Reconstructing income inequality in a colonial cash crop economy: five social tables for Uganda, 1925–1965

MICHIEL DE HAAS

Rural and Environmental History Group, Social Science Department, Wageningen University, The Netherlands, michiel.dehaas@wur.nl

This study contributes to an expanding literature on historical African inequality, presenting five social tables and income inequality estimates for Uganda between 1925 and 1965. I find that income inequality was mostly stable and overall low compared to other African colonies. Decomposition reveals important underlying fault lines and shifts. Income gaps between the African majority and a tiny Asian and European income elite accounted for a large share of overall inequality. Over time, inequality among Africans increased. Income from self-provisioning was a major equalizer in Uganda's economy, which was characterized by land abundance and widespread smallholder cultivation of labor-intensive export crops.

1. Introduction

This study provides estimates of income inequality in Uganda for the five selected benchmark years, 1925, 1935, 1948, 1957, and 1965, using the "social table" approach, which allows for measurement of income inequality in contexts where more fine-grained, household level income data are not available. These estimates provide a new empirical foundation for long-standing debates about Uganda's economic inequality in the decades leading up to its economic collapse under Idi Amin's rule in the 1970s. Pushing Uganda's inequality estimates back into the colonial era also allows us to better understand the drivers, dimensions, and determinants of its post-colonial inequality landscape. Moreover, by comparing inequality in Uganda and other colonial economies, we can obtain a better understanding of the distributive impact and legacies of a racially segmented economic structure, export-oriented rural commercialization, land alienation, and other features that characterized (to a varying degree) colonial Africa (Bowden *et al.* 2008; Austin 2010).

There is also a broader interest in widening our knowledge of past African income inequality. Recent years have seen a growing number of empirical studies on the topic. Such research is important to evaluate claims about the impact of past income inequality trajectories on African economies today, which are characterized by remarkably heterogeneous inequality levels (Van de Walle 2009; Bigsten 2018; Chancel *et al.* 2019). Historical data also enable us to insert African experiences into broader ongoing debates about the effects of capitalism and globalization on income inequality, which has gained a major impetus with the seminal contributions of Piketty (2014) and Milanovic (2016), but as of yet is heavily focused on Europe, the United States, and some parts of Asia.[1]

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[1] With the exception of Chancel *et al.* (2019) and Simson and Savage (2020), which have a short time horizon, and Manning and Drewnski (2016), which relies on highly conjectural inequality estimates produced by the Clio Infra project (Moatsos *et al.* 2014).

The most comprehensive compilation of historical Gini coefficients for African countries yet is provided in the Clio Infra database, but these estimates are conjectural and mostly based on indirect data, such as human height distributions (Moatsos *et al.* 2014). Building on earlier work by Tony Atkinson on income taxes, Alvaredo *et al.* (2020) have recently compiled data on the income share of the top 0.1 percent or 0.01 percent income earners in twelve (former) British and French African colonies. While providing important insights into late-colonial inequality, only a very small elite is observed in this study, and the national income estimates on which the income shares are based are crude. Moreover, for most countries, the taxes on which these data are based were collected only since World War II. To complement this work and yield further insights into the dynamics of income inequality in colonial Africa, we need approaches that are more comprehensive and go back further in time. Building on pioneering work on colonial Algeria and Tunisia (Amin 1966) and Kenya (Bigsten 1987), recent studies have been able to provide repeated and economy-wide estimates of income inequality for colonial Botswana (Bolt and Hillbom 2016), Ghana (Aboagye and Bolt 2020), and Côte d'Ivoire and Senegal (Alfani and Tadei 2019). This study contributes to this new strand of literature.

The construction of social tables entails simplification of an economy's income distribution in any particular year by sorting the population into classes, which are each assigned a uniform income. Social tables have been widely used to study income inequality in (pre-industrial) economies with limited data availability (Alfani 2021; Milanovic *et al.* 2011; Milanovic 2018). Inequality researchers have variably used or modified existing social tables (e.g., Allen 2019) or constructed their own from scratch, based on a compilation of data sources. Most historical social tables reduce the full income distribution to a small number of income classes (typically less than twenty, sometimes as few as five). Partly in response to critique on the approach (Modalsli 2011), recent studies have further disaggregated their tables. In their study of inequality in Germany and the United Kingdom in the first half of the twentieth century, for example, Gómez León and De Jong (2019) distinguish seventy-eight classes for each of the countries. In their study of late colonial Côte d'Ivoire and Senegal, Alfani and Tadei (2019) distinguish twenty-five and forty classes, respectively. For Uganda, I present five social tables, each including eleven classes in fifteen separate spatial units (districts). Because some classes are absent in some districts and because some classes are assigned a uniform income across districts, this adds up to 113 distinct income groups in each year.

This paper makes two methodological innovations with immediate relevance for the advancing social tables literature. First, I present the results using different assumptions concerning the population for which inequality is estimated. I consider both households and individuals and explore individual inequality under different assumptions about within-household income distribution. I show that inequality levels are substantially affected by the choice of population, which implies that we should be cautious making comparisons without taking this issue into account. Second, I closely scrutinize the vital but complex role of non-monetized self-provisioning (henceforth referred to as "subsistence production") in income distribution and discuss the repercussions of the inclusion/exclusion and valuation of subsistence goods on inequality measurement.

To increase comparability with various existing datasets, I present the results using both the Gini coefficient and income shares. The key substantive findings are as follows. First, between 1925 and 1965, levels of income inequality in Uganda fluctuated substantially but did not trend upward or downward in the long-run. That said, the population used mattered greatly for the observed level of inequality. If we compare households, Gini coefficients fluctuated between 0.42 and 0.50. If we compare individuals, assuming no within-household

inequality, Gini coefficients fluctuated between 0.30 and 0.40. If we assume maximum within-household inequality (the household head accumulated all income beyond the mere survival requirements of other household members), Gini coefficients ranged from 0.40 to 0.51. Second, broad-based access to self-provisioning proved to be a major "equalizer" in Uganda's economy. If we discard the value of households' self-provisioning, and only look at money income, inequality levels were much higher: between 0.61 and 0.70, on average 0.19 Gini points higher than when we include subsistence income. Third, of the five benchmark years, 1935, which gives a snapshot of Uganda's economy in the wake of the Great Depression, was the most unequal. Fourth, decomposition using the Theil Index shows that a large share of inequality, in all years but especially in 1935, is accounted for by racial income disparities. Fifth, over time, inequality between African households increased, as processes of agricultural commercialization fostered the emergence of a class of large coffee and livestock farmers, and wages rose faster than incomes in the self-employed sector.

The remainder of the paper is organized as follows. Section 2 briefly discusses extant debates on income inequality in colonial Uganda. Section 3 discusses the most salient issues in the process of constructing social tables. Important but tedious methodological details have been relegated to appendices. Section 4 presents the results. Section 5 links the results back to some of the debates introduced in the introduction and Section 2. A final section concludes.

2. Income inequality in colonial Uganda

It is not a priori obvious what level of inequality we should expect in Uganda between 1925 and 1965. Historians have emphasized the existence considerable differentiation of status and wealth in late pre-colonial and early colonial Buganda, Uganda's largest, most powerful, and most extensively studied pre-colonial kingdom and the administrative and economic center of the Protectorate. Notably, slavery was widespread in the late nineteenth century Buganda (Twaddle 1988; Reid 2002). Buganda's economic inequality was entrenched by the "Buganda Agreement" between Ganda elites and the British colonizers in 1900, which placed most of the fertile land in the hands of circa 3,000 landowners, who were henceforth able to extract considerable taxes in produce, labor, and currency from their tenants (Hanson 2003; Fallers 1964; Richards *et al.* 1973). In other regions of what became the British Uganda Protectorate (1894–1962), Ganda and, later, local chiefs were given the power to "pacify," rule, and raise revenues, accumulating considerable wealth and income in the process (Roberts 1962; Reid 2017). Under colonial rule, Uganda remained an agrarian economy, which became highly dependent on the export of agricultural commodities, cotton and coffee in particular (Wrigley 1959; De Haas 2017).[2] While these crops were largely grown on African smallholder farms, their processing and trade was, until the 1950s, entirely in the hands of Asians and Europeans, who also made up the higher echelons of the colonial and early post-colonial administration (Jamal 1976; Ramchandani 1976; De Haas and Frankema 2018). Some historians have argued that class formation, partly along racial lines, was a defining feature of economic change during the colonial era (Mamdani 1976; Jørgensen 1981; Vincent 1982).

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[2] Formally, Uganda was a "Protectorate" under "indirect rule" rather than a colony under "direct rule" (as was the case in neighboring Kenya), but it was ruled in a matter quite similar to African "colonies," with a sizeable European administration with a powerful governor at its helm. The word "colonial" is widely used to refer to protectorates as well.

There are also reasons to hypothesize that inequality was limited. Colonial Uganda's initial bifurcated social structure pitting chiefs against tenants quickly proved untenable, as it stifled rural entrepreneurship (and hence the export production desired by the colonial government) and undermined the foundations of indirect rule (Fallers 1964; Powesland 1957). During the 1920s, taxes and rents in Buganda were formalized and the position of tenants relative to their chiefs improved substantially. Social mobility increased in this period as well (Meier zu Selhausen *et al.* 2018). Outside Buganda, chiefs were also gradually turned into salaried officials, which reduced their extractive powers. Moreover, while Uganda did have a sizeable expatriate administration, the role of expatriates as landowners and employers was small, compared to, for example, neighboring Kenya. As a result, Uganda did not see large-scale land alienation or a process towards African proletarianization, which is often associated with Africa's "settler economies" (Bowden *et al.* 2008; Austin 2010). On top of that, most of Uganda had favorable ecological endowments, which allowed for two consecutive agricultural cycles per calendar year (De Haas 2020). The far majority of Ugandans was able to provision its own food, and most households combined this with the cultivation of cotton and (later) coffee to obtain cash income (De Haas 2017). Land remained abundant and widely accessible in most regions. Agriculture was labor intensive and the returns to scale and capital low, which made it hard for elites to accumulate income and wealth (Richards *et al.* 1973).

Uganda's checkered modern history suggests that a colonial legacy of economic inequality was a salient and divisive political issue (Reid 2017). The late 1940s saw widespread strikes among farmers and wage laborers throughout Uganda, fueled by low producer prices and wages, which were an outcome of various new taxation instruments and wage policies introduced by the colonial state during the 1930s Depression and Second World War (Thompson 2003). Ethnic grievances towards the Ganda, whose elites had "collaborated" with the British rulers and benefited disproportionately from colonial investment, and racial grievances towards commercially dominant Asians played a large role in Uganda's late-colonial and post-colonial political landscape (Mamdani 1976, Jørgensen 1981; Kasozi 1994). Ethnic grievances translated into a high-stakes conflict between the Prime Minister and the King of Buganda, who also served as president but had to flee the country in 1966. In 1972, president–dictator Idi Amin, notoriously, expelled Uganda's Asian minority and redistributed their properties and businesses (Jamal 1976; Reid 2017). Recent historical work has also stressed the importance of regional inequality in Uganda's past. Bandyopadhyay and Green (2016) link contemporary spatial disparities all the way back to patterns of pre-colonial centralization. Others focus on developments during the colonial era. Reid (2017, 287), for example, has characterized geopolitical inequity in colonial Uganda as "staggering." Section 5 of the paper and the conclusion return to these debates considering the newly produced quantitative evidence.

3. Constructing social tables

3.1. Populations and households: whose incomes do we measure?

Income inequality studies use different populations to rank incomes: (1) households, (2) the workforce, or (3) individuals. In the latter case, which is the standard in modern inequality studies (e.g., World Bank 2020; UNU Wider 2020), income is apportioned to individuals by first aggregating at the household level, and then dividing among the individual household members, sometimes accounting for their different consumer needs. Most social table studies,

instead, use either households or the workforce as their ranking population.[3] Choosing between these populations may have some influence on inequality *trends* over time but is especially likely to have a considerable impact on inequality *levels* in any specific year. There are two main reasons for this.

First, if it is common for high-earning men and women to marry (assortative mating), household (and derived individual) inequality will be larger than workforce inequality. This issue is not of much concern in the context of Uganda, where the bulk of the population consisted of family farmers. Within rural homes, different household members coordinated most of their work activities to benefit the household's aggregate income, either through self-provisioning or production for the market (De Haas 2017). African formal wage earners were usually either bachelor men or household breadwinners whose wives contributed some income to the household through self-provisioning and domestic activities such as basket- and mat-making, which means they would not, by standard definitions, be considered part of the formal workforce (De Haas 2017, Meier zu Selhausen 2014). Very few women in colonial Uganda were full-time wage earners, even during the 1950s and 1960s (De Haas and Frankema 2018). Of the 219,962 laborers enumerated in 1955, only 6,322 (2.8 percent) were women (Uganda Protectorate 1956). European and, especially, Asian female labor force participation was low as well. Those European women who were working were mostly unmarried and formed separate (one person) households. All in all, we should not have to be concerned about upward bias caused by assortative mating, which was not (yet) of much relevance in this context.

Second, if household sizes differ between classes, levels of income of households and individuals are not proportionate across classes. For example, if richer households consist of more members than poorer households, their income must be distributed among more individuals. This will reduce individual inequality relative to household inequality. This issue is salient in the context of colonial Uganda, and African societies more generally. Historical anthropologists have noted a tendency in (pre-colonial) African societies to store "wealth in people," such as slaves and wives, rather than in material property (Guyer and Eno Belinga 1995). This means that wealthier people tended to have many "dependents," which is likely to translate into a correlation between household size and income.[4] The economic logic of accumulating dependents is not just linked to wealth, but also to income: in African conditions of capital scarcity and land abundance, one of the few effective strategies for a household to generate more income is to invest in additional productive labor, by incorporating wives, children, and people held in domestic servitude such as pawns and slaves (Austin 2008).

It should be noted that even if there are no economies of scale for household size, adding further household members augments the head's income, as long as two conditions are met: (1) additional household members produce a "surplus" income, that is, disposable income beyond the mere cost of their reproduction, and (2) the household head is able to extract (part of) the income produced by other household members. These conditions were typically met in colonial Uganda. Even though it was not uncommon for African wives to have control over some of the fruits of their labor, they mostly contributed unremunerated labor to household production (Whitehead 1990). In Uganda, most proceeds from cash crop sales ended up in

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[3] In a recent study, Allen (2019) modified historical social tables for England with the explicit aim of consistently ranking incomes by household, separating out, for example, servants. In contrast, other recent social table studies take the formal workforce as their population, because the data are reported at that level (Bolt and Hillbom 2016; Gómez Léon and de Jong 2019).

[4] This is confirmed in the data for rural Uganda that I present in Table 2 below.

Table 1. *Incomes of two fictional households and their members under different assumptions*

	Individual household members	Income per unit of the population		
		Aggregate households	Individuals, no within-household inequality	Individuals, maximum within-household inequality (assuming a "subsistence income" of 2)
"Poor" household	P1 (head)	12	3	6
	P2		3	2
	P3		3	2
	P4		3	2
"Rich" household	R1 (head)	18	3	8
	R2		3	2
	R3		3	2
	R4		3	2
	R5		3	2
	R6		3	2

Source: author's calculations. See text.

the hands of men, even though women played an important role in their cultivation (Summers 2002, 185).

We can use a fictional and simplified example to evaluate the implications of different measurement assumptions for the income distribution. Let us image two households, one "poor" household of four members earning an income of 12 pounds and one "rich" household of six members earning an income of 18 pounds. If we consider *aggregate household inequality*, we can immediately see that the "rich" household earns 50 percent more income than the "poor" household. However, if we follow assumptions common in modern inequality studies, we should take individuals, not households, as the ranking population, dividing households' income equally among their members.[5] In this case, there is no longer a premium for the members of the "rich" household, as individuals in both households earn 3 pounds each.[6] The latter approach yields a distribution of *individuals with no within-household inequality*. When we account for the ability of household heads to extract some income from other household members, the income distribution again looks quite different. To illustrate this point, we can assume that the cost of mere survival and reproduction (i.e., "subsistence") is 2 pounds per household member. In such a scenario, the head of the "poor" and "rich" household can extract up to 6 and 8 pounds, respectively, a premium of 33 percent for the "rich" household head.[7] This is the distribution of *individuals with maximum within-household inequality*. Each of the three simplified distributions is depicted in table 1.

[5] For simplicity, the example treats all family members as generic units. If we were to define family members (e.g., adult men, women, and children) and apply an equivalence scale (for example treating women as 0.8 adult male equivalents, and children as 0.5) would not alter the key message conveyed here.

[6] This reflects, on purpose, a situation with constant returns to scale. If economies of scale would have existed, the central message of this example would not be altered.

[7] Any economies of scale of household production will increase the income difference between households in all three scenarios, but especially in the third one where household heads extract all income beyond subsistence.

Each of the three approaches would result in very different income distributions, if applied to real-world data. Still, a case can be made for using each of them. Estimates using aggregate household incomes are compatible with most pre-industrial social table studies and avoid assumptions about household size.[8] Therefore, I treat the results for the household population as the baseline. Nevertheless, using individuals as the population and assuming *no* within-household inequality is still worthwhile because it makes our estimates more compatible with modern inequality studies. Using individual income with *maximum* within-household inequality is also interesting, because it yields an "upper bound" estimate of income inequality accounting for intra-household extraction, which is relevant in this, and many other, historical contexts.

For simplicity, the fictional example in table 1 treats every person as a uniform consumer. However, it is more realistic to take into consideration that children and women have fewer (food) consumption needs than men and that additional household members also require less additional (non-food) consumption. To capture this reality, inequality studies typically use "consumer equivalence scales."[9] I assign consumer equivalents of 1 to adult men, 0.8 to adult women,[10] and 0.5 to children. As an example, a household consisting of one adult male, one adult female, and two children adds up to 2.8 adult male equivalents.

The first step towards applying the above approaches is to know the size of Uganda's population, its breakdown into adult men, women, and children, and the number of households. For the period of study, African and non-African censuses were undertaken in 1921, 1931, 1948, 1959, and 1969. These years do not coincide with my social tables, which I construct for substantive reasons for 1925 (pre-Great Depression benchmark), 1935 (post-Great Depression benchmark), 1949 (post-war benchmark), 1957 (pre-independence benchmark), and 1965 (post-independence benchmark). I interpolate the population between the censuses (assuming constant inter-census growth rates) to obtain estimates for the number of European, Asian, and African men, women, and children resident in each of Uganda's fifteen districts. Next, I estimate the total number of households per district. To deal with undercounting, especially of adult men, and inconsistent definitions of children and adults, I adjust the raw census totals in several ways.[11]

Two important limitations need to be stated upfront. First, the data are not refined enough to link individual migrant workers to their corresponding rural (often female headed) households in migrant sending districts. Therefore, if a migrant and his family lived in different districts, I treat them as two separate household units and account for them in their respective districts of residence.[12] Second, if a polygamous family consisted of clearly separated units,

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[8] Assigning a uniform household size to each class hides substantial within-class heterogeneity of household sizes and hence individual incomes, and thus introduces measurement error in the income distribution.

[9] The OECD currently uses the square root scale, which assigns to each household member the aggregate household income divided by the square root of the household size (OECD n.d.). However, such a scale is rather unrealistic in the context of an agrarian economy where a large share of income consists of food purchases or self-provisioning (an adult woman does not consume only half of an adult male, which is what the square root scale implies). Therefore, I adapt the older "Oxford" scale.

[10] Rather than the 0.7 used in the old "Oxford" scale, to account for the fact that Ugandan women tended to do much work in agriculture. In the case of single-female or female-headed households, I treat women as a full adult male equivalent, rather than 0.8.

[11] Details are reported in Online Appendix 1.

[12] My approach to income is similar to studies that look at gross *domestic* (in this case district) product, which accounts for income where it is earned, instead of gross *national* product, which accounts for where the income earners formally live.

each headed by a different wife, I treat them as separate households. I am not able to observe monetary transfers between separate households making up one polygamous family.

3.2. *African classes: wage earners and the self-employed*

I split Uganda's income distribution into two parallel structures of formal wage earners and the self-employed. The latter includes those reliant on wage labor and sharecropping on African farms, which was typically not included in labor enumerations. It was not uncommon for Ugandan households to have one foot in the wage economy and one in the rural commercial economy. However, it is extremely difficult to reconstruct the manifold ways in which wage labor and self-employed activity were combined. If wage and self-employment were substitutes rather than complements (i.e., more wage labor means less self-employed income and vice-versa), the effect of this choice on the estimated income distribution is limited.

Non-marketed self-provisioning was a crucial source of income for the great majority of African households in Uganda. This is true particularly for self-employed households, but to some extent also for those obtaining wage incomes (De Haas 2017). Putting a value on subsistence income is a complicated and ambiguous process, for both practical and theoretical reasons (Chibnik 1978). However, ignoring subsistence income altogether would grossly *underestimate* African incomes, especially at the lower end of the income distribution, thus *overstating* income inequality in a way that does not reflect household income-earning strategies and differences in living standards. I estimate the value of subsistence production based on regional food production statistics and average country-level rural prices, adding a mark-up to account for the value of building materials and firewood.[13] For 1957, I am able to compare my estimate of the total value of subsistence to an official contemporary calculation from the *East African Statistical Department*, which I first correct for undercounting of the population (Uganda Protectorate 1958). These two estimates are reassuringly close: my estimate of £35,271,716 only exceeds the official contemporary estimate of £33,930,240 by 4.0 percent.[14]

Agriculture was the backbone of the African self-employed sector, albeit certainly not the only source of income. Very few Africans were specialized merchants, as the commercial sector was heavily dominated by South Asian expatriates, and urbanization rates remained low into the 1960s (De Haas and Frankema 2018, 984). The few successful African traders were typically also large-scale farmers (Richards *et al.* 1973). Kampala did see the rise of an African informal sector in the late-colonial period, consisting mostly of small-scale traders.[15] Overall, however, independent African urban traders did not typically attain incomes that were distinct enough from their rural counterparts to warrant placing them in a separate class. Rather, I aggregate self-employed farm and non-farm incomes at the district level and distribute these across *five self-employed classes*, each representing mutually exclusive income tiers. Within each class, the relative contribution of different income sources likely differed (some households engaged more in trade, others in farming), but I presume that *overall* incomes within each class were in the same league. The relative sizes and composition

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[13] Further details are outlined in Online Appendix 2.

[14] I calculate income distributions using different assumptions about prices and consumption patterns. These results, which are similar to (and do not undermine my interpretation of) the baseline results, are reported in Appendix Table A2.2.

[15] Circa 20 percent of all urban-based African men enumerated in the mid-1950s in one Kampala district were self-employed (De Haas and Frankema 2018, 983).

of income of the different classes is derived from household-level rural survey data and contemporary descriptions of Uganda's class structure. This information is available only for some districts and of best quality for Buganda, but I can make modifications for other regions based on additional qualitative and quantitative sources.[16]

To estimate average income per self-employed class, I take five interrelated steps. First, I estimate total monetary income from four sources (cotton, coffee, other farm income, non-farm income) per district.[17] Per capita incomes from these four sources, as well as from formal wages, are shown in figure 1 below. Second, I allocate a share of each of these four income sources to each of the five self-employed classes, based on their relative cotton, coffee, and commercialized food crop acreages,[18] and accounting for income transfers from African employers of "informal wage laborers" to the class of "landless laborers". The underlying variables, derived from village surveys, on which these income calculations are based are shown in table 2 for Mengo District in Buganda, one of Uganda's fifteen districts. Third, I divide total income of each class over the number of households in that class. Fourth, I add the estimated value of household self-provisioning to the income of households in each class.[19] Fifth, for the estimates based on a population of individuals (with and without intra-household inequality), I divide households' income over their constituent members, based on the procedures outlined in Section 3.1 above.[20]

A small (but growing) share of households relied mostly on wages or salaries, typically those living in an urban setting (Elkan 1960; De Haas 2017). To reconstruct the incomes of the wage-earning classes, I rely on various estimates and enumerations of laborers and their wages. For 1948, 1957, and 1965, we can rely on full, district-level enumerations of the labor force. I harmonize and simplify the wage distributions into three classes (lower-, mid-, and upper-tier wage earners). In each of the enumerations, wage levels are concentrated around three local maxima, which justifies this three-tiered approach. For 1925 and 1935, no such disaggregated labor enumerations are available. Instead, I rely on various colonial statistical reports and labor investigations and approximate the distribution of wage laborers across district based on the distribution of Asians, whose presence proxies for the extent of the formal sector. On top of their wage income, I estimate that wage earners who lived with their family, on average, produced half of their food and that single male households (which dominate the lower-tier class) did not produce any food.[21]

The figures below show the resultant full African class distribution for Mengo District. Figure 2 gives relative *household* incomes and shows the breakdown into various components. Figure 3 expresses relative incomes on the *individual* level, assuming no within-household inequality.[22] Figure 4 shows the contribution of different income sources to the household income for each class and year. Collectively, the figures confirm the issues outlined in Section 3.1, where we used a fictional example. In 1965, self-employed sector elite households had five (eleven) times more income than mid-tier (lower-tier) self-employed sector households.

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[16] Sources and procedures are outlined in Online Appendix 4.
[17] Details are reported in Online Appendix 3.
[18] The commercialized food crop acreage is calculated by taking total food crop acreage minus acreage that I assume to have been set aside for self-provisioning.
[19] Some classes have insufficient food crop acreages to feed themselves (2,100 calories per capita, on average), in which case I only add the income of the food actually cultivated.
[20] Online Appendix 4 provides further details.
[21] Online Appendix 5 provides further detail for and justification of these steps.
[22] Results for individuals with maximum within-household inequality are not shown here but are close to household level inequality (figure 2).

Table 2. *Household characteristics in two Buganda villages, 1935, aggregated into five social classes*

Class	Number of households	Share of all households	Adult male equivalents	Capita	Subsistence food crop acreage	Marketable food crop acreage	Cotton acreage	Coffee acreage	Hired laborers
Elites	5	2%	7.54	11.8	6.0	3.7	5.6	3.3	2.2
Upper-tier smallholders	49	19%	3.44	4.8	2.8	1.7	2.7	1.4	1.1
Mid-tier smallholders	70	27%	2.56	3.4	2.0	0.3	1.6	0.4	0.6
Lower-tier smallholders	83	32%	1.95	2.4	1.2	0.0	0.5	0.1	0.1
Landless laborers	52	20%	1.20	1.3	0.5	0.0	1.0	0.2	0.0

Notes: Landless laborers were not included as separate households in the surveys, but I treat them as such in the income distribution. See text for explanation.
Source: Tothill 1938 and Online Appendix 4.
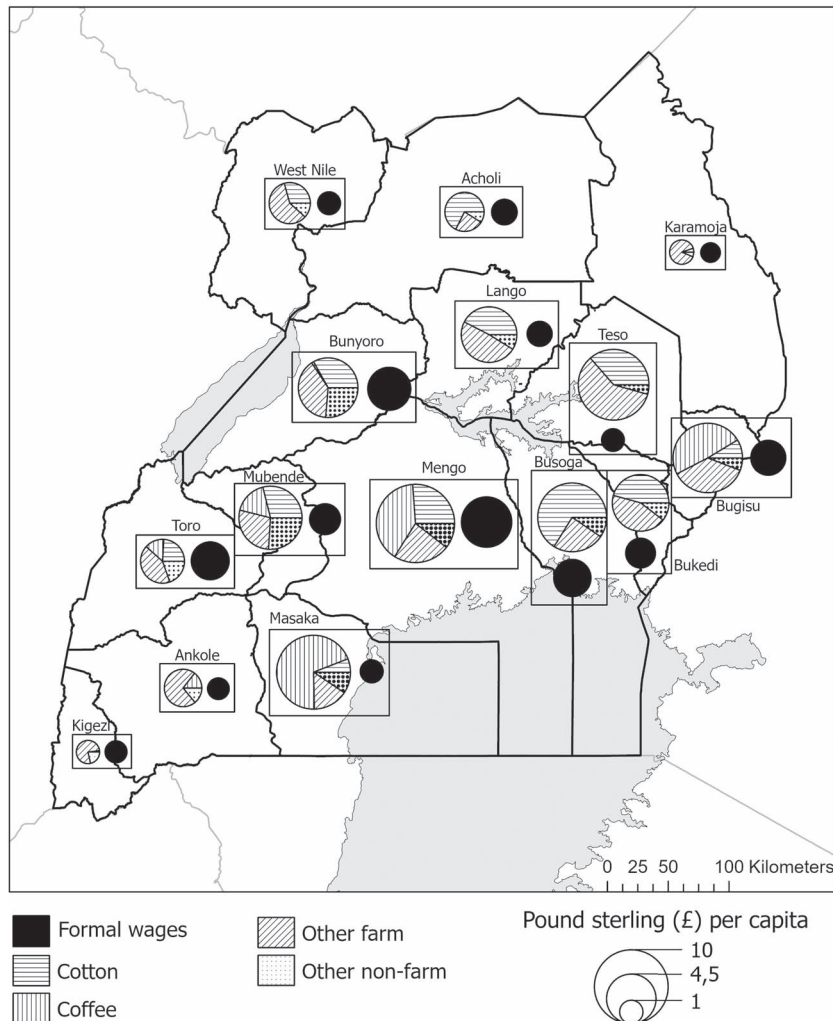
Figure 1. *Amount and composition of self-employed and wage income per district, 1957. Source: Uganda Protectorate (1958). Population figures are author's adjusted estimates.*

Each individual in self-employed sector elite households, however, had only 1.3 (2.3) times more income than their counterparts in mid-tier (lower-tier) self-employed sector households. This remarkable difference is explained by the fact that richer households were also larger (see table 2), while labor productivity differences between rich and poor households were minor, if present at all (Wrigley 1964, 48–9). That *some* per capita income differences existed between rural households is mainly explained by the greater cultivation of coffee by richer households, which is more lucrative but also requires a longer planning horizon because it is a tree crop that takes several years to yield.[23] Richer households also owned more livestock. The

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[23] We can conceptualize this as fixed capital investment, as Austin (2014) has done in his analysis of Ghana's cocoa sector.
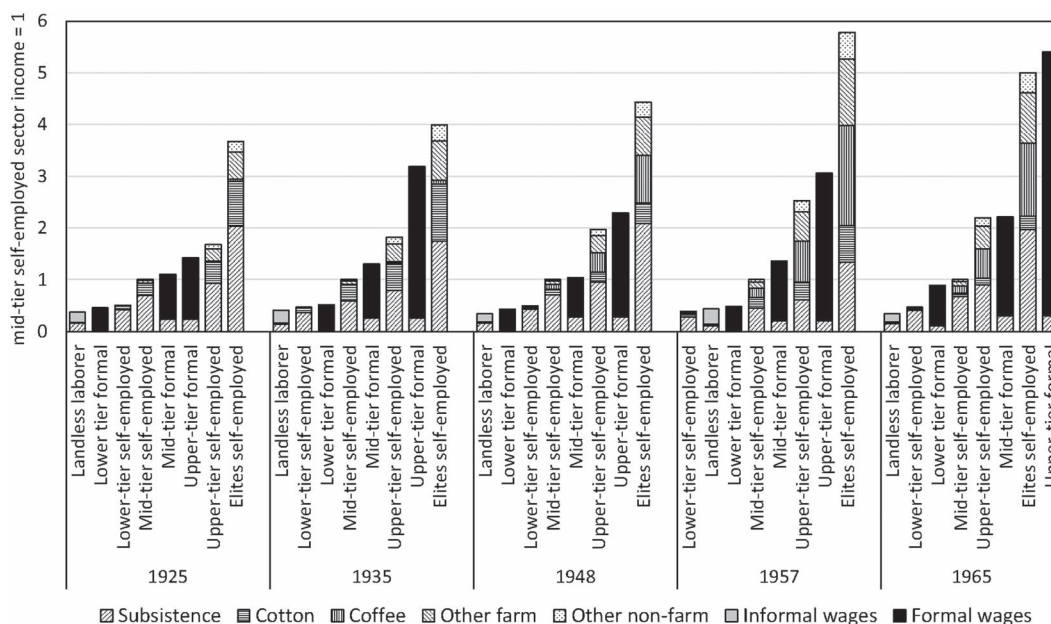
Figure 2. *Household incomes, Mengo district, 1925–1965. Source: author's calculations, see text.*

only class that really stands out on an individual level, the upper-tier formal sector, consists of skilled professionals and administrators in the "modern" urban sector, who had smaller families than their counterparts in the "traditional sector" and saw their wages rise sharply in the 1950s and 1960s (De Haas 2017; Elkan 1960).

3.3. Expatriate classes: Asians and Europeans

Europeans formed between 0.12 and 0.33 percent of the total number of households in Uganda (and an even smaller share of the population). Within this small group, some income differentiation existed, but even the lowest paid Europeans earned far more than practically all Africans and most Asians. These considerations justify grouping the Europeans in a class of family households with a male income earner and a separate class of single female-earner households. I derive average incomes of the European classes from tax assessments, lists of government workers, and annual statistics on average European emoluments. Asians formed between 0.49 and 1.10 percent of the total number of all households in Uganda, which is substantially more than the European share, but still represents a small faction. The available information on Asian incomes is very limited and can only be considered on an aggregated level. I therefore include a single class of Asians in the tables. For the 1949, 1957, and 1965 tables, I rely on the same sources as for the Europeans. For the 1925 and 1935 tables, I rely on scattered observations in colonial records and secondary literature. For both European and Asian households, I assume that no subsistence income was generated to complement money income.[24]

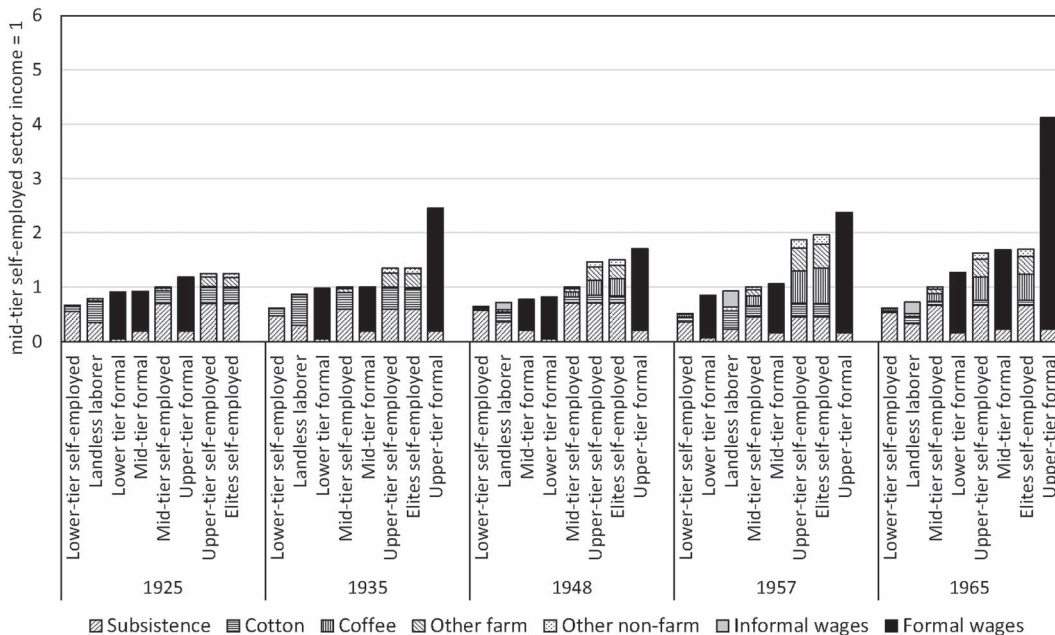[24] More details are provided in Online Appendix 6.

Figure 3. *Individual incomes, Mengo district, 1925–1965. Source: author's calculations, see text.*

4. Results

4.1. Gini coefficients

I calculate Gini coefficients of income inequality for three populations: households, individuals with no within-household inequality, and individuals with maximum within-household inequality (see Section 3.1.). For each of these three populations, I calculate total income including subsistence based on average Uganda rural prices.[25] I correct for different consumer needs of adult men, women, and children, using the adult male equivalence scale introduced above.[26] I also calculate Gini coefficients of *monetary* income inequality, excluding the value of subsistence. I treat the distribution of households (including subsistence) as the baseline result. The alternative results using individuals with no and maximum within-household inequality should be thought of as a bandwidth between which actual individual income inequality was situated. The result with monetary income only illustrates the importance of non-monetized self-provisioning as a factor limiting inequality among households in Uganda's agrarian economy.

Figure 5 below presents the four resulting sets of Gini coefficients. Based on these results, we cannot discern a consistent income inequality trend in the periods 1925–65. On the household level, Gini coefficients "zigzagged" between a minimum of 0.42 (1925) and a maximum 0.50 (1935). Inequality on the individual level was of a similar level as but somewhat

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[25] Results using other price assumptions are presented Appendix Table A1.

[26] I have ascertained (but do not report) that treating every individual generically rather than employing the adult male equivalence scale would not have a major impact on the results and interpretations.
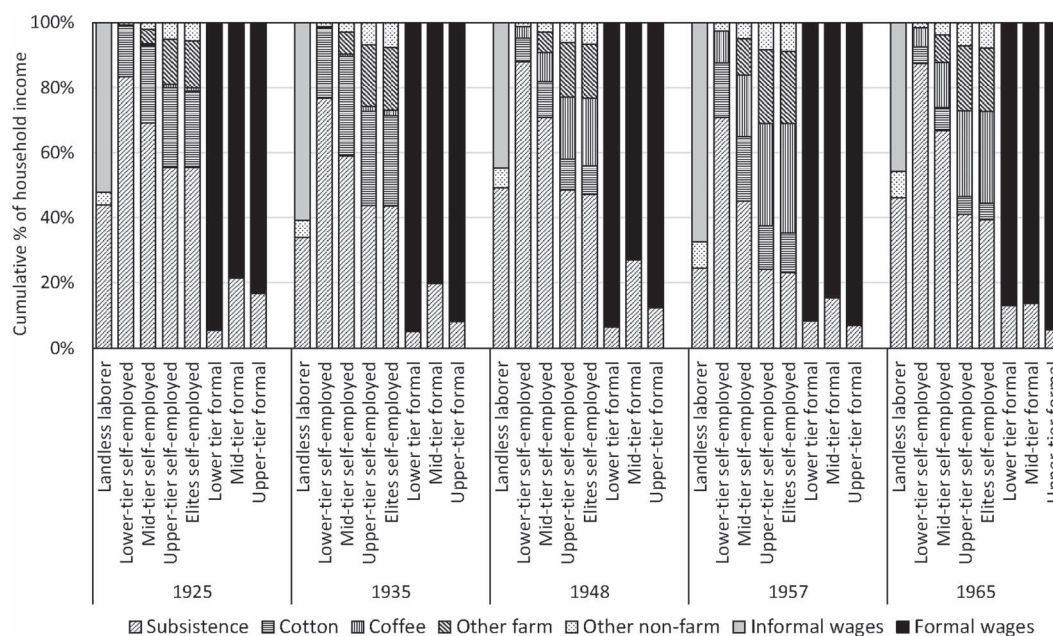
Figure 4. *Contribution of different sources to household incomes, Mengo district, 1925–1965. Source: author's calculations, see text.*

more erratic than household inequality with maximum within-household inequality, with Gini coefficients between 0.40 (1925 and 1949) and 0.51 (1957). Inequality was lower if we follow today's standard and assume no within-household inequality, with Gini's between 0.30 (1925) and 0.40 (1935).[27] When we look at the distribution of households and consider money income only, discarding income from non-monetized self-provisioning, Gini coefficients were much higher (0.19 Gini points, on average) than the baseline result, ranging between 0.61 (1957) and 0.69 (1935).

Several stylized facts about income inequality in colonial Uganda emerge from these results. First, economy-wide inequality did not consistently rise or decline between 1925 (halfway Uganda's colonial era) and 1965 (3 years after independence). Second, of the five benchmarks investigated here, 1935 (post-Great Depression) was the most unequal (second-most unequal when we assume maximum within-household inequality). In Sections 4.3 and 5.3, I will show that large race disparities explain high inequality in that particular moment. Third, the exclusion of subsistence income pushes up income inequality radically, to levels that would be considered extreme today. That results are so different when we exclude the value of non-monetized self-provisioning, confirms its important role in Uganda's economy in general (making up 54 percent of Uganda's total household income on average for the five benchmark years), and in curbing income inequality in particular.

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[27] That individual inequality is lower than household inequality is driven by the fact that higher-income African households were also larger, which means that their income had to be divided among more consumers. For the richest, Asian and European expatriate, households the opposite applies: they tended to be small, although some of their income may have been repatriated to support additional family members, a dynamic we do not consider here.
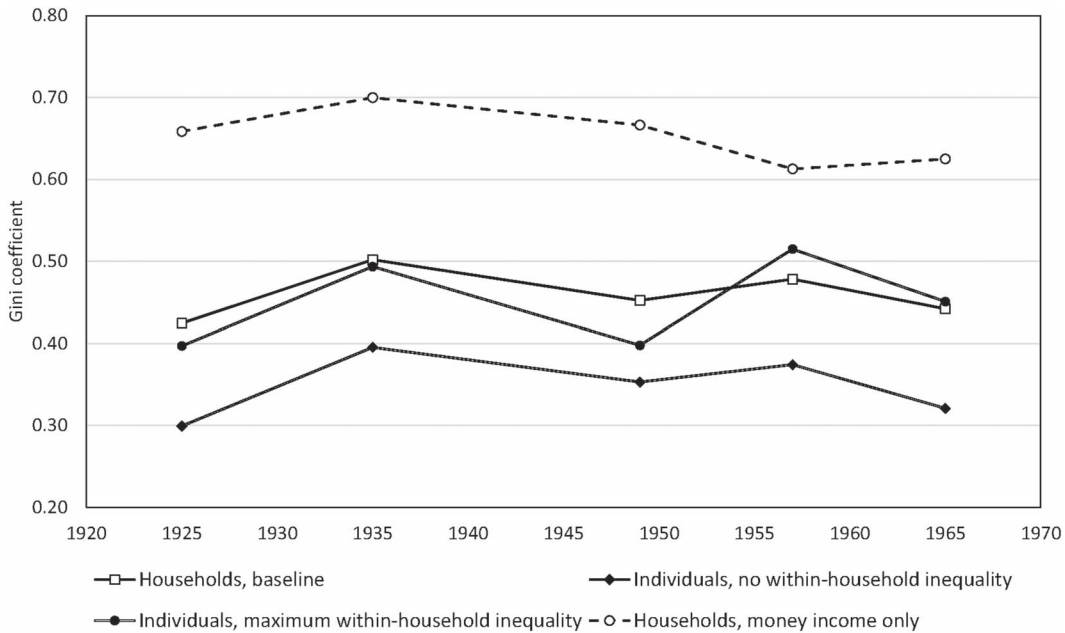
Figure 5. *Gini coefficients of income inequality based on social tables in Uganda, 1925–65. Sources: author's calculations, see text.*

4.2. Income shares

An important strand in inequality scholarship uses income shares (and derived measures such as the Palma Index) rather than Gini coefficients as its preferred measure of inequality (Odusola *et al.* 2017; Alvaredo *et al.* 2017; Chancel *et al.* 2019). In this literature, inequality is typically calculated *per adult*, which diverges only slightly from the individuals with no within-household inequality, which I computed above. However, based on the data that underpin the social tables, I can reconstruct inequality among adults as well, assuming no within-household inequality. Figure 6 below presents these results, as cumulative income shares. I divide the income shares in a bottom class (40 percent), a middle class (40–90 percent), an upper class (90–99 percent), and an elite class (1 percent), using aggregate household income.

The figure shows that the bottom 40 percent had a rather constant income share, ranging between 19 and 22 percent of all income. The 90–99 percent upper class, mostly made up of African large farmers and upper-tier wage laborers, saw its share rise somewhat from a low of 13 percent in 1935, at a time of stagnant African civil service wages and depressed cash crop prices, to a high of 21 percent in 1957, during a major coffee boom. The share of the top 1 percent income earners, made up mostly of Asians and Europeans, was more volatile. A notably large share of 23 percent of income went to the 1 percent top income earners in 1935, to gradually decline subsequently.[28]

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[28] Although not directly comparable, the income share of the top 1 percent is consistent with the income shares of the top 0.1 percent Ugandan earners of c. 4 percent of income in 1948 and 1957 reported by Alvaredo *et al.* (2020, 19).
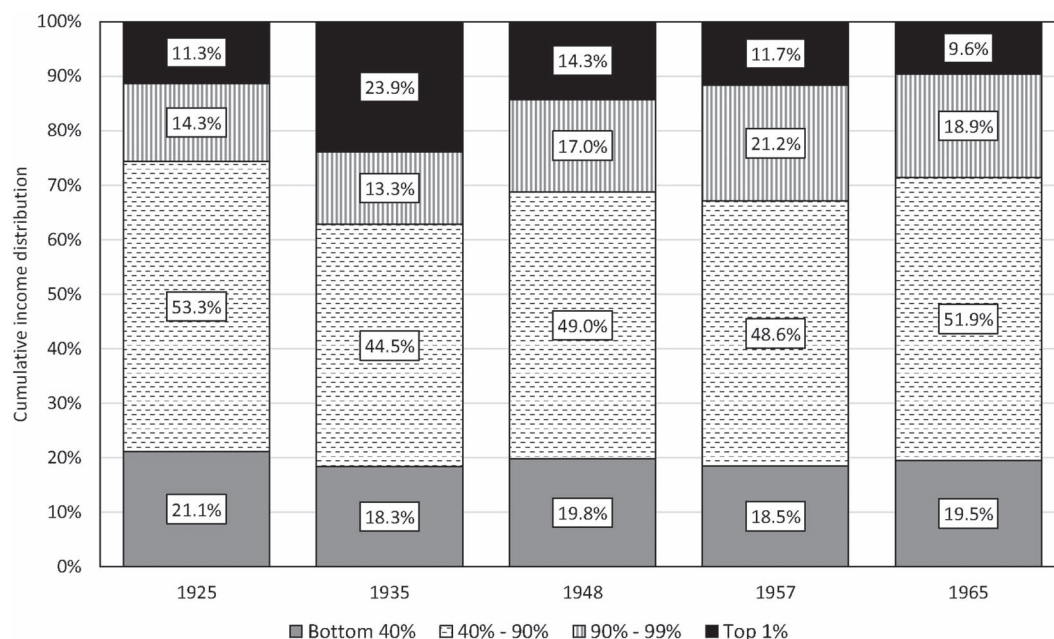
Figure 6. *Income shares in Uganda, 1925–65. Source: author's calculations, see text.*

4.3. Decomposing Ugandan inequality

The Theil index enables us to further decompose the income distribution along what we might expect to be major income fault lines. Based on the historiographical puzzles outlined in the paper's introduction, I decompose Uganda's income distribution by race (Africans on the one hand and expatriates (Asian and European) on the other). Among African classes, I distinguish the within- and between-district component of inequality. The within-district component can be interpreted as a proper "vertical" distribution of classes among Africans. Figure 7 presents this Theil decomposition. Figure 8 gives the same decomposition, expressed in percentage shares of the total Theil index. The figures show that, in most years, racial inequality accounted for about half of Uganda's income inequality, except in 1935, when racial inequality spiked, and accounted for three quarters of total income inequality. The large contribution of inequality between Africans and expatriates to Uganda's total inequality is remarkable, considering that expatriates made up a very small share of households in the distribution. I will explore racial inequality in more depth in Section 5.3 below. Inequality between African classes was the second most important dimension of inequality in the first three benchmarks, increasing considerably during the 1950s and 1960s to become the largest contributor to overall income inequality. African inequality between regions contributed a much smaller share to overall inequality, and gradually declined from 1925 to 1965. More analysis of these trends is provided in the next section.
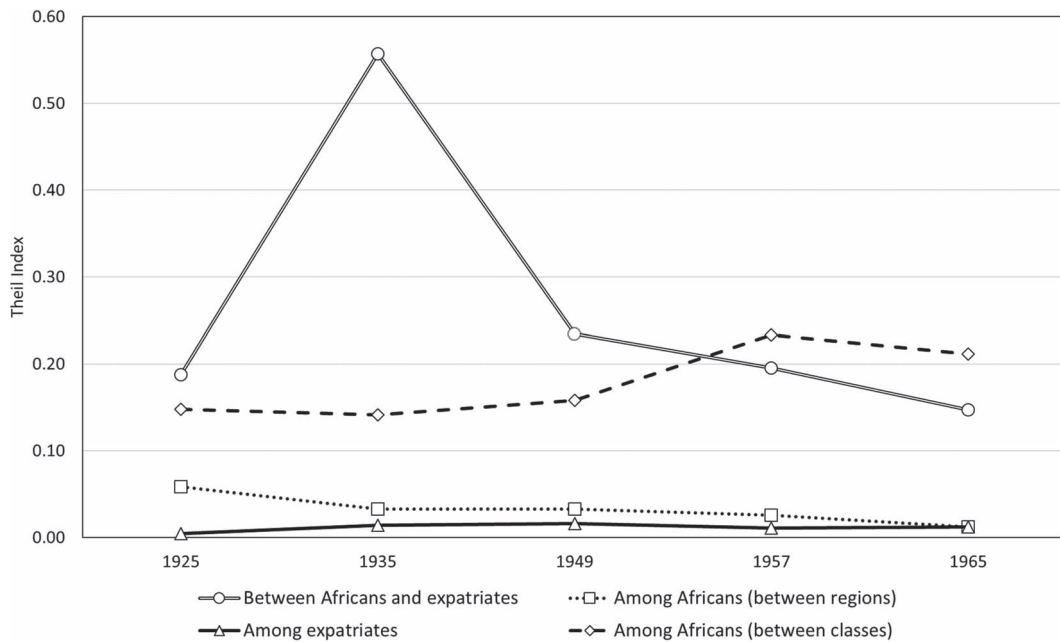
Figure 7. *Theil Index of inequality decomposed by class, region, and race in Uganda, 1925–65. Source: author's calculations, see text.*
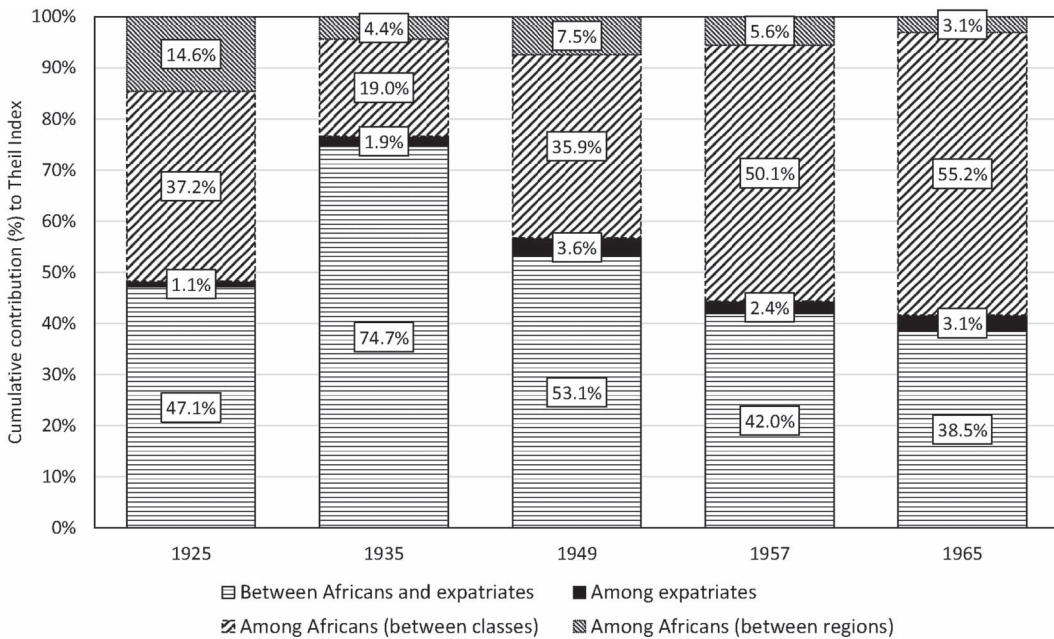
Figure 8. *Relative contribution of class, region, and race to income inequality in Uganda, 1925–65. Source: author's calculations, see text.*

5. Discussion

5.1. Ugandan inequality in an African perspective

Based on the *World Income Inequality Database* (UNU Wider 2020), Alfani and Tadei (2019) observe that the global average of all country-level Gini coefficients between 2008 and 2013 was 0.39. Africa's average Gini coefficient in this period was 0.43. Uganda's Gini coefficients over the periods 1925–65 average out at 0.35 for individuals with no within-household inequality, which would place colonial Uganda in the lower-middle part of today's distribution of countries. We should note, however, that colonial Uganda's income per head of the population was substantially below today's world average, which implies that a larger share of total income served to sustain the population at subsistence level and could not feasibly be "extracted" by elites (Milanovic *et al.* 2011). Hence, direct comparisons of Gini coefficients in such different contexts are problematic and undervalue the degree of economic extraction in the poorer context. More instructively, we can compare Uganda to several African colonial economies for which social tables have been constructed. Because I do not scrutinize the methods and assumptions of these other social tables and take their Gini coefficients at face value, the comparisons should be interpreted cautiously.

The first long-run series of Gini coefficients for colonial Africa based on social tables were produced by Bigsten (1987) for Kenya, a British colony that had an influential white settler minority, which occupied much of the fertile agricultural land, and attempted with some success to turn the African population into a cheap source of labor (Austin 2010). Bigsten tabulated incomes of the workforce (which is most closely comparable to our distribution of individuals or adults) and found that inequality levels increased from moderate before 1930 (Gini coefficient of c. 0.40) to fairly high after 1950 (Gini coefficient of c. 0.50). Kenya's income inequality level was thus higher than Uganda's and the inequality trend, unlike Uganda's, upward sloping. More recently, Bolt and Hillbom (2016) have constructed social tables for Bechuanaland (Botswana), a British colony that was heavily reliant on the export of cattle and livestock products, before the discovery of diamonds in the 1970s. They observe polarization of cattle ownership, resulting in increasing income inequality, from low (Gini coefficients below 0.30) before 1940 to fairly high (Gini coefficient of c. 0.50) at independence. Thus, although Botswana had lower inequality than Uganda before 1940, it became more unequal subsequently. Aboagye and Bolt (2020) study inequality in the Gold Coast (Ghana), a British colony that became the world's key exporter of cocoa beans during the colonial era. They find that inequality was moderate in the early colonial era (Gini coefficient of c. 0.40), briefly declined during the Great Depression and again increased during the late colonial period as a cocoa boom boosted the income of commercial farmers, and an indigenous wage-earning class emerged (Gini coefficient of c. 0.50). Processes of African class formation and income differentiation in colonial Ghana appear similar in nature but more pronounced than in Uganda. Alfani and Tadei (2019), finally, have constructed social tables for Senegal and Côte d'Ivoire, two French West African colonies. They find high but declining levels of income inequality in the late-colonial period (Gini coefficients declining from c. 0.60 to c. 0.50), which is considerably above Uganda in that period.

Do these social table results, and Uganda's in particular, shift our priors on historical inequality trajectories South of the Sahara? There is a widespread tendency among social scientists to attribute African historical inequality to dualism between a low-income "traditional" sector and a high(er) income "modern" sector (Bigsten 2018; Chancel *et al.* 2019; Van de Walle 2009). Bigsten (2018, 2), for example has argued, first, that "inequality [in

precolonial Africa] was held down both by the limited economic differentiation and by the reasonably good access to land in most regions," and, second, that "colonialism meant the establishment of modern enclaves in generally traditional settings with a dominance of smallholder agriculture, leading to a substantial increase in inequality." Let us evaluate both claims in light of this paper's findings.

Bigsten's first claim that pre-colonial inequality was held down by land abundance and limited economic differentiation cannot be adjudicated by the present study, because the first quantitative benchmark in 1925 is already halfway into the colonial era. However, in light of an extensive historical literature on inequality in the pre-colonial kingdoms of the African Great Lakes Region, including Buganda (see Section 2), the proposition does not plausibly apply in our context. Bigsten's second claim that economic dualism was the main driver of growing African inequality during the colonial era can be evaluated more adequately using Uganda's social tables. One way to measure dualism in Uganda's colonial economy is to contrast the average household income of self-employed Africans (mostly smallholders and farmers), representing the "traditional" economy, with income of African wage earners, Asians, and Europeans, representing the "modern" economy. This exercise is reported in figure 9. On average, earnings in the "modern" sector significantly outstripped those in the "traditional" economy. However, African formal wage earners, in most years, earned less than their self-employed counterparts. Only during the 1960s, a distinct gap between African workers in the formal and self-employed sectors emerged (cf. De Haas 2017). Income dualism along racial lines, however, proves to have been very substantial. For the five benchmark years, European households earned, on average, thirty-one times the income of African households, while Asians earned fourteen times as much.[29] The issue of racial income inequality is explored in some more depth in Section 5.3 below.

5.2. Inequality between regions

From the results presented in Section 3, we can distil several temporal and spatial characteristics of income inequality and anchor them in Ugandan historiography. One issue that defined colonial Uganda, and caused substantial post-colonial tension and conflict, was the dominance of Buganda within the broader polity, which had its roots in the pre-colonial and early colonial period (see Section 2). Particularly marginalized were people from Uganda's most outlying districts (West Nile, Karamoja, and Kigezi), who had less access to cash crops and were instead reliant on labor migration to Buganda to pay taxes and afford desired imported consumer goods.[30] While Buganda's dominance and Uganda's spatial inequality had multiple (political, economic, educational, and cultural) dimensions, it is worth exploring more specifically the issue of regional income inequality, and its development over time.

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[29] These numbers can be compared with racial income gaps in French West Africa, where Europeans earned 28 times more than Africans in 1925, and 39 times more in 1955 (Cogneau *et al.* 2021, Online Appendix 4:6). That wage gaps in British colonial Uganda declined during the late colonial period, while they increased in French West Africa is consistent with diverging British and French colonial public sector wage policies: the French sought more actively than the British to reduce the racial wage gap among skilled salaried employees in the "modern" sector, a policy difference that left divergent legacies into the post-colonial period (Bossuroy and Cogneau 2013).

[30] Carswell (2003) has documented that Kigezi farmers sold "food crops as cash crops" (Carswell 2003). However, the proceeds from this practice were not sufficient to prevent Kigezi men from migrating to Buganda in large numbers in search of cash income. As shown in figure 10, Kigezi had the lowest male–female ratio of all Ugandan districts, which is indicative of large-scale male migrant absence.
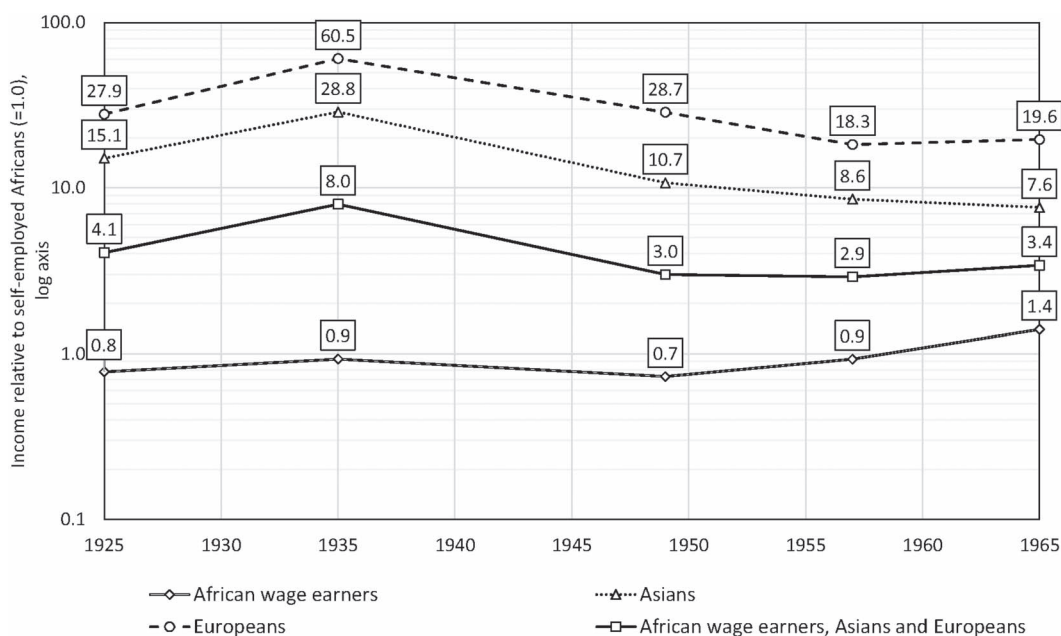
Figure 9. *Average household income of African wage earners, Asians, and Europeans relative to self-employed Africans in Uganda. Sources: author's calculations, see text.*

The income decomposition using the Theil Index (Section 4.3.) showed that the regional component of income inequality between African classes was modest overall. It was highest in 1925 and declined afterwards. If we compare household income in Mengo (central Buganda), Uganda's district with the highest average African income, to the district with the lowest income in each benchmark, we see that Buganda's lead declined, from 3.5 times (1925) to 1.8 times (1965) the income of the poorest district. It should be noted that while these regional differences appear fairly modest, they become much more pronounced when we consider money income only:[31] Buganda's average monetary household income was 7.5 times (1957) and 5.9 times (1965) larger than that of the poorest regions.[32] This shows, again, the important role of subsistence income in reducing inequality in colonial Uganda.[33]

Because of its ample income earning opportunities, Buganda attracted massive numbers of migrants from the early 1920s onwards, filling the lower rungs of the self-employed and waged labor market. By 1959, almost half of the province population consisted of migrants, just over half of which came from other regions in Uganda, and most others from neighboring

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[31] In the first three benchmark years, money income in some districts was minimal, so the differentials were huge and cannot be compared meaningfully.

[32] This level of regional income inequality is comparable to Côte d'Ivoire (1956), which was characterized by large internal income disparities, where the average income of families in the south was 6.7 times higher than the income of families in the north (Bassett 2001, 94).

[33] The social tables also reveal the importance of subsistence income for Uganda's gross domestic product in this period, making up 56.3% of all personal income in 1925, 42.5% in 1935, 54.8% in 1948, 33.1% in 1957, and 43.1% in 1965.
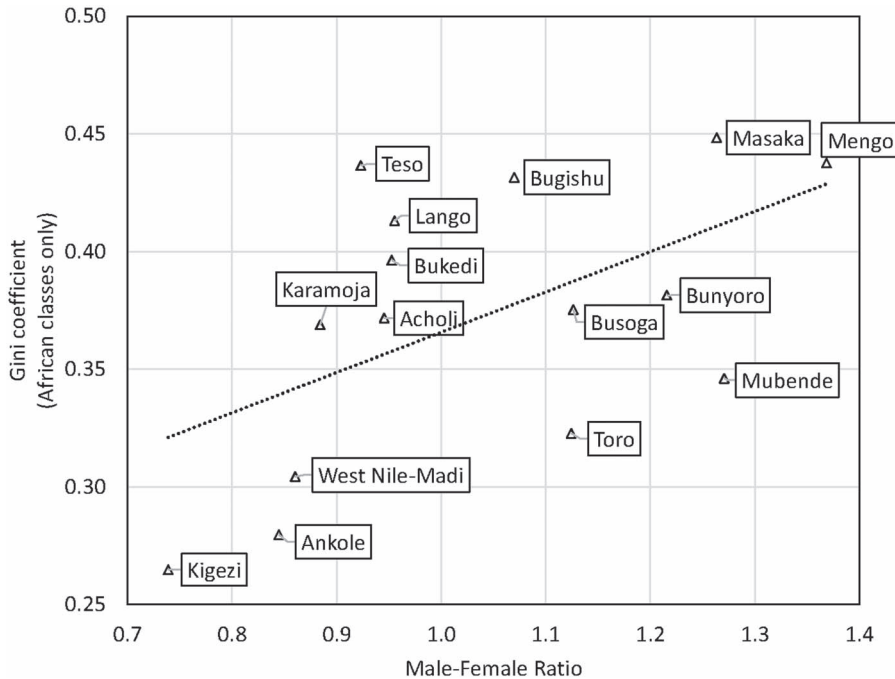
Figure 10. *Migration and African inequality at the district level. Notes: Household level Gini coefficients of income inequality among African classes only. Sources: author's calculations, see text.*

Ruanda-Urundi (De Haas 2019). Some migrants settled down as smallholders, sometimes bringing wives from the sending regions, while others engaged in temporary (and mostly male) labor migration. The high mobility of Uganda's labor force plausibly explains why regional inequality made up such a small part of overall inequality (Section 4.3). Because migrants filled the lower rungs of the income distribution, their presence may also be expected to increase inequality (and push down overall income) in the receiving districts. In the sending regions, instead, inequality may be expected to have been low, due to limited income earning opportunities, the main "push factor" for migration in the first place. Indeed, if we calculate Gini's among African classes at the district level, we find that the major migrant receiving districts (Mengo and Masaka in Buganda) were the most unequal, while the most important sending areas (Kigezi, Ankole, and West Nile-Madi) were the least unequal. Figure 10, which plots the district-Gini against the male:female ratio, which proxies for (male) labor migration, shows this relationship.[34]

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[34] If we were able to measure migrant remittances, and link the incomes of single migrant households in the migrant-receiving districts to (female-headed) rural households in the migrant-sending regions, incomes between Buganda and other regions would likely converge, and levels of within-district (and overall) inequality would decline. For a discussion of migration and remittances, see Section 3.1 and Online Appendix 1.

Figure 11. *Average income of Europeans in African colonies relative to average earnings in the United Kingdom. Sources: Average earnings in the United Kingdom from measuringworth.org. Average European incomes in Ghana from Aboagye and Bolt (2020) and Botswana from Bolt and Hillbom (2016).*

5.3. Inequality between races

One benchmark year that clearly stands out for its high level of inequality is 1935. As already discussed, this result is mainly driven by the high income share of the 1 percent top-income earners (figure 6), and in particular the Asian and European income earners (figures 7 and 8), even though they made up only 0.86 percent of all households in that year. The reason that such a small group can have such a large impact on overall income inequality is that racial income disparities were very large (figure 9). Large racial incomes gaps were a common feature of colonial economies. But was there something unique about the remarkable increase of Uganda's racial inequality in the wake of the Great Depression? And what does this dynamic tell us about the functioning of the colonial economy? A closer look at the income development of Europeans shows that they not only saw incomes rise relative to African Ugandans (figure 9) but also relative to average earnings in the United Kingdom (figure 11), and in real terms, using the British retail price index as a deflator (figure 12). This particularly favorable European income development during the 1930s was not specific to Uganda, but is also found in Botswana and Ghana, which, like Uganda, were British colonies with sizeable indigenous agricultural export sectors where the far majority of Europeans worked as government employees (Bolt and Hillbom 2016; Aboagye and Bolt 2020).

This issue of favorable European wage developments and deepening racial income inequality in the post-Depression years is interesting and deserves more focused research and explanations. For Uganda, various scholars have remarked (albeit mostly in passing) on the
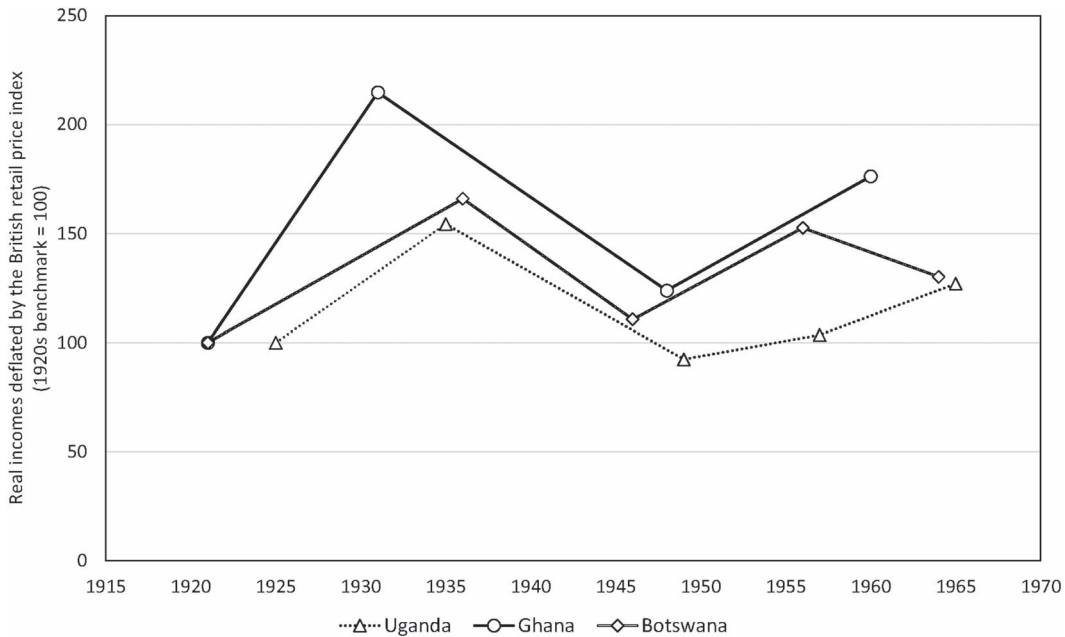
Figure 12. *Real incomes of Europeans in Africa (deflated by the British Retail Price Index (RPI), 1920s benchmark = 100). Notes: Incomes are deflated by the British retail price index and indexed (1920s benchmark = 100). Sources: British RPI from measuringworth. org. Average European incomes in Ghana from Aboagye and Bolt (2020) and Botswana from Bolt and Hillbom (2016).*

increased economic extraction of African farmers during the 1930s. The Depression years saw a substantial increase of the real tax burden on African households, as poll tax rates were largely maintained, despite falling cash crop incomes (De Haas 2017, 618). Moreover, markets for cotton, then by far Uganda's most important cash crop, were increasingly regulated through price fixing and zoning, which hurt African growers and benefited Uganda's ginneries, which were exclusively owned by Europeans and Asians at that time (Ehrlich 1958; Jamal 1976).

The remarkably high wages provided to European government officials and the perks given to Uganda's expatriate ginners through price fixing and zoning propped up European administrative and entrepreneurial activity in British African colonies during the crisis years. The African self-employed economy absorbed much of the adverse price shock. Ugandan farmers and their representatives did petition British colonial officials during the 1930s, calling for more competition in cotton marketing, but with little success (Ehrlich 1958; Bowles 1975). In fact, the share of the world market price of cotton accruing to farmers sharply declined during the late 1930s and 1940s. During the 1930s, farmers had shown resilience, responding to declining cash crop prices by increasing their acreage under cotton cultivation, diversifying into coffee cultivation, and, in the case of Buganda, by hiring cheap migrant labor from the neighboring Belgian territory of Ruanda-Urundi (De Haas 2017, 2019). By the mid-1940s, social unrest began to grow among rural and, urban Ugandans (Bowles 1975; Thompson 2003), as imported commodity prices rose after the war, but money

incomes remained far behind (De Haas 2017). After 1949, racial income disparities in Uganda declined, partly as a result of increased African salaries and attempts to "Africanize" trade and government employment (De Haas and Frankema 2018). We should put these late-colonial trends in perspective; however, racial disparities came down from an extreme level, and remained very high into the post-colonial period. Certainly, the income gap between Africans and Asians did not decline sufficiently to prevent mounting grievances towards Asians, which materialized into a widespread boycott of Asian shops in 1959, and ultimately dictator–president Idi Amin's expulsion decree in 1972 (Jamal 1976).

5.4. Inequality between African classes

The Theil decomposition (figures 7 and 8) shows that inequality between African classes gained importance over time, especially in the last colonial (1957) and post-colonial (1965) benchmarks, overtaking racial divides as the key contributor to overall income inequality. Still, since African classes made up the bulk of Uganda's population, it is remarkable that their contribution to overall inequality was initially trumped by race and subsequently only slightly surpassed it. This begs two questions. First, how can we explain low African inequality from 1925 to 1949? As already noted in the introduction, the bifurcated early colonial social structure that pitted chiefs against smallholders had been largely overturned by the 1920s. Without access to labor, it was hard for elites to accumulate incomes since the cultivation of cotton, Uganda's main cash crop and source of money income, was very labor intensive and hardly benefited from scale or capital inputs (Richards *et al.* 1973; De Haas 2017). On the lower ends of the income distribution, incomes were supported by fertile soils and rainfall patterns that sustained two full growing cycles per year, allowing cash-crop-growing smallholders to sustain food self-sufficiency (De Haas 2020). The large inflow of labor migrants into rural Buganda in the early 1920s testifies to these broad-based opportunities (De Haas 2019).

Second, why do we see growing differentiation among African Ugandans during the 1950s and 1960s? This development was primarily a consequence of the gradual expansion of skilled employment among Africans and a shift from cotton to coffee, a less labor intensive and more remunerative crop. Especially in Buganda, commercially minded farmers began to invest in coffee planting during the 1930s, an investment that paid off during a coffee price boom in the mid-1950s (Richards *et al.* 1973). The effect of coffee cultivation on income differentiation becomes clear when we compare Buganda (which shifted from cotton to coffee) and Busoga (which continued to rely on cotton). In 1925, the lower-tier self-employed sector households in Buganda had an estimated 15 percent more income than their counterparts in Busoga, and the large farmers a mere 8 percent. By 1957, Buganda's lower-tier households were still at par with their Busoga counterparts (only 4 percent more income), while Buganda's large farmers now earned 60 percent more income than Busoga's. It is possible that the social tables even underestimate this trend, as a growing (albeit still small) class of Ugandans, especially in Buganda, combined farming and salaried employment, thus compounding their relative gains (Elkan 1960; Richards *et al.* 1973).

6. Conclusion

This paper has outlined the methods, procedures, and results of calculating inequality in Uganda for five benchmark years in the periods 1925–65 using social tables. To the best of

my knowledge, this effort has resulted in the most comprehensive reconstruction of the size and distribution of private incomes in colonial Uganda and early post-colonial Uganda as of yet and has allowed us to project back economy-wide inequality estimates into the second quarter of the twentieth century. This exercise has yielded some findings that contribute to our understanding of Uganda's inequality trajectory and provides input for the comparative study of historical inequality in Africa and beyond.

At first glance, late colonial Uganda's inequality trajectory may seem uneventful, with a table Gini coefficient between 1925 and 1965. This picture contrasts with findings for Botswana, Ghana, and Kenya, which all saw inequality rise during the (late) colonial era. The picture also contrasts to the cases of Côte d'Ivoire and Senegal, which had much higher levels of inequality than Uganda in the late-colonial period. That Uganda's income distribution was comparatively egalitarian, and did not rise markedly from the mid-colonial period to the first post-independence decade, is consistent with an economic system that relied on small-scale but broad-based smallholder cultivation of a labor intensive cash crop, and in which Europeans were not major landowners and employers. The introduction of coffee created some rising inequality between Africans, in a pattern less pronounced but similar in nature to cocoa farming in Ghana and cattle herding in Botswana.

A closer look at the colonial income inequality landscape reveals substantial shifts in the dimensions and determinants of inequality over time. In 1935, a time when export crop prices were notably depressed, inequality was high and largely driven by income differences between Africans on the one hand, and Europeans and Asians on the other. During this time of crisis and austerity because of the Great Depression, European government salaries and profit margins of Asian entrepreneurs were preserved while African monetary incomes took a substantial hit. However, Ugandans' almost universal access to land and ability to cultivate food for self-provisioning, as well as the ability of farmers in some regions to shift to more lucrative coffee cultivation, cushioned the impact of the price shock, and possibly dampened emerging economic grievances. Only later, from the 1940s onwards, did Ugandans have some success protesting the system of extreme racial inequality that was put in place under colonial rule, although racial disparities continued to be a defining feature of Uganda's inequality landscape into the post-colonial era.

Acknowledgements

Supplementary material

Supplementary material is available at *European Review of Economic History* online.

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Appendix: Gini coefficients and income shares

Table A1. *Gini coefficients, 1925–65*

Ranking population and income definition	1925	1935	1949	1957	1965
Households, including subsistence	0.42	0.50	0.45	0.48	0.44
Households, money income only	0.66	0.70	0.67	0.61	0.62
Individuals (no within-household inequality), including subsistence income	0.30	0.40	0.35	0.37	0.32
Individuals (maximum within-household inequality), including subsistence income	0.40	0.49	0.40	0.51	0.45
Adults (no within-household inequality), Including subsistence income	0.31	0.41	0.37	0.39	0.35

Note: The Gini coefficients are calculated based on the social tables, which are reported in full in Online Appendix 7. The procedures for calculating 'average prices' of subsistence are outlined in Online Appendix 2. of the paper.

Table A2. *Income shares, 1925–65*

Ranking population and income definition	Group	1925	1935	1948	1957	1965
Households, including subsistence (average prices)	Bottom 40%	0.16	0.14	0.15	0.14	0.15
	Bottom 50%	0.22	0.19	0.21	0.19	0.22
	50–90%	0.45	0.39	0.43	0.43	0.44
	90–99%	0.21	0.19	0.24	0.28	0.25
	Top 1%	0.12	0.23	0.13	0.10	0.09
Household, money income only	Bottom 40%	0.05	0.05	0.06	0.07	0.06
	Bottom 50%	0.08	0.09	0.09	0.12	0.11
	50–90%	0.41	0.32	0.34	0.38	0.42
	90–99%	0.25	0.19	0.28	0.34	0.31
	Top 1%	0.25	0.40	0.28	0.16	0.16
Individuals (no within-household inequality), Including subsistence income (average prices)	Bottom 40%	0.22	0.19	0.20	0.19	0.21
	Bottom 50%	0.30	0.26	0.27	0.26	0.29
	50–90%	0.46	0.39	0.43	0.43	0.44
	90–99%	0.14	0.13	0.17	0.20	0.17
	Top 1%	0.10	0.23	0.13	0.11	0.10
Adults (no within-household inequality), Including subsistence income (average prices)	Bottom 40%	0.22	0.19	0.20	0.19	0.20
	Bottom 50%	0.29	0.25	0.27	0.25	0.27
	50–90%	0.45	0.38	0.42	0.42	0.45
	90–99%	0.14	0.13	0.17	0.21	0.19
	Top 1%	0.11	0.24	0.14	0.12	0.10

Note: The income shares are calculated based on the social tables, which are reported in full in Online Appendix 7.