4 [Machine-readable database]. Minneapolis: University of Minnesota, 2015.

Tanzania

Tanzania National Bureau of Statistics. 1969 Household Budget Survey, Volume 1

Tanzania National Bureau of Statistics. 1976 Household Budget Survey, Volume 1 (additional tables published in Sarris and van den Brink, 1993)

Tanzania National Bureau of Statistics. Tanzania (Mainland) The Labour Force Survey 1990/91, Dar es Salaam, 1993.

University of Dar es Salaam . Tanzania Human Resource Development Survey 1993 [ID# TZA_1993_HRDS_v01_M]. Dar es Salaam.

Tanzania National Bureau of Statistics. Household Budget Survey 2000/01 [ID# TZA-NBS-HBS-2000-v01]

Tanzania National Bureau of Statistics. Household Budget Survey 2011/12, Sixth Round [ID# TZA-NBS-HBS-2011-V01]

General

Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2013), "The Next Generation of the Penn World Table" www.ggdc.net/pwt

The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version.

World Bank, World Development Indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>, 2014 version.

References

Abernethy, David, 'Bureaucratic Growth and Economic Stagnation in Sub-Saharan Africa', in *Africa's Development Challenges and the World Bank: Hard Questions Costly Choices*, ed. by Stephen J. Commins (Colorado : London: Rienner, 1988)

Acemoglu, Daron, and James a. Robinson, 'Why Is Africa Poor?', *Economic History of Developing Regions*, 25 (2010), 21–50

Atkinson, Anthony B., *Inequality: What Can Be Done?* (Cambridge and London: Harvard University Press, 2015)

Barkan, Joel D., *Politics and Public Policy in Kenya and Tanzania*, ed. by Joel D. Barkan (New York: Praeger, 1984)

Bates, Robert H., *Markets and States in Tropical Africa : The Political Basis of Agricultural Policies* (Berkeley and London: University of California Press, 1981)

Bigsten, Arne, *Education and Income Determination in Kenya* (Hampshire and Brookfield: Gower

- Publishing Company, 1984)
- Bratton, Michael, and Nicolas van de Walle, *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective* (Cambridge: Cambridge University Press, 1997)
- Chabal, Patrick, and Jean-Pascal Daloz, *Africa Works: Disorder as Political Instrument* (James Currey Publishers, 1999)
- Cohen, John. M, 'Importance of Public Service Reform : The Case of Kenya', *The Journal of Modern African Studies*, 31 (1993), 449–76
- Cooper, Frederick, *Decolonization and African Society: The Labor Question in French and British Africa* (Cambridge: Cambridge University Press, 1996)
- D'Arcy, Michelle, and Agnes Cornell, 'Devolution and Corruption in Kenya: Everyone's Turn to Eat?', *African Affairs*, 115 (2016), 246–73
- Diamond, Larry, 'Class Formation in the Swollen African State', *The Journal of Modern African Studies*, 25 (1987), 567–96
- Dumont, Rene, *False Start in Africa* (New York: Praeger Publishers, 1966)
- Fanon, Frantz, *The Wretched of the Earth* (New York: Grove Weidenfeld, 1963)
- Frankema, Ewout, 'The Origins of Formal Education in Sub-Saharan Africa : Was British Rule More Benign?', *European Review of Economic History*, 16 (2012), 335–55
- Galbraith, James, *Inequality and Instability: A Study of the World Economy Just before the Great Crisis* (New York: Oxford University Press, 2012)
- Githinji, Mwangi wa, *Ten Millionaires and Ten Million Beggars: A Study of Income Distribution and Development in Kenya* (Hampshire and Burlington: Ashgate Publishing Limited, 2000)
- Government of Kenya, *Sessional Paper No. 10 of 1967, Proposals by the Government of Kenya for the Implementation of the Recommendations Contained in the Report of the Public Service Salaries Review Commission*, 1967
- Government of Tanganyika, *High-Level Manpower Requierments and Resources in Tanganyika 1962-1967* (Dar es Salaam, 1962)
- , *Report of the Africanisation Commission* (Dar es Salaam: Government Printer, 1962)
- Greenwood, Jeremy, Nezh Guner, Georgi Kocharkov, and Cezar Santos, 'Marry Your Like: Assortative Mating and Income Inequality', *The American Economic Review*, 104 (2014)
- Handley, Antoinette, 'Varieties of Capitalists? The Middle-Class, Private Sector and Economic Outcomes in Africa', *Journal of International Development*, 27 (2015), 609–27
- Harris, John R., and Michael P. Todaro, 'Migration, Unemployment and Development: A Two-Sector Analysis', *The American Economic Review*, 60 (1970), 126–42
- High-Level Manpower Requirements and Resources in Tanganyika, 1962 - 1967*, 1962
- Hodd, Michael, 'Income Distribution in Kenya (1963–72)', *The Journal of Development Studies*, 12 (1976), 221–28
- Husbands, K., T. Konyango, and T Pinckney, 'Education and Agricultural Productivity in Africa', in *The Evaluation of Public Expenditure in Africa* (Washington D.C.: World Bank, 1996)

- International Labour Organisation, *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya* (Geneva, 1972)
- International Monetary Fund, *Kenya: Recent Economic Developments* (Washington D.C., 1995)
- Jamal, Vali, 'Chasing the Elusive Rural-Urban Gap in Tanzania', *Journal of Contemporary African Studies*, 19 (2001), 25–38
- Jamal, Vali, and John Weeks, 'The Vanishing Rural-Urban Gap In Sub-Saharan Africa', *International Labour Review*, 127 (1988), 271–92
- Kenya. Central Bureau of Statistics, *Statistical Abstract, 1955 - 2015* (Nairobi, 1955)
- Kenya. Ministry of Economic Planning and Development, *High-Level Manpower Requirements and Resources in Kenya, 1964-1970* (Nairobi, 1965)
- Kenya. National Bureau of Statistics, 'Statistical Abstract' (Nairobi, 1974)
- Leinert, Ian, and Jithendra Modi, *A Decade of Civil Service Reform in Sub-Saharan Africa*, IMF Working Paper (Washington D.C.: International Monetary Fund, 1997)
- Levanon, Asaf, Paula England, and Paul Allison, 'Occupational Feminization and Pay: Assessing Causal Dynamics Using 1950-2000 U.S. Census Data', *Social Forces*, 88 (2009), 865–91
- Lidbury, David, *Report of the Commission on the Civil Services of the East African Territories and the East Africa High Commission 1953-54* (Margate, 1954)
- Lindauer, David L, and Richard H Sabot, 'The Public/private Wage Differential in a Poor Urban Economy', *Journal of Development Economics*, 12 (1983), 137
- Lindauer, David L., *Rehabilitating Government : Pay and Employment Reform in Africa*, ed. by David Lindauer and Barbara Nunberg (Washington D.C.: World Bank, 1994)
- Mamdani, Mahmood, *Define and Rule: Native as Political Identity* (Cambridge and London: Harvard University Press, 2012)
- , *Politics and Class Formation in Uganda* (New York and London: Monthly Review Press, 1976)
- Manda, Damiano Kulundu, *Incentive Structure and Efficiency in the Kenyan Civil Service*, Discussion Paper, 2001
- Minnesota Population Center., 'Kenya 2009 Population and Housing Census, Integrated Public Use Microdata Series, International: Version 6.3 [Machine-Readable Database].' (Minneapolis: University of Minnesota, 2014)
- Mkandawire, Thandika, 'Thinking about Developmental States in Africa', *Cambridge Journal of Economics*, 25 (2001), 289–314 <<http://eprints.lse.ac.uk/38967/>>
- Mubila, Maurice, and Mohamed-Safouane Ben Aissa, *The Middle of the Pyramid: Dynamics of the Middle Class in Africa*, Market Brief (Tunis, 2011)
- Mukui, J. T., 'The Politics and Economics of the 1979 Tripartite Agreement in Kenya: A Note', *African Affairs*, 82 (1983), 559–63
- Ndegwa, D. N., *Report of the Commission of Inquiry: Public Service Structure and Remuneration Commission 1970-71* (Nairobi, 1971)
- Nord, Roger, Yuri Sobolev, David Dunn, Alejandro Hajdenberg, Roger Nord, Yuri Sobolev, and

- others, *The Story of an African Transition* (Washington D.C., 2009)
- Nugent, Paul, *Africa since Independence*, 2nd edn (Palgrave Macmillan, 2012)
- Nyamu, H. J., *The State of the Civil Service Today: A Critical Appraisal* (Nairobi, 1974)
- Piketty, Thomas, *Capital in the Twenty-First Century* (Cambridge, Mass.: Belknap Press, 2014)
- Pinkovskiy, Maxim, and Xavier Sala-i-Martin, *Parametric Estimations of the World Distribution of Income*, NBER Working Paper Series (Cambridge, Mass.)
- Pratt, L. J., *Report of the Commission on the Kenya Civil Service, the Kenya Teaching Services, the East African Posts and Telecommunications Administrations and the General Fund Services of the East African Common Services Organisation* (Nairobi, 1963)
- Republic of Kenya, *Kenya Civil Service Salaries Review Committee 1985 (Chairman: T.C. Ramtu)* (Nairobi, 1985)
- , *Sessional Paper no.10 of 1980 on the Acceptance and Implementation of the Recommendations of the Civil Service Review Committee, 1979/80* (Nairobi, 1980)
- , *Sessional Paper, Economic Management for Renewed Growth, 1986*
- Resnick, Danielle, ‘The Political Economic of Africa’s Emergent Middle Class: Retrospect and Prospects’, *Journal of International Development*, 27 (2015), 573–87
- Robinson, Marc, ‘Spending Reviews’, *OECD Journal on Budgeting*, 2 (2013), 1–43
- Roxburgh, Charles, Norbert Dorr, Acha Leke, Amine Tazi-Riffi, Arend van de Walmelen, Susan Lund, and others, *Lions on the Move: The Progress and Potential of African Economies* (New York, 2010)
- Sabot, Richard H., and John B. Knight, *Education, Productivity, and Inequality: The East African Natural Experiment* (Oxford ; New York: Published for the World Bank, Oxford University Press, 1990)
- Sarris, Alexander, and Roger van den Brink, *Economic Policy and Household Welfare During Crisis and Adjustment in Tanzania* (NYU Press, 1993)
- Shivji, Issa G., *Class Struggles in Tanzania* (London: Heinemann, 1976)
- Simson, Rebecca, *Patronage or Meritocracy?: Public Sector Employment in Postcolonial Kenya, Tanzania and Uganda*, Working Paper, 2016
- Southall, Roger, *The New Black Middle Class in South Africa* (Johannesburg: Jacana Media, 2016)
- Tanzania. Bureau of Statistics, *Survey of Employment and Earnings, 1969 - 1976* (Dar es Salaam, 1969)
- Tanzania. National Bureau of Statistics, ‘Tanzania Integrated Labour Force Survey 2006’, 2006
- Taylor, Scott D., *Globalization and the Cultures of Business in Africa: From Patrimonialism to Profit* (Bloomington: Indiana University Press, 2012)
- The United Republic of Tanzania, *Household Budget Survey Main Report, 2011/12* (Dar es Salaam, 2014)
- Todaro, Michael P, ‘A Model of Labor Migration and Urban Unemployment in Less Developed Countries’, *The American Economic Review*, 59 (1969), 138–48

- Uganda Protectorate, *Report of the Commissioners for Africanisation 1962, Part 1: Africanisation, Retention of Expatriates and Scholarships* (Entebbe: Government Printer, 1962)
- Valentine, Theodore, *Government Wage Policy, Wage and Employment Trends, and Economic Instability in Tanzania since Independence*, Economic Research Bureau Paper (Dar es Salaam, 1981)
- Waruhiu, S. N., *Report of the Civil Service Review Committee 1979/80* (Nairobi, 1980)
- Weber, Max, *Economy and Society: An Outline of Interpretive Sociology*, ed. by Guenther Roth and Claus Wittich (Berkeley: University of California Press, 1978)
- Weisskoff, Richard, *Income Distribution and Economic Growth in Puerto Rico, Argentina and Mexico*, Review of Income and Wealth, 1970
- World Bank, *Kenya Poverty Assessment* (Washington D.C., 1995)
- , *Tanzania: Public Expenditure Review* (Washington D.C., 1989)
- , *Tanzania: Social Sector Review* (Washington D.C., 1999)