



ECONOMIC INEQUALITY IN GHANA, 1891-1960

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Economic Inequality in Ghana, 1891-1960¹

ABSTRACT

This paper contributes to a growing literature on understanding drivers of pre-industrial inequality by constructing social tables for colonial Ghana. Ghana is generally perceived as fairly equal in terms of income distribution, both historically and today. We show, however, that income inequality rose rapidly during the colonial period, to inequality levels comparable to many contemporary African countries. We argue that the introduction and expansion of cocoa cultivation at the end of the 19th century in the forest belt of the country marked the most important development that shaped both national and regional inequality trends. Initial land abundance in the forest area provided opportunities for its population to engage in cocoa growing which increased the overall standards of living in the forest area. Areas where soil quality did not favour cocoa growing fell behind in terms of living standards, resulting in increasing national income inequalities from the 1930s onwards. Due to high set up costs of cocoa farms and increasingly polarized access to economic resources, only a wealthy minority was able to establish substantial cocoa farms, gaining much more than other social classes. The capital intensity of the export crop along with access to economic resources such as land seems an important factor driving inequality trends in Africa.

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I. Introduction

Sub-Saharan Africa is host to some of the most unequal countries in the world in terms of income inequality with South Africa, Namibia, Botswana, Central African Republic and Zambia ranking amongst the top ten.² These high levels of inequality are often traced to colonial times, where settler/plantation and concession colonies were generally found to be more unequal than peasant or non-settler colonies.³ High-levels of inequality in erstwhile settler/concession colonies are attributed to the extractive policies of colonial authorities that skewed the distribution of asset ownership, particularly land, and other income generating opportunities to European settlers. In peasant colonies, on the other hand, such as the then Gold Coast (now Ghana), productive resources remained largely in African hands, allegedly leading to much lower inequality levels. However, regional inequality was a marked feature of peasant colonies as areas that produced cash crops were well off than their labour-supplying hinterlands.⁴ Further, new research on inequality has shown that various peasant colonies in Africa were actually characterized by very high levels of national inequality despite the fact that Africans controlled economic resources.⁵

This paper contributes to a broader understanding of causal factors influencing long-term inequality trends in pre-industrial societies by focusing on Ghana, known as one of Africa's most prosperous peasant economies during the colonial era. While the country features prominently in the African economic history scholarship as it exemplified the 'cash crop revolution' of the late 19th and early 20th centuries tropical Africa⁶, not much is known on how this cash crop boom shaped inequality trends. In some cocoa producing areas, especially in Ashanti, Austin for example argues that the distribution of income among cocoa farmers was unequal arising from an unequal distribution of farm sizes and output.⁷ However, it remains unclear how this unequal production evolved over time, and to what extent this affected national inequality trends. On an inter-regional level, it has been suggested that income disparities in the Gold Coast were wide between the cocoa producing south and other areas where the comparatively poor soil quality did not make cocoa cultivation

² UNU-WIDER, 'World Income Inequality Database'.

³ Berry, 'No Condition is Permanent'; Austin, 'African Economic Development and Colonial Legacies'; Bowden *et al.*, 'Measuring and Explaining Poverty'.

⁴ Austin, 'Cash Crops and Freedom'.

⁵ Bolt and Hillbom, 'Long-term trends'; Alfani and Tadei, 'Income Inequality'.

⁶ Austin, 'Vent for surplus'.

⁷ Austin, 'Labour, Land and Capital'.

feasible.⁸ Yet, there exists no systematic quantification of the size of this effect. Besides, attempts to analyze income developments in Ghana have only focused on areas that were the hub of economic activities. Hence, not much is known about the economic standing of a majority of the populace in the cocoa-export dependent economy.

This article provides a comprehensive analysis of the levels, the origins and drivers of income inequality in colonial and early post-colonial Ghana. We build social tables both for the national economy and for the separate regions, for seven consecutive decades starting from 1891. Further, we analyze income inequality levels *within* the cocoa sector for different cocoa growing regions using detailed surveys of the cocoa sector. Finally, we chart welfare developments for all social classes to see which social groups benefited from the cocoa boom during the colonial period, and to what extent these benefits ‘trickled down’ to the rest of the economy.

We find that, contrary to earlier claims of a fairly egalitarian colonial Ghanaian society, Ghana became relatively unequal from the mid-1930s onwards mainly due to the expansion of the cocoa export sector. Three groups of winners stand out. First, cocoa farmers saw their incomes rise. Especially early adopters of the crop took advantage of rising cocoa prices and earned an increasingly larger share of the country’s income. Commercial workers also benefited immensely from the economic opportunities the cocoa sector offered. Finally, the government benefitted from rapidly increasing trade revenues generated by cocoa exports. Part of this increasing revenues translated into an expanding government paying higher wages. As a result, a growing number of Africans found employment in the colonial administration earning increasing wages throughout the period of our study.

However, the benefits of the cocoa sector also trickled down to other parts of society⁹. We found increasing living standards for both skilled and unskilled labourers as demand for their trades went up over time. Also, the living standards of petty traders increased. Nonetheless, during this period of economic expansion, the largest (albeit declining) section of society remained engaged in

⁸ Plange, ‘Underdevelopment’; Songsore, ‘Regional Development’.

⁹ Berry, ‘No Condition is Permanent’; Moradi *et al*, ‘Heights and Development’, Moradi, ‘Confronting Colonial Legacies’; Frankema and Waijenburg ‘Structural Impediments’.

subsistence agriculture throughout the period under study. As this sector was largely ignored by the colonial government, this group, often barely scratched a living from the soil.¹⁰

Finally, with the rise of the cocoa sector, income disparities widened between the cocoa producing south and the northern savanna areas. The regional division is still noticeable today, where the North still lags behind the South in terms of economic development and in the fight against poverty.¹¹

The paper proceeds as follows. The next section introduces the Ghana case and describes the key features of its economy prior to the period of our study. The third section discusses the methods we use and in the fourth section we describe our social classes. The fifth section provides a description of our data and in section six, we present and discuss our results. Subsequently, we place our results in a regional perspective and the final section concludes.

II. Pre-Colonial Ghana

Both geographical features and institutional features determined the location of economic activities both prior to and during the colonial period.¹² Ghana consists of three main geographical zones: the forest belt, the coastal strip and the savanna hinterland. The forest belt is endowed with vast amount of resources as its good combination of humidity and fertility allows for a variety of plants, timber and firewood. The bulk of the country's mineral resources are located in the forest belt. The coastal belt is noted for its fishing potential and it serves as a gateway to the interior from the sea. The savanna hinterland on the other hand is essentially semi-arid and relatively of poor soil quality as compared to the rich top-soil of the forest area.

It were the resources of the forest belt such as gold, kola nuts and slaves that attracted Europeans to Ghana's shores in the fifteenth century. Hitherto, Ghana had traded extensively through inland routes with other parts of Africa, especially with the Mande traders to the North and to the east, by sea, with the Benin state, in present-day Nigeria.¹³ African intermediaries facilitated trade flows

¹⁰ Kilson, 'Nationalism and Social Classes'; Kimble, 'A Political History'; Frimpong-Ansah, 'The Vampire State'.

¹¹ Aryeetey *et al*, 'An Analysis of Poverty and Regional Inequality'; Cooke *et al*, 'The Ghana Poverty and Inequality Report'.

¹² Szereszewski, 'Structural Changes'.

¹³ Wilks, 'The Northern Factor'; Hymer, 'Economic Forms'; Feinberg, 'Africans and Europeans'.

between the coastal areas and the forest belt.¹⁴ Even though in principle all could freely participate in these trading activities, commerce was in essence state-oriented and European traders nurtured the friendship of chiefs, sometimes with gifts or even salaries to act as brokers on their behalf.¹⁵ This trade had profound effects on the organization of Ghana's economy and the social fabric as a whole. These included the introduction of several new agricultural commodities, cultural changes and perhaps most importantly the rise of a small group of an African slave merchant class in the southern territories.¹⁶

The abolition of the Atlantic slave trade during the first half of the 19th century led to both the development of alternative commodities traded such as palm oil and palm kernels, and shifting trade patterns. Trade was increasingly confined to the forests of southern Ghana where the new major export products naturally occurred.¹⁷ With the increasing demand for the new export crops, the requirements for expanded palm tree plantation, allowed the thin stratum of southern chiefs, notables and native traders who had controlled the slave trade to dominate the new trade as well. In the following decades, the Gold Coast developed an almost exclusive southern bias. The discovery of wild rubber as a valuable export crop, the establishment by the British of the Colony of the Gold Coast in 1874, and the breaking of the Ashanti's hold of the coastal strip, all conspired to stimulate southern trade at the expense of the inland areas.¹⁸ Trading profits from palm produce and rubber would become an important source of capital for cocoa farming and accelerate economic development in the forest belt.¹⁹ The coastal towns became the bastion of European administration and home to the new African social strata of merchants, professional people, craftsmen and civil servants, spurring economic development.²⁰ Meanwhile, a large section of the economy consisted of subsistence production with limited degree of exchange and low level of production.²¹ Hence, on the eve of the period of our study, the seeds of income and spatial inequality had already been sown waiting to be watered by the dynamics of a full-fledged colonial export economy.

¹⁴ Reynolds, 'Economic Imperialism'.

¹⁵ Dickson, 'Trade Patterns'.

¹⁶ Grier, 'Underdevelopment'.

¹⁷ Idem.

¹⁸ Szereszewski, 'Structural Changes'.

¹⁹ Hill, 'Migrant Cocoa-Farmers'; Dummett, 'The Rubber Trade'; Arhin, 'The Ashanti Rubber Trade'.

²⁰ Szereszewski, 'Structural Changes'.

²¹ Hymer, 'Economic Forms'.

III. Methods

To see how these features of the Ghanaian economy prior to the twentieth centuries, in combination with the dynamics of the colonial export economy affected income distribution at the time, we construct social tables to estimate inequality. A social table entails dividing the population of a society or country into various more or less homogenous groups or social classes. For each group or social class the number of individuals or households within that group together with the average wage for the group is provided. In combination with the total population of the country, population shares and income shares can be calculated which provide the ingredients for Gini estimations. Social tables are especially useful to determine inequality for societies for which information on individual wages and occupations are scarce.²² The first attempt to construct social tables goes back to Gregory King who computed incomes and expenses for several families in England for 1688.²³ More recently, this method has been applied to increase our understanding of the roots of inequality in a vast number of societies across the globe.²⁴

Social tables provide a straightforward way of estimating the distribution of incomes over social classes as they provide both the share in total population and an average income for each social class. However, social tables are particularly useful for analyzing societies where class structures are easily identified and income differences are significant.²⁵ This is not always the case with the then Gold Coast. Income spans sometimes overlapped, and we cannot always assume that all individuals within a higher social class earned a higher income than those in a lower social class. This is especially challenging when the changing nature of the category means that the distribution within the group must vary. Calculating inequality based on average wages per group only accounts for between group inequalities and hence underestimates overall inequality.²⁶ However, given the limited nature of available wage data for colonial Ghana, we are confined to using this method to gauge inequality trends and our resulting Gini coefficients are most likely conservative estimates of true inequality.

²² Milanovic, 'Global Inequality'.

²³ Lindert and Williamson, 'English workers' living standards'.

²⁴ Alvarez-Nogal and Prados de la Escosura, 'The decline of Spain'; Alfani and Ryckbosch, 'Growing apart'; Lopez Jerez, 'Deltas Apart'; Bolt and Hillbom, 'Long-term trends'; Alfani and Tadei, 'Income Inequality'.

²⁵ Milanovic *et al*, 'Pre-industrial Inequality'.

²⁶ Idem; Bolt and Hillbom, 'Long-term trends'.

As a by-product, social classes provide an insight into the employment and social structures of a society. The classification of social groups in this paper is primarily based on an analysis of economic and social structures relevant at the time, but it is also influenced by data limitations. We have only wage information for a selected number of occupations or social classes, hence we group employment information accordingly. Additionally, we have limited information on female wages, thus we do not break down the social classes according to sex. We include 17 social classes in our social tables in order to capture both the formal and informal sections of the population. To make the social tables comparable throughout the period of study we keep the number of social classes constant over time. Moreover, we have included social tables for six different regions within Ghana from 1921 onwards to estimate regional income inequality. Finally, to see how living standards for the different social groups developed during the colonial period, we calculate welfare ratios for all social groups. That is, we divide our average income estimates by the costs of living at subsistence. A ratio of one indicates that the average income of the social group suffices to survive, but nothing more than that. If the ratio is larger than one, the average income of that social group is high enough to allow the average person to buy more than what is needed for bare subsistence. And if the welfare ratio increases over time, this is a clear indication that the living standard for that social group increased over time as well.

IV. Social Classes

In this section we describe our social classes, starting with high earning income groups and ending with income groups that lived on subsistence in 1960. We give broad descriptions for each class and an estimate of the respective population share.

European Government Officials

This group of European government administrators and officials were mostly found in the coastal towns, in the Eastern province and Ashanti throughout the period under study. In the initial phase of the colonial period, official sources indicate that around 300 European Government officials were present in the colony. This more than doubled over time to a little under 800 just prior to independence.

Large-Scale Cocoa Farmers

Cocoa farmers were an important group in the Ghanaian society. The large scale cocoa farmers, also known as head-farmers or in some cases ‘cocoa chiefs’ comprised the upper layer of cocoa farmers and played an important role in society, both socially and economically. With the rise of cocoa, these large-scale farmers gained substantially and found themselves among the wealthy of the Ghanaian society.²⁷ Large-scale cocoa farmers never made up more than a small social class who owned ten or more acres of cocoa farms. In the absence of other credit systems, this group of large farmers acted as creditors to small farmers who could not raise enough capital to sustain themselves or invest in production.²⁸ They also provided leadership in protecting the interest of cocoa growing communities by leading protests to demand fair cocoa prices from buying firms.²⁹ By the end of our study period, they comprised about 0.3 percent of the population.

Cattle Holders

Parts of the Northern Territories especially were relatively suitable for cattle rearing. Therefore, the large majority of cattle holders were found in the Northern Territories of the Gold Coast. They constituted approximately 0.1 percent of the national population in 1960 and 0.2 percent of the population in the Northern Territories. They owned an average male stock of 35 herds throughout the period of our study.³⁰ With the development of commercial cattle rearing in the 1930s following disease control initiatives, cattle owners took advantage of expanding markets and rising prices and earned a substantial share of the country’s income.³¹

African Government Administrators and Executives

Representing what may be described as an upper-class, this group of initially low-ranking African administrators later became the backbone of the colonial and early independent executive government personnel. They included central government civil and public servants, officials of the security services and the judiciary and local level administrators. They represent less than a fraction

²⁷ Niculescu, ‘Fluctuations in Incomes’; Austin, ‘Labour, Land and Capital’, p. 94.

²⁸ Gunnarrson, ‘The Gold Coast Cocoa Industry’.

²⁹ Austin, ‘Capitalists and Chiefs’.

³⁰ Based on our calculation from Hill, ‘Rural Capitalism’.

³¹ Hill, ‘Rural Capitalism’, p. 83.

of the population throughout the period of our study and were mostly found in the then western, eastern and central provinces of the Gold Coast Colony.

Other Government Employees

This class comprised professionals such as doctors, nurses, lawyers, teachers and surveyors and other employees of the various departments of the colonial government. Government employees were mostly located in the more developed Western and Eastern provinces of the Colony and constituted about 0.9 percent of the population by 1960.

Commercial Workers

Wholesale traders, employees of banks and other financial institutions and cocoa brokers constituted about 0.3 percent of the population in 1960. Many within this group were ‘small-scale entrepreneurs’³² who organized and managed capital and invested it in some enterprise in order to make profits. Due to the increasing demand for imported goods, they became relatively rich and assumed more important business tasks with some running high-earning business concerns and investing their profits in for example real estate.³³

Medium-Scale Cocoa Farmers

Medium scale cocoa farmers had holdings which were between one and ten acres. This class of farmers was dynamic as some of the most successful farmers moved up into the stratum of large farmers, while the least successful fell into the class of poor farmers. This stratum of cocoa farmers represented a little above four per cent of the population in 1960, and were between 1948 and 1960 mostly found in Ashanti.

Skilled Workers

This social class, representing the private sector, included craftsmen, carpenters, tailors, weavers, goldsmiths, electricians, masons and bricklayers, blacksmiths, motor mechanics, electricians and similar types of skilled labour scattered mostly in urban centers especially in the Central, Eastern and Western Provinces of the Colony. They represented close to 7 percent of the population in 1960.

³² Hart, ‘Small-scale entrepreneurs’, p. 107.

³³ Greenstreet, ‘Employment of Women’.

Miners

These were largely unskilled men employed mainly in gold mines in Ashanti and the Western province of the Colony. There were few mineworkers throughout the period of our study constituting about 0.7 of the population in 1960. Generally, mineworkers worked on temporary contracts of 9 months after which they would at least temporarily move back home.

Unskilled Labourers

Carriers, porters, hammockmen, washermen, stewards, gardeners and common labourers formed the bulk of this social class. In the early colonial period when an exchange economy emerged, the large number of scattered farms necessitated the substantial use of carriers to carry bags of harvested cocoa beans, food crops and other trading commodities to marketing centers.³⁴ A number of people in this class were also engaged by commercial firms that exported cocoa and other firms that engaged in general importing.³⁵ In 1960, they made up a little above 1 percent of the population and were mostly found in the cocoa growing and mining regions.

Small-Scale Cocoa Farmers

This group of small peasants owned less than an acre of cocoa farm and made up three percent of the population by the end of the colonial period. They did not only comprise many impoverished farmers but also young farmers who were attempting to establish their own cocoa farms and were often indebted to the large scale farmers and obliged to pledge their crops or even their farms.³⁶ Occasionally, these small peasants often left their newly cultivated and low-producing cocoa farms to sharecroppers to either sell their labour to large and medium-scale farmers, or in the case of female cocoa farmers engage in food production for subsistence use and trade or in other economic activities.³⁷

Petty Traders

Petty traders, unlike commercial workers, engaged in much smaller trading activities via local markets, stalls, roadside broths and hawking. Locally prepared food, traditional artifacts of straw

³⁴ Bauer and Yamey, 'Economic Progress'.

³⁵ Kay and Hymer, 'The Political Economy of Colonialism'.

³⁶ Gunnarsson, 'The Gold Coast Cocoa Industry'; Konings, 'The State and Rural Class Formation'.

³⁷ Idem.

and leather and other consumer goods were some of the items usually traded.³⁸ In 1960, they comprised a little above 5 percent of the population and were scattered throughout the country.

Domestic Servants

In the early years of the colonial period, this group comprised hired cooks and servants who performed household duties for urban dwellers. In 1960 they were recorded as housekeepers, cooks, maids and related workers. This group remained very small throughout the period under study, constituting only 0.6 percent of the population in 1960.

Food Crop Farmers

A substantial share of the population was engaged in farming but was able to produce above subsistence and sell the extra produce on local markets to complement incomes. Due to differences in vegetation types, farming practices across the country differed and farmers cultivated different crops as the natural vegetation would allow. An average food farmer had about two-and-one-third farms, and each farm of slightly less than three acres,³⁹ and used traditional or homemade implements for farming. They had little contact with the colonial government as little attempt was made to develop and modernize local food production.⁴⁰ Approximately, 14 percent of the population were food crop farmers in 1960.

Agricultural Labourers

This class made up about 2 percent of the population in 1960. As the new cocoa export market expanded and farm sizes increased beyond what could be effectively worked on by one household, hired labourers were required. They formed a majority of the wage-earning labour in the agricultural sector. Depending on the contractual terms, these labourers were often provided with clothing, tools, food or land for food production, accommodation and medical care.⁴¹ In times of declining cocoa incomes, they received low wages and sometimes received none at all.⁴²

³⁸ Hart, 'Informal Income Opportunities'.

³⁹ Idem, p. 224, 225.

⁴⁰ Frimpong-Ansah, 'The Vampire State'.

⁴¹ Konings, 'The State and Rural Class Formation'.

⁴² Berry, 'No Condition is Permanent', p.149, 151.

Fishermen

In many towns along the seacoast and the banks of large rivers, fishing was the main source of income for many people. In the early colonial period, fishermen were considerably well off.⁴³ But given that their trade was seasonal in nature, in times of poor catch, they had very little income for their sustenance. Besides, fishing equipment were costly and in instances where they were destroyed, trading firms who were willing to grant fishermen credit required adequate security, which the fishermen could rarely provide.⁴⁴ Fishermen represented 0.8 percent of the population by 1960.

Subsistence group

A majority of the population lived at or around subsistence during the colonial period but their impoverished state was often concealed by the wealth of the cocoa export sector. This class comprised of subsistence farmers, of those who were unemployed, who had not started work in a definite occupation, old men and women who had retired, others who were incapacitated for employment and those whose occupations were unclassified. The vast majority of the subsistence group was located in rural areas outside the realm of the colonial government and tried to scratch a living from their small farms. Throughout the period of our study, they constituted between 49 to 64 percent of the population.

V. Data

This section provides a detailed discussion of the data used for the construction of our social tables and estimating national and regional inequality in Ghana.⁴⁵ The basis for all social tables is information on population, occupations and incomes. We make use of official censuses to determine both total population, regional population and formal employment. This means we capture people living in certain areas at the time of the census taking. So migrants from for example the Northern Territories moving south to find employment are captured in the southern regions even though they might return with their incomes to their homes. Generally, the colonial population censuses for Africa are considered poor, typically underestimating populations.⁴⁶ Nevertheless, in

⁴³ Department of Fisheries Report, 1942-43.

⁴⁴ Department of Fisheries Report, 1953-54.

⁴⁵ We provide a detailed data appendix at the end of the paper.

⁴⁶ Manning, 'African Population'.

the case of Ghana, the census taking might have been uneven, yet the underreporting for at least the period since 1931 has been limited.⁴⁷ Therefore, we stick to the original censuses, complemented by other official and secondary sources as these are the only ones giving us a regional distribution both of total populations and of the people active in the formal sector.⁴⁸

Income estimates for formal employment, we obtained from the colonial blue books for the years 1891 to 1939. For 1911, we use wage information for skilled and unskilled labour from the census. For 1948 we use the Gold Coast report on British Togoland for that year, and for 1960 we use the labour report for that year. We derived rural wages mostly from secondary sources, except for 1931 when we obtain our rural wage level from the annual report.⁴⁹ For people earning their incomes outside formal wage employment we have no direct wage or income observations from the colonial blue books. The social groups earning their incomes outside formal wage employment are the independent cocoa farmers, food crop farmers, petty traders, fishermen, cattle holders and the largest group is that of those who lived on subsistence.

As mentioned before, cocoa farmers were an important group in the Ghanaian society. They were able to tap into the main economic activity developed during the colonial period, namely the establishment of the cash crop economy. After the introduction of cocoa to the Gold Coast, the sector expanded rapidly and provided an opportunity for an increasing number of Ghanaians to earn an income. As sizes of the farms varied substantially between cocoa farmers, we collect information from agricultural surveys and secondary sources on the average sizes of farms and on average yields per acre.⁵⁰ Based on this we divide the cocoa farmers in three broad groups based on the size of their farm. By combining average production estimates for each class of cocoa farmers with the prevailing producer prices for cocoa we are able to estimate the average incomes derived from cocoa per class of cocoa farmers for each year we construct a social table. As all farmers also grew food for their own consumption, we add to the cocoa income the monetary value of their own food production.⁵¹

⁴⁷ Frankema and Jerven, 'Writing History', p. 909; 920.

⁴⁸ See Appendix I for a discussion.

⁴⁹ Frankema and Van Waijenburg, 2012, 'Structural Impediments'; See Appendix for details.

⁵⁰ See Appendix II for details.

⁵¹ Idem.

To calculate the incomes of food farmers we collected data on food crops cultivated per region, average farm acreages of farms, yields, production and prevailing market prices.⁵² From average production per farm, we deducted waste and losses and the seed ratio from (gross) production for each crop. We multiplied the resultant 'net' production by the prevailing average market price for each crop, the sum of which gave food farmers' income per farm. This sum was then multiplied by the average number of farms held by a farmer in each region to obtain farmers' total income. As we have the average crops grown in various regions, we are able to calculate regional incomes for food farmers.

To estimate incomes for petty traders, we combined a few direct observations on their average incomes from the colonial official statistics with calculations based on information from household surveys. For 1911, we obtained direct estimates from the 1911 Census Report for petty traders' weekly income. For 1931, we obtained income estimates from Cardinall by using his estimates of trading profits of imports and exports, and inland trading and divided this by the total number of petty traders in 1931.⁵³ For 1960, we relied on average petty traders' incomes from several household surveys. We extrapolated these estimates to obtain incomes for petty traders throughout the colonial period.

Fishermen were important social class especially in the earlier years of the colonial period and in the coastal regions, but little is known about their incomes. Fortunately, the census for 1911 gives an income estimate for fishermen for that year based on the average amount of fish caught, and the prevailing market price for the most common fish. For 1941, Lawson provides an income estimate for fishermen based on the same information.⁵⁴ As both estimates indicate the yearly income for fishermen was around 40 pounds per annum, we extrapolated these estimates to obtain income estimates for fishermen throughout the colonial period.

For cattle holders, we collected data on average herd size, the off-take rate and number of cattle sold, and cattle prices to calculate the incomes of cattle owners.⁵⁵ The average male herd size was on average around 35 head per cattle owner by 1960. Since we lacked information on previous

⁵² See Appendix for details.

⁵³ Cardinall, 'The Gold Coast, 1931', p. 120.

⁵⁴ Lawson, 'The Transition of Ghana's fishing'.

⁵⁵ Obtained from Hill, 'Rural Capitalism' pp. 53-79; 80-132; Report on British Togoland, 1948; Cattle prices derived from Colonial Blue Books, 1891-1931-32.

years, we assumed this to be constant throughout the period of our study. We calculated the number of cattle sold by multiplying the off-take rate by the average stock held.⁵⁶ We then multiplied the number of cattle sold by the prevailing cattle prices for the respective years to obtain incomes for cattle holders. As cattle owners were also growing their own food, we add the monetary value of their own food production to arrive at their total income.

Finally, to estimate the earnings of the subsistence class, we collected all available direct estimates of subsistence incomes from secondary sources and colonial records. For 1891-1911 we relied on estimates provided by Szereszewski,⁵⁷ and for 1931 we use a direct estimate of average subsistence costs from Cardinall.⁵⁸ For 1960 we used a budget survey undertaken by the government. For the remaining years, 1921 and 1948, there were no direct estimates available and we resorted to using a 'consumption basket' approach. We construct a basket containing the bare minimum in terms of food, housing and clothing, needed by a man doing hard physical labour to survive.⁵⁹ Using retail prices collected by Frankema and van Waijenburg⁶⁰, we calculated how much a family had to pay to buy this basket, i.e. what the costs of living at subsistence were for a family if they needed to buy all necessary goods on the market.

One of the issues with the consumption basket approach is that the majority of available price information in the colonial records reflects price levels in cities and life in the city tended to be more expensive than in rural areas.⁶¹ As the vast majority of the population was residing in the countryside, the consumption approach in combination with city prices might overstate the cost of subsistence faced by the average Ghanaian. On the other hand, we have some evidence that actually the subsistence basket approach might underestimate subsistence incomes. For example, Szereszewski estimates that subsistence income in the Colony region and the Ashanti region were 3 pence per capita per day for 1891 and 1901, after which it rose to 4 pence in 1911. The consumption basket approach suggests subsistence incomes for those years were around 1.5 pence per day. Additionally, with the general fall in the overall price level in the early 1930s, the

⁵⁶ Off-take rate obtained from Hill, 'Rural Capitalism'.

⁵⁷ Szereszewski, 'Structural Changes'.

⁵⁸ Cardinall, 'The Gold Coast, 1931', p. 233

⁵⁹ We use the larger subsistence basket as presented in Allen, 'The high wage economy'; see also De Haas, 'Measuring Rural Welfare'.

⁶⁰ Frankema and Van Waijenburg, 'Structural Impediments'.

⁶¹ De Haas, 'Measuring Rural Welfare', Frankema and Van Waijenburg, 'Structural Impediments'.

consumption basket approach suggests a subsistence income per capita of less than 2.5 pence per day in 1931 where Cardinall's estimate suggests 3 pence per day. Therefore, we use the direct estimates when available, and the consumption approach only for those years for which we have no alternative. As both men and women were subsistence farmers we assume that everyone in this social class had to be able to provide for half a family.

VI. Results and Discussion

Nationwide Inequality

Based on our social tables presented in Appendix III, we have computed Gini coefficients for the period 1891 to 1960. Due to data limitations and the fact that different parts of Ghana were incorporated into the Gold Coast Colony at different times, our Gini coefficient for 1891 and 1901 are based on data from the Western, Eastern and Central Provinces. Plotting all our Gini coefficients, it becomes clear that while Ghana remained fairly egalitarian between 1891 and 1921, inequality increased sharply between 1931 and 1960, both for the country as a whole and as we shall see for all but one region (Figure 1). Inequality as measured by the Gini coefficient rose from 0.31 in 1931, to 0.43 in 1948, reaching a high of 0.55 in 1960. In earlier periods of the colonial era, nearly the entire population was absorbed in traditional activities of farming, collection of farm produce and other services bordering on trade and distribution. Only a few people were engaged outside the traditional farming sector, as unskilled workers in construction.⁶² As a majority of the populace lived on subsistence, it is not surprising that inequality levels were low in the earlier years.

⁶² Szereszewski, 'Structural Changes'.

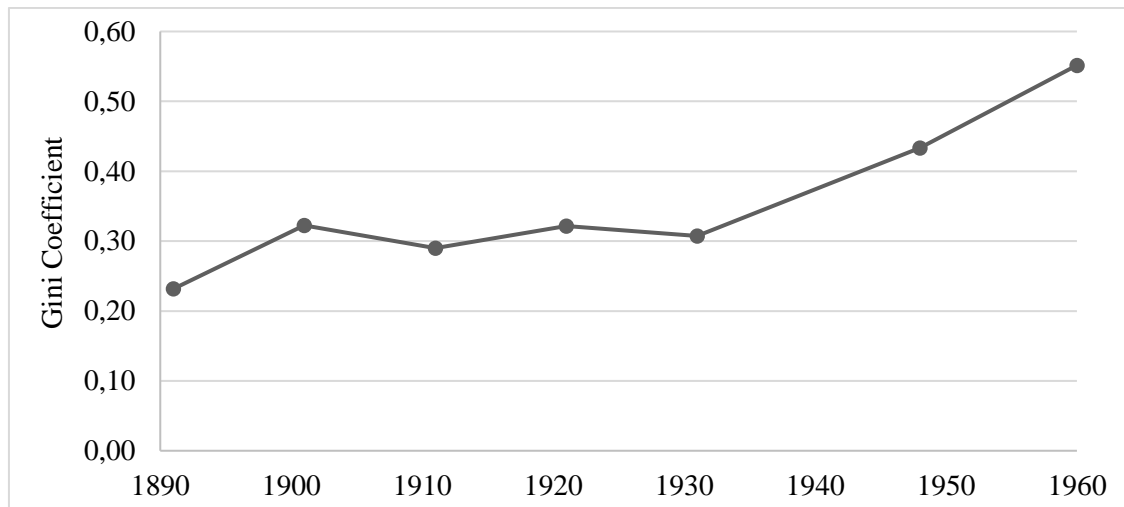


Figure 1: Income Gini coefficients, 1891-1960.

The introduction and gradual expansion of cocoa cultivation in the forest belt of Ghana from the late 19th onwards became the most important development that shaped the country's inequality trend. Within two decades after the introduction of this cash crop, Ghana became the world's largest producer of cocoa in 1911. Figure 2 shows the volume of cocoa exports from Ghana from 1891 to 1960. From only 13 tons in 1895, total annual exports of cocoa increased to about 5,000 tons in 1905, 200,000 tons in 1923 and passed 300,000 tons by 1936.⁶³ Cocoa became the mainstay of the Ghanaian economy, accounting for more than 70 percent of the country's export earnings between 1900 and 1952.⁶⁴

⁶³ Hill, 'Migrant Cocoa-Farmers'; Austin, 'Vent for Surplus'.

⁶⁴ Frimpong-Ansah, 'The Vampire State'.

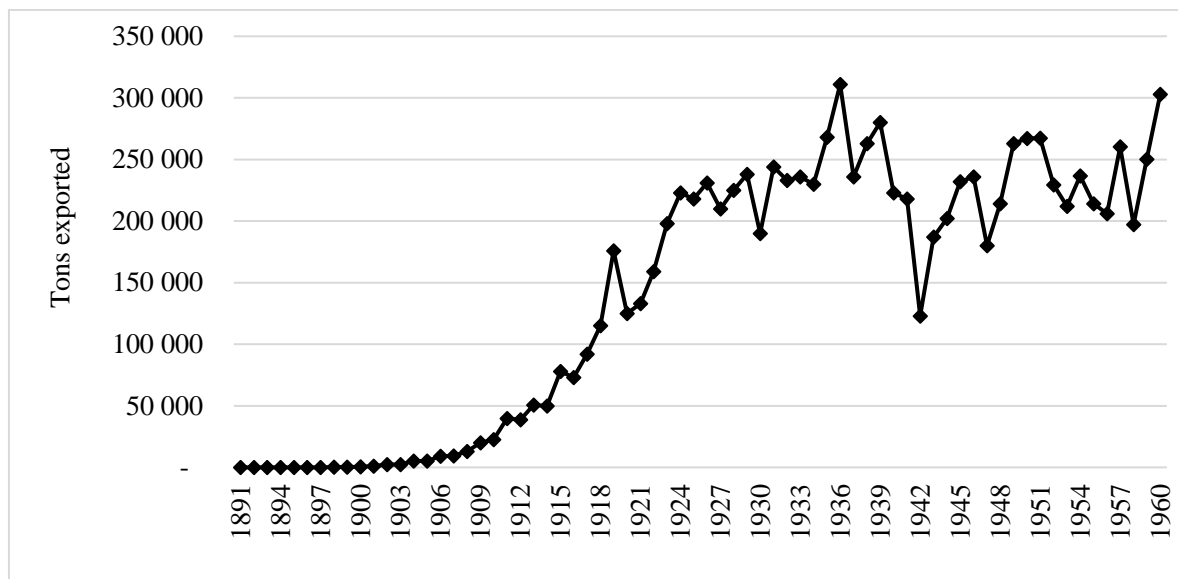


Figure 2: Total Cocoa Exports, 1891-1960.

Source: Hill (1963); Kay and Hymer (1972).

This period of rapid economic expansion translated into substantial improvement in living standards for many in colonial Ghana. We find substantial increases in living standards between 1921 and 1960 for at least 25 percent of the Ghanaian population, and a smaller increase for another rough 15 percent.⁶⁵ However, the true winners in terms of increases in incomes and living standards were found among the large-scale cocoa farmers, the African government officials, and commercial workers, see table 1.

Large-Scale Cocoa Farmers constituted about 0.34 percent of the population in 1960. They however held 3.6 percent of the nation's income, which amounted to 11 times the share they would have earned if the incomes were equally distributed among the different social classes. Additionally, their welfare ratio increased from 5.6 in 1921 to 18.6 in 1960. This small minority of large-scale cocoa farmers who were responsible for shipping an extremely large share of cocoa output from Ghana were the upper tenth of Ghana's population and the equivalent of the super-tax group in the United Kingdom.⁶⁶ The reason that this small group could appropriate such a large share of the country's income was due to factors inherent to the cocoa crop in combination with economic and institutional legacies left from the pre-colonial period.

⁶⁵ See table 1 below. This is in line with findings from for example Moradi *et al*, 'Heights and Development'.

⁶⁶ Niculescu, 'Fluctuations in Incomes', p. 730; 732.

Cocoa is subject to forest rent.⁶⁷ It is more profitable to plant the crop on fresh forestland as the ecological conditions allow for low production costs. Generally, replanting on already cleared and exploited forestland demands high cost of labor and inputs; and in this state the old forestland being prone to weeds and pests is less productive and less profitable.⁶⁸ Even for new forestlands, there were relatively high costs involved in clearing them for cultivation as a result of the thickness of the forests, the size of trees and the absence of capital-intensive technology.⁶⁹ Consequently, full clearance of the forest was extremely labor-intensive and time-consuming. Besides, although forestlands were generally abundant in the South, there were differences in its quality and in some areas, climatic conditions made cultivation of cocoa more difficult. For instance, in the dry season, Northern Ashanti was exposed to the dry ‘harmattan’ wind that blew from the north-east and its natural vegetation was a degraded savannah forest in which stunted trees were scattered all over large stretches of grass.⁷⁰ Admittedly, such micro-differences in soil quality in the South may not have mattered as much in determining who participates in the exploitation of the forest rent as compared to the country as a whole. Even so, by the 1920s there were already concerns about the declining availability of forestland which constituted a threat to the cocoa industry and food security.⁷¹ The 1937 Gold Coast Handbook, estimated that about 290 square miles of the forest land were destroyed annually and that the major agricultural system of the country, the process of shifting cultivation, was steadily eating into and diminishing the extent of the remaining forests.

But more importantly the exploitation of forest rent is determined more by access than its mere existence.⁷² Access was determined by institutions that regulated the mobility and rights to land. In Ghana this ‘social availability of land’⁷³ to both strangers and indigenes was regulated by institutions that varied over space and time. Access to fresh forestland land through purchases by strangers became gradually difficult in Ashanti in the 1950s.⁷⁴ Sub-chiefs were prevented from selling land to strangers and by the late 1950s, about 97 percent of all cocoa farmers in Ashanti

⁶⁷ Ruf, ‘From Forest Rent to Tree Capital’.

⁶⁸ Amanor, ‘Agricultural Markets’; Green, ‘From Extensive to Involutionary Growth’.

⁶⁹ Steel, ‘The Population of Ashanti’; Austin, ‘Labour, Land and Capital’.

⁷⁰ Fortes *et al.*, ‘Ashanti Survey’.

⁷¹ Bourret, ‘The Gold Coast’; Amanor, ‘Land, Labour and the Family’; Green, ‘From Extensive to Involutionary Growth’.

⁷² Woods, ‘Predatory Elites’.

⁷³ Ruf, ‘From Forest Rent to Tree-Capital’.

⁷⁴ Green, ‘From Extensive to Involutionary Growth’.

were indigenous Ashantis.⁷⁵ In fact, as Austin argues, very little of cocoa output from Ashanti in any period came from non-Ashantis.⁷⁶

Additionally, unlike subsistence crops, cocoa is a perennial crop that takes several years to be harvested after planting and continues to yield for decades. This encouraged more long-term and individualized land tenure systems and polarized means of production. The marketing and financing systems also reinforced this process of polarization. Large-scale cocoa farmers were creditors to the smaller farmers since there were no credit institutions available. These systems proved more favorable to groups of large farmers who had better contacts with the markets and had access to credits provided by merchant firms.⁷⁷

The time lag between investment and unpredictable returns also led to the uneven adoption of cocoa cultivation. It took an average of five years for cocoa to fruit. It took an additional decade for only a small portion of the cocoa trees to come into bearing and then it was after the seventeenth or eighteenth year that the maximum yield was produced.⁷⁸ Producers did not have control over prices and given the long-term illiquidity of capital tied up in farms, cocoa cultivation was “something of a poisoned chalice”.⁷⁹ During the 1920s, and the 1930s, where cocoa prices remained low, investing in cocoa cultivation was economically realistic only for those who had other means of generating incomes.⁸⁰

Another major factor that ensured that cocoa farmers controlled a disproportionate share of the nation’s income and led to rising levels of inequality was the spectacular rise of cocoa prices between 1931 and 1951. Figure 3 shows how prices rose from 16 pounds per ton in 1931, to 75 pounds per ton in 1948, to over 200 pounds per ton in 1951.⁸¹ As more people were now engaged in the cocoa sector, and incomes peaked due to the increase in prices, this drove up inequality. Nationwide inequality went up from 0.31 in 1931 to 0.55 in 1960.

⁷⁵ Survey of Cocoa Producing Families in Ashanti, 1956-1957

⁷⁶ Austin, ‘Labour, Land and Capital’, p. 260.

⁷⁷ Gunnarsson, ‘The Gold Coast Cocoa Industry’.

⁷⁸ Beckett, ‘Akokoaso’.

⁷⁹ McCaskie, ‘Asante Identities’, p. 138.

⁸⁰ Idem.

⁸¹ As we construct a social table for every census year, we are confined to 1948 and 1960 for our social tables. Therefore, we include the increase in cocoa prices in our income estimates for cocoa farmers that clearly influences our results. However, we do not include the peak years for cocoa prices 1950-1957, thereby avoiding these extremes in our calculations.

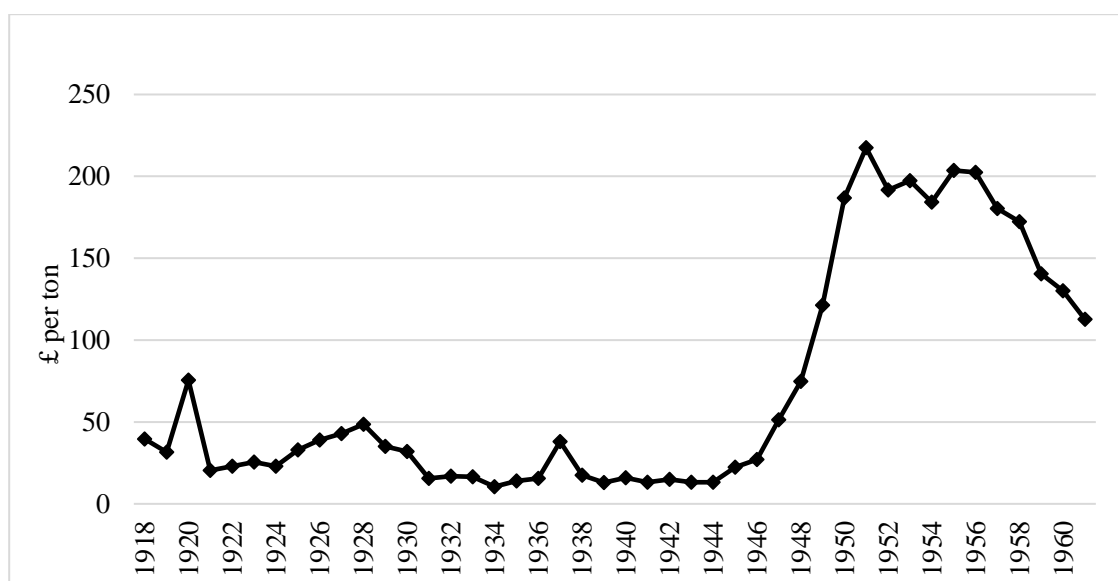


Figure 3: Producer Price of Cocoa, 1918-1960.

Source: Frimpong-Ansah (1991:57; 89).

Cocoa farmers emerged as winners throughout the period of our study but they also stood at enormous risk when prices fell. Prior to the First World War, the terms of trade generally favoured West African exports and led to an increase in farmers' incomes⁸². The global depression of the 1930s ushered in an era of unprecedentedly low prices which continued through the Second World War. Incomes and living standards remained stagnant during these years (see table 1). However, after 1945, world commodity prices rose remarkably leading again to increasing incomes for cocoa farmers.

The second group of winners were government officials. European government officials, who numbered only 308 in 1891 and about 788 in 1960, earned a vast share of the country's incomes. In 1960, they earned on average £1908 per annum, a hundred-fold more than subsistence incomes. Their welfare ratios were high throughout the period, increasing from 11 in 1891 to 57 in 1960. It was the European government officials in the 19th and 20th century Ghana for which the term 'elite' most properly applied as in their hands laid economic and political power.⁸³ But there were also the Gold Coast educated elites who saw their economic status and conditions increase tremendously especially during the latter half of the twentieth century.

⁸² Berry, 'No Condition is Permanent', pp.72-73; Hopkins, 'An Economic History of West Africa'.

⁸³ Llyod, 'Africa in Social Change', p. 126.

Education with its promise of regular salary and increased authority became the main agent of social change for Africans, and one of the major determinants of status in a developing society.⁸⁴

⁸⁴ Kimble, 'A Political History'.

Table 1: Income Shares and Welfare Developments, 1921-1960

	1921			1931			1948			1960		
	Population share (%)	Welfare ratio	Income share (%)	Population share (%)	Welfare ratio	Income share (%)	Population share (%)	Welfare ratio	Income share (%)	Population share (%)	Welfare ratio	Income share (%)
European Government Officials	0.04%	25.2	1.1%	0.03%	43.2	1.2%	0.01%	41.7	0.3%	0.01%	57.1	0.3%
African Government Administrators	0.07%	4.9	0.3%	0.19%	7.2	1.3%	0.26%	13.6	2.4%	0.26%	12.2	2.4%
Other Government Employees	0.71%	2.5	1.9%	0.28%	5.0	1.3%	0.46%	8.5	2.6%	0.46%	9.5	2.6%
Skilled Workers	0.47%	3.1	1.5%	1.21%	2.8	3.2%	1.26%	5.1	4.3%	1.26%	5.5	4.3%
Commercial Workers	0.42%	3.1	1.3%	0.42%	3.6	1.5%	0.68%	6.0	2.7%	0.68%	7.1	2.7%
Domestic Servants	0.16%	2.1	0.3%	0.52%	2.9	1.4%	0.23%	2.1	0.3%	0.23%	1.6	0.3%
Miners	0.49%	1.3	0.7%	0.45%	1.3	0.6%	0.68%	3.5	1.6%	0.68%	4.2	1.6%
Agricultural Labourers	1.44%	0.9	1.3%	1.26%	1.2	1.4%	0.90%	1.2	0.7%	0.90%	1.4	0.7%
Large Scale Cocoa Farmers	0.03%	5.6	0.2%	0.04%	5.2	0.2%	0.11%	20.2	1.5%	0.11%	18.6	1.5%
Medium-Scale cocoa farmers	1.84%	1.9	3.6%	2.41%	1.7	3.9%	2.67%	5.7	10.2%	2.67%	6.4	10.2%
Small-Scale cocoa farmers	1.53%	1.3	2.1%	4.47%	1.2	5.1%	1.98%	2.6	3.5%	1.98%	2.7	3.5%
Fishermen	0.41%	1.7	0.7%	0.27%	2.1	0.5%	0.97%	2.0	1.3%	0.97%	1.2	1.3%
Unskilled Labourers	2.11%	1.5	3.4%	2.13%	1.5	3.1%	2.09%	2.1	3.0%	2.09%	2.7	3.0%
Food Crop Farmers	26.99%	1.7	46.3%	34.99%	1.4	47.3%	34.40%	1.9	44.6%	34.40%	1.5	44.6%
Petty traders	1.81%	1.4	2.6%	1.81%	2.1	3.6%	1.52%	2.8	2.8%	1.52%	2.4	2.8%
Cattle Holders	0.10%	8.2	0.9%	0.10%	6.5	0.6%	0.10%	12.6	0.9%	0.10%	18.2	0.9%
Subsistence Group	61.37%	1.0	31.8%	49.42%	1.0	23.6%	51.67%	1.0	17.3%	51.67%	1.0	17.3%
Total Population	2,297,395			3,161,335			4,494,890			6,727,608		

Source: Authors' Calculations based on social tables. See appendix III for details.

With an expanding cocoa sector, the few privileged Africans who were able to take advantage of the expanding opportunities for secondary, university and professional education both locally and abroad, saw their status and living standards significantly enhanced. African government administrators had welfare ratios between 4.4 and 12.2 while those employed in the expanding public sector, had increasing welfare ratios from 1.8 in 1891 to 9.5 in 1960. The third group of winners were commercial workers who benefited from the booming import and export trade in the colony. They saw an increase in their welfare ratios from 3.1 in 1921 to 7.1 in 1960.

Although, cattle holders could be considered as another group of winners in colonial Ghana, these were different as the polarization drivers in the cattle sector had limited connections, if any at all, with the booming cocoa export sector. Cattle holders' welfare ratios increased significantly from 8.2 in 1921 to 18.2 in 1960. Though the polarization dynamics in the cattle sector in Ghana remains understudied, the inadequacy or lack of water supplies in many localities where cattle was raised and the prevalence of cattle diseases appears to have restricted entry into the industry.⁸⁵

Regional Inequality

An important feature of national inequality is inequality between administrative regions and within such regions.⁸⁶ We have calculated Gini coefficients based on our regional social tables using both regional employment estimates and regional income estimates. Due to data limitations and differences in the years of incorporation of the various regions into the Gold Coast Colony, we estimate regional Gini coefficients for the Western, Central and Eastern Regions from 1891 to 1960. For Ashanti and the Northern Territories, we calculate Gini coefficients from 1911 to 1960, and for Togoland from 1921 to 1960. Finally, for the Brong-Ahafo region, which was until 1959 part of the Ashanti region, we estimate a Gini coefficient for only 1960.

As shown in Figure 4, within region inequality and interregional inequality increased sharply between 1931 and 1948. Between 1948 and 1960, inequality continued to rise but at a slower pace. In 1931, the Gold Coast was still predominantly an agricultural economy with about 35 percent of the population engaged in food crop farming and about 49 percent living on subsistence. Within region inequality was relatively low up until 1931, except for the Western province which had already showed signs of a modest modernization of the regional economy

⁸⁵ Togoland under U.K. Trusteeship: Report for the Year 1952, p. 79.

⁸⁶ Moradi and Baten, 'Inequality in Sub-Saharan Africa'.

at the turn of the twentieth century. By 1948, a little over ten percent of the population found employment outside peasant agriculture in the Western, Central, Eastern and Ashanti Regions. As incomes outside agriculture were considerably higher than the subsistence level of income, most notably for government administrators and cocoa farmers, this substantially raised inequality in those regions. The Gini for the Western region was 0.42, 0.46 for the Central region, 0.47 for the Eastern region and 0.49 for Ashanti. In the Northern territories where a majority of the population lived on subsistence and on food crop farming, the Gini was 0.31 in 1948, having increased marginally from 0.28 in 1931.

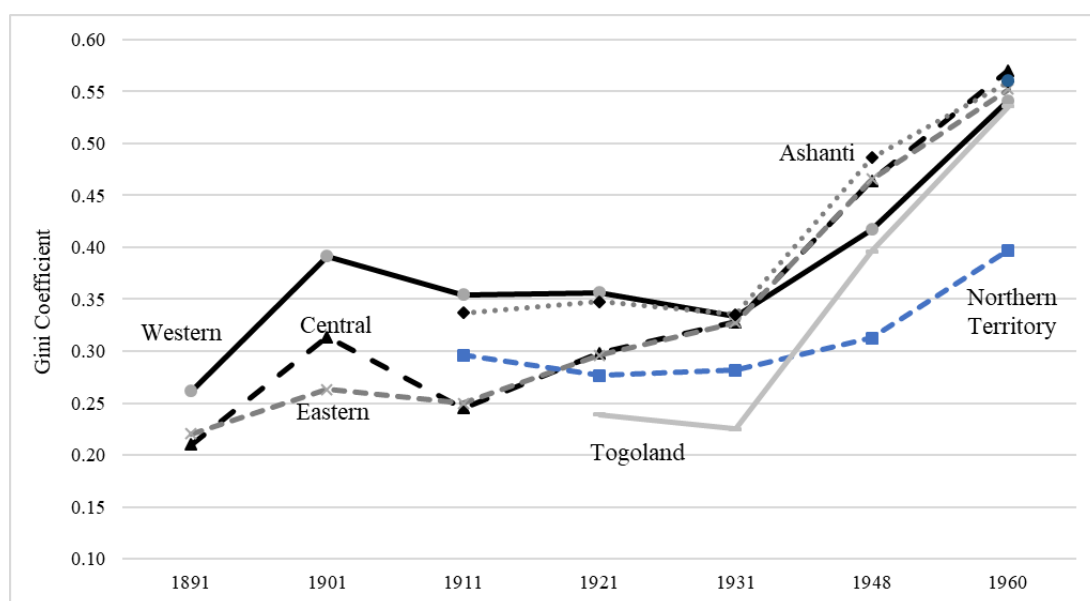


Figure 4: Regional Ginis, 1891-1960

Sources: Social tables, see Appendix III.

In the more modernized economies of the Ashanti, Eastern, Western and Central regions, the development and expansion of cocoa cultivation marked an economic and social revolution that affected the distribution of income in immense ways. A new influential class of cocoa farmers, traders, brokers and lorry owners emerged whose economic interests often cut them off from the normal traditional life.⁸⁷ The spread of education and vocational and professional training, and the development of motor transport also gave rise to an emerging class of skilled workers taking up high-earning employment in the public sector and in the craft industry. At the same time, however, the majority of the populace were still engaged in low-earning subsistence or what Austin calls ‘extra-subsistence’ activities.⁸⁸

⁸⁷ Tordoff, ‘Ashanti under the Prempehs’; Arhin, ‘The Pressure of Cash’.

⁸⁸ Austin, ‘Labour, Land and Capital’, p. 46.

Not only were there high levels of unequal income distribution between cocoa farmers and other low-earning occupational groups in these regions, the cocoa sector itself was marked by a large degree of differentiation.⁸⁹ The distribution of ownership of output remained very unequal, although Austin argues there were no signs of increasing concentration.⁹⁰ Based on surveys of cocoa producing families⁹¹ in the Oda-Swedru-Asamankese Area in the Eastern Region between 1955 and 1956 and in Ashanti between 1956 and 1957, we estimated Gini coefficients within the cocoa sector.⁹² Ashanti recorded a Gini coefficient of 0.48 indicating a high level of inequality among cocoa farmers in the region. The Oda-Swedru-Asamankese area recorded a Gini coefficient of 0.41. Half the net earnings in this area were found to be divided between three quarters of the families while the other half were held by the rest. Indeed, while these estimates do not point to ‘cumulative differentiation’⁹³ within the cocoa sector, it is indicative of the extent of inequality among cocoa farmers in the major cocoa producing regions during the 1950s.

In Togoland and the Northern Territories, most of the people were engaged in subsistence production activities. For Togoland, cocoa growing became widespread only in the mid-1940s.⁹⁴ The Northern section of Togoland consisted mainly of gently undulating savannah while the Southern section were covered by hilly areas including peaks and ridges. It was the southern section that was suitable for the cultivation of cocoa which was the major source of wealth.⁹⁵ Due to the fact that there were only few areas that were suitable for cocoa production, the first generation of cocoa growers monopolized most of the areas suited for cocoa trees. Thus, the introduction of cocoa established an accumulation and stratification pattern based on private ownership of cocoa trees and increase in the use of different forms of labour.⁹⁶ Hitherto, farmers left the land after cultivation to be used by another family member. With cocoa, individual members now claimed the rights of use to specific pieces of land. Therefore, family heads could no longer redistribute land. Large tracts of family land were now occupied on a permanent basis. There were limited economic opportunities outside cocoa farming. No major activities were

⁸⁹ Austin, ‘Labour, Land and Capital’; Konings, ‘The State and Rural Class Formation’.

⁹⁰ Austin, ‘Land, Labour and Capital’, p. 94.

⁹¹ Cocoa producing families were defined as those owning established cocoa, that is, one or more farms that were actually bearing, or caretakers working for farmers living outside the survey area.

⁹² See Appendix for details.

⁹³ Austin, ‘Labour, Land and Capital’, p. 94.

⁹⁴ Bukh, ‘The Village Woman’.

⁹⁵ Gent *et al*, ‘Forestry Conditions’. From 1948 onwards, Togoland is divided into two parts. The southern half of the area is now administered as ‘Togoland’, the northern part of the area is merged with the Northern Territories.

⁹⁶ Bukh, ‘The Village Woman’.

pursued which could be classified as industrial and although a certain amount of pottery and weaving was done everywhere, they were mainly for home use.⁹⁷ Togoland records a gini of 0.54 in 1960.

Marked by its relatively poor soil quality and the unfavourable climate of the savannah, pronounced seasonality, a short growing season and intermittent drought, and the lack of 'exploitable' resources, the Northern Territories differed considerably from the southern parts of the country.⁹⁸ Albeit the elite held wealth in the form of cattle, the majority of the populace remained in subsistence production activities driving inequality to low levels, except for 1960. There were no significant income earning opportunities aside subsistence agriculture, although the area had prospects for the development of some commercial commodities such as cotton and sheanut. Problems of food shortages or bare self-sufficiency were frequent. Thus the population could hardly respond to calls to cultivate non-edible cash crops for export or direct part of its energy towards rearing cattle, cotton cultivation or fishing for commercial purposes.⁹⁹ Coupled with this was the greater challenge of the lack of adequate transport facilities to transport the produce from the North to the forest areas of the South. Other local industries like pottery, iron-smelting, blacksmith, ivory-cutting, charcoal-burning and fibre-spinning into strings and ropes for making hats and bags, basket and mat-making, existed. But these were usually produced for home use or for the local market.¹⁰⁰

The introduction of western and professional education to the Northern Territories was belated¹⁰¹ and hence all clerical and skilled work were done by people from the south, who often had to be induced by field allowances to work in the north.¹⁰² The cumulative effects of these was the slow development of a money economy in the north. Throughout the early 1900s, and in some areas into the 1940s, cowries were the major currency, and some silver coins, copper and brass rods were in circulation. Buying and selling was therefore done only in small amounts.¹⁰³ Any hopes of the future development of the area remained a mirage, commercialization was stalled and with limited economic opportunities available, majority of

⁹⁷ Report on the British Mandated Sphere of Togoland, 1920-1921.

⁹⁸ Sutton, 'Colonial Agricultural Policy'; Destombes, 'Nutrition and Economic Destitution'; 'Whitehead, 'Persistent Poverty'.

⁹⁹ Idem.

¹⁰⁰ Cardinall, 'The Natives of the Northern Territories'; Shields, 'The Western Gonja (Bole) District'.

¹⁰¹ Thomas, 'Education in Northern Ghana'.

¹⁰² Kimble, 'A Political History'.

¹⁰³ Sutton, 'Colonial Agricultural Policy', p. 640.

the people were engaged in subsistence activities. Being physically and commercially remote, they “were in the Gold Coast and yet not of it”.¹⁰⁴

VII. Inequality in Ghana in Comparative Perspective

To put our inequality estimates in a broader perspective, we compare our Gini estimates with those available for other African countries from 1921 to 1960. We compare Ghana with Kenya (a settler colony) using Bigsten’s inequality estimates; with Botswana using estimates by Bolt and Hillbom and with Senegal and Ivory Coast, based on estimates from Alfani and Tadei.¹⁰⁵ Although the underlying methods for estimating inequality in these studies are similar to ours, the coverage of economic sectors and differences in data influence the results significantly. Bigsten, Alfani and Tadei for instance focus exclusively on the formal sector while our estimates cover both the formal and informal sectors of the economy.

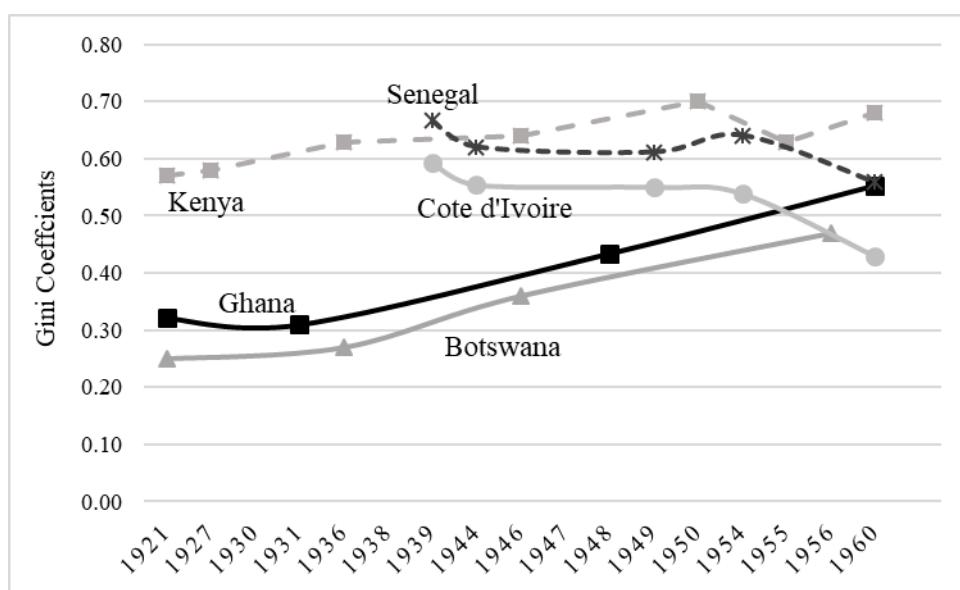


Figure 5: Inequality in other SSA countries, 1921-1960.

In comparison with these countries, and except for Botswana, Ghana clearly starts out with low levels of inequality but becomes more unequal over time. Kenya, a settler colony shows high levels of economic differentiation throughout the colonial era. The comparison of income Ginis between Ghana and Kenya seems to confirm the view that incomes in peasant economies were

¹⁰⁴ Kimble, ‘A Political History’, p. 533.

¹⁰⁵ Bigsten, ‘Welfare and Economic Growth’; Bolt and Hillbom, ‘Long-term trends’; Alfani and Tadei, ‘Income Inequality’.

generally more equally distributed compared to settler and concession economies.^{106 107} In settler colonies such as Kenya, South Africa and Zimbabwe, where settlers controlled agricultural land and thus income earning opportunities, African living standards remained low and stagnant. This resulted in unequal distributions of incomes. Conversely, where indigenous land rights were protected as in Ghana and Uganda, Africans could earn incomes from smallholder export agriculture, leading to more equally distributed incomes.¹⁰⁸ However, it is important to realize that the Gini coefficients as calculated by Bigsten only include the formal sector and hence excludes the far majority of the population while our estimates cover the whole population. Milanovic *et al.* actually find much lower inequality estimates when including the rural population based on Bigsten's data for early colonial Kenya.¹⁰⁹

The most striking similarity in inequality trends is actually found between Botswana and Ghana, both peasant colonies. What both colonies share during this period is an expansion of commercial agriculture, Botswana with its cattle economy, and Ghana with the rise in cocoa farming.¹¹⁰ Furthermore, both agricultural products are capital intensive, and require substantial initial investments in cash or in time, before one can reap the benefits of such products. This, in combination with restricted access to land or water, makes the participation in this agricultural activity uneven.¹¹¹ So it is not only the commercialization of agriculture that is an important factor driving inequality as Berry¹¹² suggested, but also the investments required and the restricted access to factors of production that play a crucial role.

VIII. Conclusion

Ghana's economic history has often been the history of Ashanti and more broadly that of the forest belt given that these areas were the center of economic activities during the colonial and post-colonial eras. The introduction and expansion of cocoa cultivation in these areas epitomized the 'cash crop revolution' in 'peasant' colonies of tropical Africa. Until today, however, not much is known about the distribution of income in this cocoa-export dependent economy. In this paper, we have extended the unit of analysis to the country as a whole and

¹⁰⁶ Austen, 'African Economic History'; Berry, 'No Condition is Permanent'; Austin, 'African Economic Development'; Bowden *et al.*, 'Measuring and Explaining Poverty'.

¹⁰⁷ Bowden *et al.*, 'Measuring and Explaining Poverty'.

¹⁰⁸ Idem.

¹⁰⁹ Indeed, Milanovic *et al.* arrive at much lower Gini estimates when including the rural population outside the formal sector, Milanovic *et al.* 'Pre-industrial inequality', p.263

¹¹⁰ Bolt and Hillbom, 'Long-term trends'.

¹¹¹ Idem.

¹¹² Berry, 'No Condition is Permanent'.

traced the historical origins of national and regional inequality. Our main findings are as follows.

First, contrary to earlier assumptions that colonial Ghana was fairly egalitarian in terms of the distribution of income, we find that Ghana became relatively unequal from the mid-1930s onwards due to the growth of the cocoa export sector under the aegis of the colonial government. As cocoa prices skyrocketed and access to credit, land and labour became more polarized, early adopters of the crop continued to earn a large share of the country's income until the 1960s. Second, the wages for government officials forged ahead of private incomes throughout the period. Third, the gains from cocoa trickled down to other sections of society, for example to traders and skilled workers. At the same time, the majority of the population remained in the subsistence sector, experiencing very little benefits from the cocoa boom. Finally, the mid-1930s also marked the genesis of the country's North-South divide due to the geographically driven uneven adoption of cocoa and limited attention paid to the Northern region by the colonial government. This inequality between regions persists until today.

Based on our results, we argue that the dominant view in the existing literature of low levels of inequality in erstwhile peasant colonies and high inequality levels in the then settler colonies is more easily assumed than justified by the evidence. In this paper we provide evidence that also in one of Africa's most prosperous peasant economies inequality rose to high levels during the colonial period. Due to high investments costs both in terms of capital and in terms of time, in combination with increasingly restricted access to land and capital, the access to cocoa farming was severely restricted. Only those who could afford the investments and had early access to land benefited substantially in terms of incomes, forging ahead of the majority of the economy. Additionally, the boom in export prices for the cocoa added massively to these incomes. This is in line with Bolt and Hillbom's findings for another peasant economy, Botswana, where the commercialization of the capital-intensive cattle sector in combination with restricted access to water and rising export prices led to rapid increasing inequality during the colonial period.¹¹³ The capital-intensive nature of the cash crops grown in peasant economies seems crucial in driving inequality trends.

¹¹³ Bolt and Hillbom, 'Long-term trends'.

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Appendices

The Gini coefficients we present in our paper are based on social tables. In this appendix, we provide the details for the data we used and the calculations we made.

Appendix I: Population

The basis for all social tables is information on population and occupations. We make use of official censuses on the total population and the regional population. Formal employment is obtained from the censuses, colonial blue books, annual reports, a labour report and secondary sources (for details see the individual social tables below). Generally, official colonial population censuses for colonial Africa are of poor quality, typically underestimating populations.¹¹⁴ In the case of Ghana however, the census taking might have been uneven, yet the underreporting for at least the period since 1931 has been limited.¹¹⁵ Therefore we use the original censuses as these are the only ones giving us a regional distribution both of total populations and of the people active in the formal sector. In table A1 below we provide a comparison between the official population statistics for those years when the colonial authorities administered the whole territories.

Table A1: Total Population Gold Coast

Year	Official census	Frankema and Jerven
		(2014)
1921	2,297,395	3,338,321
1931	3,161,335	3,870,441
1948	4,494,890	5,059,229
1960	6,727,608	7,126,000

For the earlier period, the undercount was clearly more severe. Austin reports that for 1911 it could be up to 700,000 on a population of about 1,5 million people.¹¹⁶ The estimates of Frankema and Jerven indicate an undercount of more than a million people on a population of roughly three million.¹¹⁷ Given that African colonial bureaucracies were severely constrained financially, the undercount of the population in the vast underpopulated rural areas was most

¹¹⁴ Manning, 'African Population'; Frankema and Jerven, 'Writing history'.

¹¹⁵ Frankema and Jerven, 'Writing history', pp. 909; 920.

¹¹⁶ Austin, 'Labour, Land and Capital'.

¹¹⁷ Frankema and Jerven, 'Writing history'.

problematic.¹¹⁸ Therefore, as a robustness check we calculate inequality using the improved population estimates from Frankema and Jerven¹¹⁹ and assume that the difference between the original and the new population estimates was living in the rural area as a subsistence farmer. The inequality estimates remain virtually unchanged using the increased population estimates, see table A2.

Table A2: National Inequality with updated population estimates

	1921	1931	1948	1960
updated population estimates	0.30	0.31	0.44	0.55
original population estimates	0.32	0.31	0.43	0.55

The census reports give little information about groups that are not engaged in wage labour. We therefore relied on various primary and secondary sources to obtain estimates of the size of the non-wage income groups, see notes below the individual social tables for more details.

Appendix II: Incomes

As indicated in the main text of the paper, we obtained wages for those employed in the formal sectors from the colonial blue books, censuses, an annual report and a labour report and secondary sources. We assume that especially the unskilled labourers engage in bi-employment. So while working for wages for some months, they also engage in subsistence farming. Labourers working in the mines are assumed to be employed for nine months of the year, and work on their farms growing their own foods for the remainder of the year. Therefore, their incomes comprise of nine months mining wages and the monetary value of subsistence income (for a full explanation of subsistence incomes, see below). Similarly, general unskilled labourers are also assumed to work for wages for part of the year, and work on their own farms for the remainder. We assume the average employment contract for unskilled labour was nine months, similarly to the mining contracts.¹²⁰ Thus, the total annual incomes for unskilled labourers consists of nine months of cash incomes and the subsistence income. We obtain rural wages from Frankema and Van Waijenburg,¹²¹ except for 1931 when we obtain the estimate from the

¹¹⁸Gendreau, ‘La population de l’Afrique’; Frankema and Jerven, ‘Writing history’; Tabutin and Schoumaker, ‘The Demography of Sub-Saharan Africa’.

¹¹⁹ Frankema and Jerven, ‘Writing history’.

¹²⁰ Sutton, ‘Labour in Commercial Agriculture’; Konings, ‘The State and Rural Class Formation’.

¹²¹ Frankema and Van Waijenburg, ‘Structural Impediments’.

annual report for that year. Agricultural labourers are assumed to also grow their own foodstuffs, so we add subsistence income to their annual wage income.

For people earning their incomes outside formal wage employment we have no direct wage or income observations from the colonial blue books. In the remainder of this section we will provide details on how we arrived at incomes for the various social groups not working in the formal sector.

Cocoa farmers: We estimated incomes based on production estimates and prevailing producer prices for cocoa. We start by estimating average production for cocoa farmers. As cocoa farmers are not a homogenous group, we divided them into three different groups based on the size of their plots of land and their average production.

For 1925/26 a survey of cocoa farmers in the Asante-Akyem region reports that 45 percent of the farmers had farms of less than an acre, 54 percent worked between one and ten acres, and one percent of the farmers managed an area of more than ten acres to grow trees on.¹²² Metcalfe reports of a survey done by the Department of Agriculture on farms of 1250 farmers in Ashanti in the 1930s which indicated that the size of farms varied from a fraction of an acre to 27 acres, and that 60 percent of the farmers owned up to 2 acres.¹²³ Combining this with the distribution of farms from the 1925/26 survey as reported by Austin¹²⁴, we deduce that the largest farmers owned between 11 and 27 acres. To avoid overestimation, we calculate the average number of acres under cultivation using lognormal distribution and arrive at 18.5 acres for the largest cocoa farmers. For the medium and small cocoa farmers we combine Austin's estimates with those reported by Metcalfe and assign 1 acre to the small cocoa farmers and 3.2 acres to the medium sized cocoa farmers (average of the lognormal distribution between 1 and 10) for the years 1911 to 1931.

The first year after the early 1930s for which we have additional information on the size of the various groups of cocoa farmers is from Beckman¹²⁵ who provides the distribution of cocoa output for 1963/1964. In 1963, five percent of the farmers could be classified as large, and they produced around 200 loads of 60 lb each. 57 percent of the farmers produced between 40 and 100 loads of 60 lb, and the remaining small cocoa farmers produced between 10 and 40 loads.

¹²² Austin, 'Labour, Land and Capital', p. 307.

¹²³ Metcalfe, 'Great Britain and Ghana', p.653

¹²⁴ Austin, 'Labour, Land and Capital', p. 307.

¹²⁵ Beckman, 'The distribution of Cocoa Income', reproduced in Konings 'The State and Rural Class Formation', p. 76.

As we also have the production estimates for the early 1930s, we interpolate using linear growth rates between 1931 and 1963 to get production estimates for the census years 1948 and 1960. The production of the large cocoa farmers remains surprisingly stable during these years, increasing annually with only 0.24 per cent. The production of the medium and small-scale cocoa farmers in contrast grows with more than 2 percent per year.

Table A3: Production of cocoa for different groups of cocoa farmers over time

	1931	1931	1948	1960	1963
	Average ^a	Lbs	Lbs	Lbs	Lbs
	acres	harvested ^b	harvested ^c	harvested ^c	harvested ^d
Large scale cocoa farmers	18.50	11,100	11,569	11,763	12,000
Medium scale cocoa farmers	5.50	3,300	3,554	3,661	3,795
Small scale cocoa farmers	1.00	600	867	1,005	1,200

^a calculated combining estimates from Austin (2005) and Metcalfe (1969). ^b Calculated based on the average acres and the average yield of 600 lb per acre. ^c Interpolated based on the 1931 values and the 1963/64 values from Beckman (1970) in Konings (1986) ^d Obtained from Beckman (1970) in Konings (1986).

Shephard reports that even though the yields per acre of cocoa trees varies substantially, the average could be set at around 600 lbs.¹²⁶ Multiplying the average yield with the number of acres under cultivation per farm size results in the average cocoa production for the different categories of farmers. The average cocoa production times the prevailing producer prices gives the revenue from growing cocoa. In addition to growing cocoa, farmers also engaged in the production of foodstuffs for their own subsistence. A survey of population and budgets of cocoa producing families in the Oda-Swedru-Asamankese area held in 1955/56 reports that at the end of the colonial period, 95 percent of all earned income for cocoa farmers came from farming, including both growing cocoa and growing subsistence foodstuffs, and that the amounts from other sources were very small. Finally, all cocoa farmers grew their own food, and were assumed able to live well off their own produce.¹²⁷ Therefore, in addition to their incomes derived from cocoa, we assign them half the food farmers' income (for details on food farmers' income see below).

¹²⁶ Shephard, 'Report on the economics of peasant agriculture'.

¹²⁷ Beckett, 'Akokoaso', p.18.

Food farmers: The agricultural sector, particularly the organization of food farming remained the “Great Unknown” of Ghana’s economy.¹²⁸ To calculate the incomes of food farmers, therefore, we had to rely on several sources to obtain data on food crops cultivated, farm acreages, yields, production and prevailing market prices.

Farm Sizes

Data on the average farm size of the peasant in each of the regions was derived from the 1963 Agricultural Census. In this census, 2,510 farms across the country were surveyed. According to the census, the average farmer owned a little above two farms (2.34 farms) and each farm was slightly less than three acres. These estimates appear not to be far off from earlier ones by Cardinall and Lynn for the Northern Territories. Total farm sizes averaged 4.28 acres in the more congested areas of the Northern Territories and 5.51 acres in areas where there were less population pressure.¹²⁹ In North Mamprusi, average area cultivated per man was found to be 2.49 acres.¹³⁰ Due to the lack of data for earlier periods and given that the 1963 Agricultural Census provides a regional breakdown of average farm sizes we use these instead throughout the period studied.

Table A4: Size of Peasant Holdings, 1963

Region	Average number of acres per farm	Average number of farms per holding
Western	3,8	2,92
Central	1,9	2,43
Accra	1	1,2
Eastern	1,6	2,34
Volta	1,5	2,13
Ashanti	3,3	2,63
Brong-Ahafo	2,7	2,61
Northern	4,4	1,61
Upper	3,3	2,05
Average whole country	2,7	2,34

Notes: A holding is defined “as a parcel or parcels of land wholly or partly used for agricultural production for the day-to-day operation of which one man is responsible”.

Source: Birmingham et al. (1966:224).

¹²⁸ Birmingham et al, ‘A Study of Contemporary Ghana Volume 1’, p.215.

¹²⁹ Cardinall, ‘The Gold Coast, 1931’, p.105.

¹³⁰ Lynn, ‘Agriculture in North Mamprusi’, p. 19.

Crops Cultivated

Due to differences in vegetation types, farming practices across the country differed and farmers cultivated different crops as the natural vegetation would allow. Farmers in the savannah areas (mainly the Northern Territories of the Gold Coast) mostly cultivated guinea corn, millet, yams, and groundnuts.¹³¹ In the forest areas, cassava, cocoyams, plantains, and maize were the main food crops.¹³² Sometimes, different crops were cultivated on the same parcel of land, albeit the extent of this practice was often exaggerated.¹³³

To estimate the share of the acres that farmers devoted to each of the main food crops we looked at only the farms that were used for the cultivation of the main crops in both the savannah and forest area. We grouped the farms together based on the crops they cultivated and estimated the share of farms devoted to each crop. We used this as a proxy for the share of acres under cultivation for each crop.

We then multiplied the respective shares by the average farm size in each of the provinces to obtain the share of the same farm size that was used for the cultivation of each crop. Since we do not have estimates for earlier periods, we assume these to be constant throughout our study period.

Table A5: Share of acres devoted to main food crops

Northern Territories			The Gold Coast Colony, Ashanti and British Togoland		
Major crops	Number of farms	Shares of farms (%)	Major crops	Number of farms	Share of farms (%)
Groundnuts	54	11	Plantain	167	20
Guinea Corn	141	28	Cassava	386	46
Millet	141	28	Cocoyams	167	20
Yams	174	34	Maize	120	14
Total	510	100	Total	840	100

Source: Authors' estimates based on Birmingham *et al.* (1966:219)

Yields and Production

We obtained estimates of average yields per acre from several sources. For 1960 we rely on Birmingham *et al* and Nyanteng¹³⁴, for 1948 we use the Report on the Administration of British

¹³¹ Idem.

¹³² Wills, 'Agriculture and Land Use in Ghana'; Birmingham *et al*, 'A Study of Contemporary Ghana Volume 1'

¹³³ Birmingham *et al*, 'A Study of Contemporary Ghana Volume 1'.

¹³⁴ Birmingham *et al*, 'A Study of Contemporary Ghana Volume 1'; Nyanteng, 'Yam Production'.

Togoland, 1948, and for 1931 we obtain our information from Cardinall and Lynn.¹³⁵ As we have no information prior to 1931, we hold the 1931 estimates constant for earlier years.

Table A6: Yields, lbs per acre

Crop	Years		
	1963	1950	1931
Groundnuts	419	493	630
Guinea Corn	600	515	530
Millet	600	493	525
Yams	6720	6400	8000
Plantain	20608	8000	8000
Cassava	6720	5200	8000
Cocoyams	4480	5200	8000
Maize	806	1053	636

Sources: Cardinall (1931); Lynn (1937); Report on the Administration of British Togoland, 1948; Birmingham et al. (1966); Nyanteng (1978).

To arrive at an estimate of net yield per acre, we deducted from the above estimates, farm waste and losses and the seed ratio. As the stems of Plantains, Cocoyams, and Cassava were used for cultivation they required no seed ratio.

Table A7: Farm waste and losses and seed ratio

Crop	Waste and Losses (%)	Seed ratio (%)
Groundnuts	12	10
Guinea Corn	12	10
Millet	12	10
Yams	30	30
Plantain	37	
Cassava	19	
Cocoyams	24	
Maize	12	10

Sources: Birmingham et al. (1966); Nyanteng (1978); De Haas (2017).

Food farmers consumed a large proportion of their own produce and sold any surpluses that may be available. To estimate farmers income, we calculated the value of own consumption in kind and the value of the surpluses sold at the market. To arrive at an estimate of surplus food crop sold, we multiplied the yield by the prevailing average market price for each crop, the sum

¹³⁵ Cardinall, 'The Gold Coast, 1931'; Lynn, 'Agriculture in North Mamprusi'.

of which gave food farmers' income per farm. This sum was then multiplied by the average number of farms held by a farmer (2.3) to obtain total farmers' income.

Food Prices

We derived food prices for each year that we construct a social table from the Colonial Blue Books, Census Reports and Reports on the Colonial Provinces.

Cattle owners: We needed data on average herd size, number of cattle sold and cattle prices to calculate the incomes of cattle owners. The only available systematic analysis of the cattle trade in Ghana during the colonial and early post-colonial era is Hill's study of 'Cattle Ownership on the Accra Plains' between 1963 and 1964 and 'The Northern Ghanaian Cattle Trade' in June 1965.¹³⁶ In the Southern Accra Plains, herd sizes averaged between 50 and 200 while in the Western Dagomba area, herd-size averaged 25 head. To obtain the average heads owned, we calculated a lognormal average to avoid overestimating the average herd size. This gives 50 heads of cattle on average per owner. Since we lacked information on previous years, we assumed this to be constant throughout the period of our study.

Following Bolt and Hillbom¹³⁷, we calculated the number of cattle sold per annum by multiplying the off-take rate defined as "the sum of local exports plus official slaughter (by butchers) in relation to the total stock of animals 'at risk' for sale or slaughter"¹³⁸ by the average male stock held. The number of cattle sold was then multiplied by the prevailing price for a live cattle to obtain incomes for cattle owners.

Table A8: Cattle ownership, sales prices and annual income from cattle

Year	Average herd size	Off-take rate (%)	Average number of cattle sold	Price (£)	Annual Income, £ per annum
1891	35	0,53	18,55	2,29	42
1901	35	0,53	18,55	2,29	42
1911	35	0,53	18,55	5	93
1921	35	0,53	18,55	8	148
1931	35	0,53	18,55	5	93
1948	35	0,53	18,55	12	223
1960	35	0,53	18,55	30	557

¹³⁶ Hill, 'Rural Capitalism in West Africa', pp. 53-79; 80-132.

¹³⁷ Bolt and Hillbom, 'Long term trends'.

¹³⁸ Hill, 'Rural Capitalism in West Africa', p.95.

Source: Authors' estimates based on Hill (1970), the Colonial Blue Books, 1891-1931; Report on British Togoland, 1948; Gold Coast Economic Survey, 1954.

Finally, all cattle farmers grew their own food, and were assumed able to live well off their own produce.¹³⁹ Therefore, in addition to the incomes derived from cattle, we assign them half the food farmers' income.

Petty traders: To obtain incomes for petty traders, we relied on a combination of direct income estimates, rough estimates and extrapolation between the various years to fill in the gaps. For 1948 and 1960, we are able to calculate separate petty traders' incomes for the Eastern province, for Ashanti and for British Togoland.

For 1911, we obtained direct estimates from the 1911 Census Report for petty traders' weekly income. For 1931, we derived petty traders' income from Cardinall¹⁴⁰ by using his estimates of trading profits of imports and exports, and inland trading and divided this by the total number of petty traders in 1931. For 1960, we relied on average petty traders' incomes from household surveys conducted in Akuse (1954) (British Togoland), Kumasi (1955) (Ashanti) and in the Oda-Swedru-Asamankese Area (1955-1956) (Eastern province). For the other regions and the country as a whole, we use the unweighted average of these incomes as the income for petty traders.

Using the linear growth rate between the petty traders' income for 1931 and the regional estimates for the mid-1950s, we calculate the regional and national petty traders' income for 1948. Using the same growth rate, we extrapolate our mid-1950s estimate to obtain income estimates for 1960. Interpolating between the income estimate for 1931 and 1911 using again linear growth rates gives us income estimates for 1921. Using the growth rate between 1931 and 1911, we extrapolate the 1911 income estimate backwards to obtain income estimates for petty traders in the years 1901 and 1891.

Fishermen: the census for 1911 notes that fishermen made about £3 to £5 a month when fish are in season and at other times their earnings would amount to 6d. or 1s. a day. Further, the census noted that the important fishing season was from July to October, and the small season from January after the harmattan, to May which was the beginning of the rainy season. To arrive at a yearly income for fishermen, we added the incomes earned during the fishing season with incomes earned outside the season. From the lower and upper incomes given for during the

¹³⁹ Hill, 'Rural Capitalism in West Africa'.

¹⁴⁰ Cardinall, 'The Gold Coast, 1931'.

fishing seasons, we calculated the log average earnings per month, placing more weight on the lower incomes to avoid over-estimation. We multiplied these monthly incomes by 9 months as that was the combined duration of both fishing seasons. To this, we added the log average of daily incomes earned for all days outside the fishing season (November, December and June). Summing both incomes, we arrived at 37.6 pounds per annum in 1911.

Lawson¹⁴¹ provides a direct income estimate for fishermen for 1941 based on the average amount of fish caught, and the prevailing market price for the most common fish. She estimates that fishermen earned on average 41 pounds per annum. We interpolate the series based on linear growth rates between 1911 and 1941 to obtain fishermen incomes for 1921 and 1931. We extrapolate forwards with the growth rate from 1911 to 1941 to obtain income estimates for 1948 and 1960. We extrapolate backwards from 1911 with the same growth rates to obtain income estimates for the years 1901 and 1891.

Subsistence: The group of people living at subsistence is the largest income group in our social table. Estimating their average income is not straightforward because this group encompasses many different sub-groups such as subsistence farmers, the unemployed, retired people, and those who were incapacitated for employment. Their incomes were mostly enjoyed in kind so there is no monetary value for subsistence income recorded. Therefore, we collected all available direct estimates of subsistence incomes available from secondary sources and colonial records. For 1891-1911 we relied on estimates provided by Szereszewski¹⁴², for 1960 we relied on a budget survey performed by the colonial government. For 1921, 1931 and 1948 there were no direct estimates available and we resort to using a ‘consumption basket’ approach. We construct a basket containing the bare minimum in terms of food, housing and clothing, needed to survive.¹⁴³ As the ecology in the Gold Coast generally allowed for decent agricultural production and large-scale famines were scarce¹⁴⁴, we use the updated subsistence basket providing 2100 calories per person per day.¹⁴⁵ Using retail prices collected by Frankema and Van Waijenburg¹⁴⁶, we calculated how much a family had to pay to buy this basket, i.e. what

¹⁴¹ Lawson, ‘The transition of Ghana’s fishing’, p. 93.

¹⁴² Szereszewski, ‘Structural Changes’, p. 139.

¹⁴³ Allen, ‘The great divergence’; Allen, ‘The high wage economy’; Frankema and Van Waijenburg, ‘Structural Impediments’.

¹⁴⁴ Wills, ‘Agriculture and Land Use’.

¹⁴⁵ Allen, ‘The high wage economy’ pp.4-5.

¹⁴⁶ Frankema and Van Waijenburg, ‘Structural Impediments’.

the costs of living at subsistence were for a family if they needed buy all necessary goods on the market as a monetary proxy for subsistence incomes.¹⁴⁷

One of the issues with the consumption basket approach is that the majority of available price information in the colonial records reflects price levels in cities and life in the city tended to be more expensive than in rural areas.¹⁴⁸ As the far majority of the population was residing in the countryside, the consumption approach in combination with city prices might overstate the cost of subsistence faced by the average Ghanaian. As indicated in the paper, we have some evidence that actually the subsistence basket approach might underestimate subsistence incomes. For example, Szereszewski estimates that subsistence income in the Colony region and the Ashanti region were 3 pence per capita per day for 1891 and 1901, after which it rose to 4 pence in 1911.¹⁴⁹ The consumption basket approach suggests subsistence incomes for those years were around 1.5 pence per day. Therefore, we use the direct estimates when available, and the consumption approach only for those years for which we have no alternative. As both men and women were subsistence farmers we assume that everyone in this social class had to be able to provide for half a family.

¹⁴⁷ De Haas, 'Measuring Rural Welfare'.

¹⁴⁸ *Idem*, p.617.

¹⁴⁹ Szereszewski, 'Structural Changes', p.139.

Appendix III: Social Tables

1960

Western			Central		Eastern		Ashanti		Brong Ahafo		Northern Territories		Togoland		Total	
	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum
European Government Officials	0.01%	1,908	0.05%	1,908	0.01%	1,908	0.01%	1,908	0.0%	1,908	0.00%	1,908	0.01%	1,908	0.01%	1,908
African Government Administrators	0.66%	408	2.98%	408	0.31%	408	0.75%	408	0.4%	408	0.29%	408	0.37%	408	0.66%	408
Other Government Employees	1.00%	317	2.14%	317	1.02%	317	1.10%	317	0.6%	317	0.38%	317	0.94%	317	0.94%	317
Skilled Workers	7.76%	185	14.94%	185	7.36%	185	7.44%	185	4.2%	185	2.09%	185	6.86%	185	6.66%	185
Commercial Workers	0.36%	238	0.60%	238	0.23%	238	0.46%	238	0.2%	238	0.06%	238	0.11%	238	0.27%	238
Domestic Servants	0.52%	55	1.99%	55	0.51%	55	0.81%	55	0.3%	55	0.15%	55	0.47%	55	0.58%	55
Miners	1.59%	139	0.31%	139	1.48%	139	0.76%	139	0.0%	139	0.00%	139	0.02%	139	0.72%	139
Agricultural Labourers	1.30%	47	0.33%	47	2.65%	47	3.58%	47	4.4%	47	0.20%	47	1.82%	47	1.95%	47
Large Scale Cocoa Farmers	0.37%	634	0.01%	618	0.43%	617	0.61%	635	0.7%	635	0.00%	618	0.24%	619	0.34%	620
Medium-scale cocoa farmers	4.86%	227	0.19%	211	5.63%	210	8.10%	228	9.0%	228	0.02%	211	3.23%	212	4.42%	213
Small-scale cocoa farmers	3.31%	103	0.13%	88	3.83%	86	5.52%	104	6.1%	104	0.01%	87	2.20%	88	3.01%	89
Fishermen	2.06%	42	1.90%	42	0.59%	42	0.03%	42	0.1%	42	0.11%	42	1.33%	42	0.84%	42
Unskilled Labourers	1.69%	90	3.76%	90	0.90%	90	1.23%	90	0.8%	90	0.49%	90	0.59%	90	1.20%	90
Food Crop Farmers	12.37%	79	2.57%	48	11.36%	46	9.34%	82	12.3%	82	24.47%	47	15.96%	49	13.72%	52
Petty traders	6.28%	80	13.48%	80	6.10%	106	4.82%	111	1.8%	111	1.35%	80	6.67%	80	5.25%	80
Cattle Holders	0.03%	614	0.23%	598	0.07%	597	0.05%	615	0.1%	615	0.17%	597	0.16%	598	0.10%	591
Subsistence group	55.81%	17	54.38%	17	57.52%	17	55.38%	17	59.0%	17	70.19%	17	59.01%	17	59.31%	17

We obtained information on the size of each social class for 1960 mostly from the 1960 Population Census and from the 1960 Labour Statistics. The regional distribution of social classes was also retrieved from the same sources. As there was no data on the regional distribution of European government officials from the censuses, we base the regional division from 1921 to 1960 on Kay and Hymer's¹⁵⁰ estimates and the 1931-1932 Gold Coast Colony Blue Book. Our regional distribution of European Government Officials for earlier years, 1891-1911 is based on the distribution given in the 1931-1932 Gold Coast Blue Book as we have no reason to suspect that this might have been any different. The size and regional distribution of all other social classes for 1960 were based on the Population Census. While the classification of various occupational groups were based on the census, they were re-categorized to form broad social classes. Our social class of government administrators and executives for instance comprised, central government officials including defence and justice and local government administrators as defined in the 1960 population census. Other government officials included officials providing community services as described in the census. Wholesale traders, workers in banks and other financial institutions made up our social class of commercial workers. Estimates on people engaged in cultivating field crops and foodstuff production and engaged in other kinds of extra subsistence activities were combined to obtain the size of the class of food crop farmers. The census numbers on craftsmen, production process workers and workers engaged in transport and communication occupations and other occupations of similar kind as described in the census were added to give the size of the class of skilled workers.

¹⁵⁰ Kay and Hymer, 'The Political Economy of Colonialism', p.313.

1948

	Western		Central		Eastern		Ashanti		Northern Territory		Togoland		Total	
	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum
European Government Officials	0.04%	849	0.01%	849	0.01%	849	0.01%	849	0.00%	849	0.00%	849	0.01%	849
African Government Administrators	0.44%	276	0.29%	276	0.36%	276	0.27%	276	0.08%	276	0.22%	276	0.26%	276
Other Government Employees	0.77%	174	0.51%	174	0.63%	174	0.48%	174	0.14%	174	0.40%	174	0.46%	174
Skilled Workers	2.10%	104	1.40%	104	1.71%	104	1.31%	104	0.37%	104	1.08%	104	1.26%	104
Commercial Workers	0.64%	121	0.71%	121	0.82%	121	0.99%	121	0.32%	121	0.53%	121	0.68%	121
Domestic Servants	0.51%	42	0.12%	42	0.34%	42	0.18%	42	0.12%	42	0.18%	42	0.23%	42
Miners	3.38%	72	0.24%	72	0.83%	72	0.66%	72	0.00%	72	0.03%	72	0.68%	72
Agricultural Labourers	1.72%	25	0.76%	25	1.29%	25	1.18%	25	0.16%	25	0.46%	25	0.90%	25
Large Scale Cocoa Farmers	0.14%	420	0.19%	408	0.12%	407	0.21%	419	0.00%	409	0.06%	407	0.11%	411
Medium-scale cocoa farmers	3.27%	126	4.39%	114	2.93%	113	4.94%	125	0.08%	115	1.40%	113	2.67%	117
Small-scale cocoa farmers	2.42%	63	3.25%	51	2.17%	50	3.65%	62	0.06%	52	1.03%	50	1.98%	54
Fishermen	2.66%	41	2.75%	41	1.43%	41	0.02%	41	0.01%	41	0.09%	41	0.97%	41
Unskilled Labourers	3.97%	44	1.75%	44	2.98%	44	2.72%	44	0.37%	44	1.06%	44	2.09%	44
Food Crop Farmers	35.65%	58	28.37%	34	28.20%	32	25.16%	57	49.64%	35	39.67%	33	34.40%	40
Petty traders	1.42%	56	1.58%	56	1.83%	67	2.20%	59	0.72%	56	1.19%	48	1.52%	56
Cattle Holders	0.06%	266	0.01%	254	0.09%	253	0.09%	265	0.14%	254	0.22%	253	0.10%	247
Subsistence group	40.82%	10	53.67%	10.2	54.25%	10	55.92%	10	47.81%	10	52.39%	10	51.67%	10

For 1948, again the regional distribution of European government officials is taken from Kay and Hymer's European Population in Ghana by region, 1921-1960. As the Western, Eastern and Western Provinces were put together as the 'Colony' in Kay and Hymer's¹⁵¹ estimates, we relied on the 1931-1932 Gold Coast Blue Book¹⁵² for the regional estimates given for 1921, for the distribution of European government officials in the three provinces that made up the 'Colony'. The 1948 Census identified only four main occupational groups: Cultivation of Cocoa, Artisans, Craftsmen and Skilled Workmen, Shopkeepers, Traders and Sellers, and Unskilled Workmen, and a fifth group for occupations not included in these four. We therefore had to rely on Kay and Hymer¹⁵³ and some fragmented information given in the Census Report for a breakdown of these occupations. The total number of African government officials is taken from Kay and Hymer's¹⁵⁴ classification of persons employed in government administrative and security services. Other government officials is based on their classification of professional and technical workers which included doctors, teachers and surveyors. Kay and Hymer (1972) indicate that of the total Government employees, 64% are estimated to be in Government (others). These workers are taken out of the original skilled labourers group in the census to give us our social class of 'Other Government Officials'. Regional division of government employees is based on the share in main occupation groups of the 1948 census.¹⁵⁵ The number of skilled labourers are taken from Kay and Hymer¹⁵⁶. Again, we use their share of the population classified as blue collar and others in the transportation and communication sectors to estimate the number of skilled workers in the original 'Craftsmen and Skilled Workmen' group in the census. Regional division of total skilled is based on the regional division of artisans, craftsmen and skilled workmen reported in the 1948 census.¹⁵⁷

For petty traders, the census indicates that nearly 67 percent of the female population were petty traders.¹⁵⁸ As the original distribution of the four main occupations was based on the male population, the number of female petty traders was added to the official sum. The share of the population engaged in commerce, that is not petty trading, based on the summaries for administrative areas and districts given in the census¹⁵⁹, was then taken out of the derived total

¹⁵¹ Idem.

¹⁵² Gold Coast Colony Blue Book, 1931-1932, p.420.

¹⁵³ Kay and Hymer, 'The Political Economy of Colonialism', p.316.

¹⁵⁴ Idem.

¹⁵⁵ 1948 Population Census, p.370.

¹⁵⁶ Kay and Hymer, 'The Political Economy of Colonialism', p.316.

¹⁵⁷ 1948 Population Census, p.370.

¹⁵⁸ 1948 Population Census, p.23.

¹⁵⁹ 1948 Population Census, pp. 371-388.

to obtain the number of commercial workers. The remainder was taken as the number of petty traders. The regional distribution of petty traders and commercial workers was based on the regional division on shopkeepers, traders and sellers as given in the census.

For the number of employees working as domestic servants, we combine information from Kay and Hymer¹⁶⁰ and the official census for 1948. The regional distribution is based on the division given in the summaries for administrative areas and for Northern Territories and British Togoland, it is based on the 1960 distribution.

The total number of labourers in mines are taken from Kay and Hymer¹⁶¹, who record the number of Africans employed in the mines. As we have no information on regional distribution of the mine workers for 1948, we base our distribution on the regional division for 1960. We obtain the number of agricultural labourers from the 1948 population census estimate of wage-earning employees in the cocoa farms.¹⁶² Regional distribution is based on the regional division of unskilled workmen. The number of fishermen was also based on information from the 1948 population census.¹⁶³ The regional division is based on the summaries for administrative areas and districts given in the census. We add the number of all fishermen together and the difference between the total for the whole country and the aggregated number for the administrative districts was distributed over the Northern Territory and Togoland, based on the relative number of fishermen in these two regions in 1960.

According to the 1948 population census¹⁶⁴, majority of the group categorized as ‘remainder’ were farmers (other than cocoa). We add the total number of female farmers to the official figure based on the population census to arrive at the number of food crop farmers for 1948. The regional distribution of farmers was based on regional division of all farmers except cocoa farmers. As we lack concrete information on the total number of livestock producers prior to 1960, we use the share of the population engaged in livestock producers for 1960 to arrive at the size of livestock producers for 1948 and earlier years. Regional distribution is based on the summaries for administrative districts and areas on shepherds, cattlemen, and herdsmen.

¹⁶⁰ Kay and Hymer, ‘The Political Economy of Colonialism’, p.316.

¹⁶¹ Kay and Hymer, ‘The Political Economy of Colonialism’, p.415.

¹⁶² 1948 Population Census, p.24

¹⁶³ Idem.

¹⁶⁴ 1948 Population Census, p.20.

1931

	Western		Central		Eastern		Ashanti		Northern Territory		Togoland		Total	
	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum
European Government Officials	0.10%	788	0.02%	788	0.04%	788	0.04%	788	0.00%	788	0.00%	788	0.03%	788
African Government Administrators	0.29%	131	0.26%	131	0.39%	131	0.10%	131	0.02%	131	0.03%	131	0.19%	131
Other Government Employees	0.42%	92	0.37%	92	0.56%	92	0.15%	92	0.03%	92	0.04%	92	0.28%	92
Skilled Workers	1.84%	51	1.60%	51	2.46%	51	0.65%	51	0.11%	51	0.18%	51	1.21%	51
Commercial Workers	0.41%	66	0.89%	66	0.64%	66	0.19%	66	0.22%	66	0.03%	66	0.42%	66
Domestic Servants	1.05%	53	0.58%	53	0.90%	53	0.42%	53	0.11%	53	0.01%	53	0.52%	53
Miners	2.03%	24	0.12%	24	0.55%	24	0.47%	24	0.05%	24	0.00%	24	0.45%	24
Agricultural Labourers	3.10%	21	0.69%	21	2.41%	21	0.99%	21	0.23%	21	0.03%	21	1.26%	21
Large Scale Cocoa Farmers	0.05%	98	0.06%	92	0.05%	91	0.08%	98	0.00%	99	0.02%	92	0.04%	94
Medium-scale cocoa farmers	2.73%	35	3.19%	28	2.93%	28	4.43%	34	0.07%	35	1.16%	28	2.41%	31
Small-scale cocoa farmers	5.06%	25	5.92%	19	5.43%	19	8.21%	25	0.13%	26	2.14%	19	4.47%	22
Fishermen	0.68%	39	0.61%	39	0.44%	39	0.01%	39	0.00%	39	0.02%	39	0.27%	39
Unskilled Labourers	5.24%	28	1.17%	28	4.07%	28	1.68%	28	0.39%	28	0.06%	28	2.13%	28
Food Crop Farmers	33.60%	33	23.25%	21	31.79%	20	25.46%	33	53.29%	35	36.99%	20	34.99%	26
Petty traders	1.75%	38	3.84%	38	2.74%	38	0.83%	38	0.96%	38	0.14%	38	1.81%	38
Cattle Holders	0.06%	114	0.01%	111	0.10%	111	0.09%	114	0.15%	115	0.20%	111	0.10%	110
Subsistence group	41.57%	9	57.44%	9	44.48%	9	56.20%	9	44.23%	9	58.94%	9	49.42%	9

For 1931, most of our estimates on the size of many social classes was derived from the 1931 population census. These included the number of commercial workers, petty traders, domestic servants, fishermen and miners. Where the number of some occupational groups was not directly given, we relied on secondary sources. For instance, the census lacks information on the size of cocoa farmers. Hence, we obtained the number of cocoa farmers from Cardinall's¹⁶⁵ unrivalled estimate of the number of man-days required to handle an annual crop of 240,000 tons in 1931. Given that approximately 24,000,000 man days and 170 man days per man were needed, this would mean an employment of 141,176 people.

The number of food crop farmers was taken from Kay and Hymer's¹⁶⁶ estimate of the share of food farmers of the classified population. The size of skilled workers, African government administrators and executives, other government employees was also derived from Kay and Hymer.¹⁶⁷ For agricultural labourers, our estimate is based on the number of people moving south from the north to work on cocoa and food farms for wages as stated in the Northern Territories report for 1933-1934.¹⁶⁸ Admittedly, assuming that all workers moving south were engaged as agricultural labourers is rather precarious. However, as Sutton argues while a few of the northerners were engaged as traders, much of the northern labour went to work on cocoa and food farms.¹⁶⁹

Our regional distribution of cocoa farmers and food crop farmers is based on the regional division of the 'farmer' category in the census. The regional division given in the census for petty traders, commercial workers, agricultural labourers and domestic servants and unskilled workmen informs our regional distribution of the sizes of these occupations. For the regional distribution of fishermen, we used the regional share of the fishing population for 1948, as a clear regional distribution is not given in the census. In the case of miners, we combine information on their regional division from the census and several reports on the provinces.¹⁷⁰

¹⁶⁵ Cardinall, 'The Gold Coast, 1931', pp. 86; 121; see also Austin, 'Vent for Surplus', p.1045.

¹⁶⁶ Kay and Hymer, 'The Political Economy of Colonialism', p.316.

¹⁶⁷ Idem.

¹⁶⁸ Report on the Northern Territories for the Year 1933-34, p.60.

¹⁶⁹ Sutton, 'Labour in Commercial Agriculture', p.479.

¹⁷⁰ Report on the Northern Territories for the Year 1934-35, p.102; Report on the Western Province for the Year 1930-31, p.15; Report on the Central Province for the Year, 1938-39, p. 42; Annual Report on the Eastern Province of Ashanti for the Year 1930-1931, p.6.

1921

	Western		Central		Eastern		Ashanti		Northern Territory		Togoland		Total	
	Incomes,		Incomes,		Incomes,		Incomes,		Incomes,		Incomes,		Incomes,	
	Population share	£ per annum	Population share	£ per annum	Population share	£ per annum	Population share	£ per annum	Population share	£ per annum	Population share	£ per annum	Population share	£ per annum
European Government Officials	0.15%	562	0.03%	562	0.05%	562	0.05%	562	0.00%	562	0.01%	562	0.04%	562
African Government Administrators	0.06%	110	0.11%	110	0.12%	110	0.05%	110	0.01%	110	0.00%	110	0.07%	110
Other Government Officials	0.59%	57	1.19%	57	1.26%	57	0.57%	57	0.13%	57	0.02%	57	0.71%	57
Skilled Workers	0.39%	68	0.79%	68	0.84%	68	0.38%	68	0.08%	68	0.01%	68	0.47%	68
Commercial Workers	0.41%	68	0.93%	68	0.60%	68	0.20%	68	0.22%	68	0.04%	68	0.42%	68
Domestic Servants	0.32%	46	0.18%	46	0.25%	46	0.13%	46	0.03%	46	0.00%	46	0.16%	46
Miners	1.99%	29	0.12%	29	0.51%	29	0.84%	29	0.01%	29	0.00%	29	0.49%	29
Agricultural Labourers	1.21%	19	2.43%	19	2.58%	19	1.17%	19	0.26%	19	0.05%	19	1.44%	19
Large Scale Cocoa Farmers	0.04%	129	0.05%	121	0.04%	120	0.06%	129	0.00%	125	0.02%	121	0.03%	126
Medium-scale cocoa farmers	2.10%	45	2.52%	37	2.14%	36	3.42%	45	0.05%	41	1.00%	37	1.84%	42
Small-scale cocoa farmers	1.75%	32	2.10%	25	1.78%	24	2.85%	33	0.04%	29	0.83%	25	1.53%	29
Fishermen	1.46%	38	1.44%	38	0.32%	38	0.00%	38	0.00%	38	0.00%	38	0.41%	38
Unskilled Labourers	1.77%	35	3.55%	35	3.77%	35	1.72%	35	0.38%	35	0.07%	35	2.11%	35
Food Crop Farmers	26.15%	43	18.57%	27	22.94%	26	20.30%	43	40.40%	33	32.40%	27	26.99%	37
Petty traders	1.76%	31	3.98%	31	2.57%	31	0.86%	31	0.94%	31	0.16%	31	1.81%	31
Cattle Holders	0.06%	175	0.01%	169	0.10%	169	0.09%	176	0.14%	172	0.23%	169	0.10%	172
Subsistence group	59.79%	11	62.00%	11	60.14%	11	67.28%	11	57.30%	11	65.17%	11	61.37%	11

We combine information from the 1921 Census Report and Kay and Hymer¹⁷¹ to estimate the size of each class for the 1921 social tables. The number of miners, fishermen, government administrators and executives, other government employees is based on Kay and Hymer. We obtain the size of cocoa farmers, as for 1931, using the number of man days required provided by Cardinall¹⁷² and the total cocoa exports for 1921.¹⁷³ For food crop farmers we rely on Kay and Hymer's share of farmers of the classified population. The number of agricultural labourers is based on the Northern Territories Report for the Year 1924-1925.¹⁷⁴ As the number of petty traders and commercial workers in the census report were for a few towns and hence grossly underestimated, we used the share of the trading population for 1931 to estimate their sizes. The regional distribution of the social classes is based on the regional division of occupations in 1921 census report.

¹⁷¹ Kay and Hymer, 'The Political Economy of Colonialism', p.316; 415.

¹⁷² Cardinall, 'The Gold Coast, 1931', pp. 86; 121.

¹⁷³ Kay and Hymer, 'The Political Economy of Colonialism', pp.336-337.

¹⁷⁴ Report on the Northern Territories for the Year 1924-25, p.21.

1911

	Western		Central		Eastern		Ashanti		Northern Territory		Total	
	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum
European Government Officials	0.12%	371	0.02%	371	0.05%	371	0.05%	371	0.00%	371	0.04%	371
African Government Administrators	0.05%	85	0.10%	85	0.13%	85	0.05%	85	0.01%	85	0.07%	85
Other Government Employees	0.53%	39	1.04%	39	1.35%	39	0.58%	39	0.13%	39	0.77%	39
Skilled Workers	0.17%	43	0.34%	43	0.45%	43	0.19%	43	0.04%	43	0.25%	43
Commercial Workers	1.39%	25	1.82%	25	0.79%	25	0.20%	25	0.23%	25	0.78%	25
Domestic Servants	0.28%	21	0.16%	21	0.27%	21	0.13%	21	0.03%	21	0.17%	21
Miners	4.27%	27	0.25%	27	1.27%	27	1.69%	27	0.05%	27	1.22%	27
Agricultural Labourers	1.07%	18	2.12%	18	2.76%	18	1.18%	18	0.27%	18	1.57%	18
Large Scale Cocoa Farmers	0.02%	171	0.02%	161	0.03%	160	0.01%	170	0.00%	162	0.02%	164
Medium-scale cocoa farmers	1.26%	56	1.24%	46	1.39%	45	0.46%	56	0.08%	47	0.86%	49
Small-scale cocoa farmers	1.05%	40	1.04%	30	1.15%	29	0.38%	39	0.07%	30	0.71%	33
Fishermen	1.27%	38	1.42%	38	0.14%	38	0.00%	38	0.00%	38	0.41%	38
Total Unskilled	1.57%	27	3.11%	27	4.05%	27	1.73%	27	0.39%	27	2.30%	27
Food Crop Farmers	23.26%	52	16.22%	32	24.56%	30	20.43%	51	39.75%	31	26.51%	38
Petty traders	3.48%	24	4.58%	24	1.99%	24	0.50%	24	0.57%	24	1.95%	24
Cattle Holders	0.05%	125	0.01%	115	0.10%	114	0.09%	124	0.15%	116	0.09%	118
Subsistence group	60.14%	12	66.52%	12	59.52%	12	72.32%	12.2	58.21%	9	62.28%	12

The 1911 Population Census gives occupational statistics for a few towns in the Western, Central and Eastern Provinces. Occupational statistics were not asked for in the cases of Ashanti and the Northern territories as a majority of their male population was assumed to be mostly farmers, and the women were employed mainly in domestic duties.¹⁷⁵ Hence, we had to use estimates from some secondary sources and the occupational shares in later years to determine the sizes of many social classes, especially for Ashanti and the Northern Territories.

The number of miners and skilled workers is taken from Kay and Hymer.¹⁷⁶ For cocoa farmers in 1911, we use a similar approach employed for 1921 and 1931, based on the number of man days needed and the total cocoa exports to estimate their size. The number of commercial workers and petty traders is based on the number given in the census report and the share of the trading population for Ashanti and the Northern Territories in 1921. We had no reason to suspect that this might have significantly changed over the period. For food crop farmers, livestock producers, unskilled labourers and all other social classes we use the share of the population for 1921. The regional occupational distribution for Western, Central and Eastern Provinces is also based on the regional division given in the census report. For Ashanti and the Northern Territories we use shares from 1921. However, for miners from both areas we get our numbers from the reports on Ashanti and the Northern territories for 1910.¹⁷⁷

¹⁷⁵ Census of the Population, 1911, p.34.

¹⁷⁶ Kay and Hymer, 'The Political Economy of Colonialism', p.415.

¹⁷⁷ Colonial Reports-Annual, Northern Territories Report for the Year 1910, p.18; Colonial Reports-Annual, Ashanti for the Year 1910, p.7.

1901

	Western		Central		Eastern		Total	
	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum	Population share	Incomes, £ per annum
European Government Officials	0.11%	250	0.02%	250	0.03%	250	0.04%	250
African Government Administrators	0.01%	85	0.15%	85	0.11%	85	0.10%	85
Other Government Employees	0.01%	39	0.22%	39	0.16%	39	0.16%	39
Skilled Workers	0.04%	32	0.59%	32	0.44%	32	0.41%	32
Commercial Workers	0.03%	32	3.61%	32	0.51%	32	1.21%	32
Domestic Servants	0.02%	21	2.91%	21	0.22%	21	0.86%	21
Miners	6.77%	20	0.35%	20	1.33%	20	1.90%	20
Agricultural Labourers	1.39%	13	2.49%	13	2.36%	13	2.25%	13
Large Scale Cocoa Farmers	0.03%	38	0.03%	32	0.02%	295	0.02%	299
Medium-scale cocoa farmers	0.05%	38	0.03%	25	0.06%	66	0.05%	70
Small-scale cocoa farmers	0.04%	38	0.03%	25	0.05%	33	0.04%	37
Fishermen	0.11%	37	1.64%	37	0.42%	37	0.66%	37
Unskilled Labourers	2.02%	19	3.62%	19	3.44%	19	3.27%	19
Food Crop Farmers	30.15%	47	19.02%	34	21.05%	26	21.90%	34
Petty traders	0.07%	18	9.07%	18	1.29%	18	3.03%	18
Cattle Holders	0.07%	71	0.01%	64	0.09%	61	0.07%	64
Subsistence group	59.09%	9	56.23%	9	68.42%	9	64.04%	9

The occupational distribution of the Colony as given by the 1901 census was based only on 10 principal towns which were mostly found in the Western, Central and Eastern Provinces which made up the 'Colony'. Therefore, we use information from the census and from Kay and Hymer to estimate the respective sizes of social classes. The number of African government administrators and executives, other government officials and miners is based on Kay and Hymer's estimates.¹⁷⁸

The size of skilled workers, fishermen and agricultural labourers was taken from the census.¹⁷⁹ The number of food crop farmers, commercial workers and petty traders is based on the share of the trading population in 1911. Our estimate on the number of cocoa farmers is based on the total number of required man-days for the total cocoa export of 1901. As the Eastern Province was the cradle of cocoa cultivation and that it was yet to spread to other parts of the colony during this period, we assume that the number of farmers responsible for the 1901 cocoa output was based in the Eastern province.

¹⁷⁸ Kay and Hymer, 'The Political Economy of Colonialism', pp.316; 415

¹⁷⁹ Report on the Census for the Year 1901, p.8.

The regional distribution of our social classes is based on the census except for the case of miners which is based on share of the mining population in 1911.

1891

	Western		Central		Eastern		Total	
	Population share	Incomes, per annum	Population share	Incomes, per annum	Population share	Incomes, per annum	Population share	Incomes, per annum
European Government Officials	0.09%	250	0.01%	250	0.05%	250	0.04%	200
African Government Administrators	0.01%	85	0.09%	85	0.16%	85	0.10%	80
Other Government Employees	0.01%	39	0.17%	39	0.30%	39	0.20%	32
Skilled Workers	0.03%	32	0.35%	32	0.63%	32	0.40%	32
Commercial Workers	0.01%	32	1.16%	32	0.39%	32	0.63%	32
Domestic Servants	0.01%	21	0.76%	21	0.14%	21	0.37%	21
Miners	0.92%	20	0.04%	20	0.34%	20	0.33%	20
Agricultural Labourers	1.10%	13	1.53%	13	3.48%	13	2.25%	13
Large Scale Cocoa Farmers	0.03%	38	0.02%	32	0.04%	295	0.03%	398
Medium-scale cocoa farmers	0.04%	38	0.04%	25	0.06%	66	0.05%	20
Small-scale cocoa farmers	0.03%	38	0.02%	25	0.03%	33	0.03%	20
Fishermen	0.28%	37	3.32%	37	2.04%	37	2.17%	36
Unskilled Labourers	1.60%	19	2.22%	19	5.06%	19	3.27%	20
Food Crop Farmers	23.82%	47	11.66%	34	30.87%	26	21.84%	20
Petty traders	0.09%	18	8.51%	18	2.88%	18	4.62%	15
Cattle Holders	0.05%	71	0.01%	64	0.13%	61	0.07%	61
Subsistence group	71.88%	9	70.09%	9	53.41%	9	63.62%	9

Occupational data for 1891 are given for only 16 towns and for 35,529 persons in the 1891 census.¹⁸⁰ The number of most of our social classes for 1891 is therefore based on Szereszewski's¹⁸¹ estimates and on the 1891 census. In 1891, there were virtually no cocoa exports from Ghana. Hence we do not estimate the number of cocoa farmers using the approach adopted for earlier years based on total exports and man days. Instead, the size of cocoa farmers is calculated based on the cocoa farmers' population share of food farmers in 1901. This is based on the fact that cocoa farmers were also food farmers especially in the earlier years where it was customary to plant food crops for several years while cocoa seedlings were still growing.¹⁸²

¹⁸⁰ 1891 Census Report, pp. 133-36.

¹⁸¹ Szereszewski, 'Structural Changes', pp. 18-20.

¹⁸² Beckett, 'Akokoaso'; Austin, 'Vent for Surplus'.

Appendix IV: Drivers of inequality

To distinguish between rising wages and changes in occupational structures as drivers of our inequality trend, we recalculate our Gini coefficients first with holding incomes constant over time and only letting the shares of our social classes change. Second, we keep the size of our social classes constant and let wages change over time. Figure A* below shows that if we keep the share of the social classes constant at the 1960 share, the inequality trend is similar to the original estimates when both class shares and wages change over time, but inequality is higher. When we keep the wages constant at the 1960 level, inequality prior to 1931 is much higher than our original estimates. However, the trend is flat. This indicates that inequality is mostly driven by increases in wages over time, and this effect is most pronounced between 1931 and 1948 when incomes for the top groups increase enormously. Between 1948 and 1960, the change in the relative size of the social groups, hence the occupational structure is the dominant driver of our national inequality trend.

Figure A1: Inequality trends with constant population shares and constant incomes

