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Was the wage burden too heavy?

Profitability and wage shares of settler agriculture in colonial Malawi, c 1900-1960

Jutta Bolt¹

Erik Green²

Abstract: The historical role of European farming in southern and central Africa is a delicate matter that has received a great deal of attention among scholars over the years. Going through this vast literature a striking consensus emerges: success or failure of European farming in southern Africa was to a large extent depending on their access and control over labour. These propositions have so far never been systematically and empirically tested. This paper is an attempt to do that by analyzing the ‘wage-burden’ European settler farmers faced. The wage-burden is identified by measuring wage shares (total amount paid in the form of wages as a share of total profits) on European farms in colonial Africa. Based on archival documents we construct time-series for value of output, transportation costs, investments and wage shares for European tobacco and tea farms in colonial Malawi. Our estimates show that the wage burden decreased significantly after 1930s, i.e. the European farmers were able to capture a larger part of the rent over time. We argue that the developments cannot be explained by domestic colonial policies, but changes in regional migration patterns, which had a significant impact on the supply of farm labour.

INTROUDCTION

The historical role of European farming in southern and central Africa is a delicate matter that has received a great deal of attention among scholars over the years. Going through this vast literature a striking consensus emerges: success or failure of European farming in southern Africa

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was to a large extent depending on their access and control over labour. Control over labour ultimately depended upon non-economic measures, which could only be upheld by the support of the colonial state. What is missing in the literature to support these arguments is a link between the overall performances of the European farming sector and average labour costs for the sector. A large body of scholarly work focuses primarily on the intention of state policies in granting European farmers access to cheap labour assuming that intentions led to desired outcomes. This assumption could be questioned in the light of the literature that emphasizes the relative weakness of the colonial states. Attempts to measure the impact of policies in settler colonies deal mainly of land inequality and trends in rural real wages. These findings need to be more directly linked to the developments and performance of the settler farming sector. How do we, for example, know that declining real wages signify the strength of the settler farmers reducing labour costs (when keeping labour force constant) while enjoying stable or increasing profits? It could be equally true that the decline in wages is the result of a failing sector which faces shrinking profits, hence is unable to pay higher wages. In this case, the decline in wage, and labour costs, is met by a similar decline in profits, indicating losses for both labourers and European farmers.

This paper is an attempt to shed new light on the development of settler agriculture by analyzing the ‘wage-burden’ European settler farmers faced. The wage-burden is identified by measuring wage shares (total amount paid in the form of wages as a share of total profits) on European farms in colonial Africa. The method allows us to directly relate labour costs with the overall performance of settler farmers and study how the relation between value of output and average labour costs changed over time. The latter can then be used for a more qualitative oriented analysis of the mechanisms behind the tangible patterns.

We use settler farming in Nyasaland as our empirical case. Nyasaland was not a settler colony. On the contrary, the number of European farmers was small and they played a marginal role in the colonial economy from the 1930s and onwards. The size of the sector, however, matters less as we are not analyzing the role of settlers farming in the colonial economy. Instead, we use the settler sector in Malawi as a micro-case to detect the long-term relationship between wage shares and value of output. The advantage of using Nyasaland is that it enables us to compare two different types of European farms common throughout southern Africa; farms owned by relatively large companies and farms controlled by individual Europeans who leased land from

the colonial state or private companies. In Nyasaland the large companies were mainly producing tea while the individual farmers focused on tobacco.

Our estimates both confirm and challenge the consensus view for Africa in general as well as historical research on settler farming in Nyasaland. We find that the wage burden was significant in the early colonial period, which is not at all surprising. We believe that the relatively high wage shares in the early period signified labour shortages, for which we find strong support in previous research. We further find that the wage burden eases from the mid-1920s onwards for the tobacco and from mid-1930s for the tea sector. At face value this could be interpreted as European farmers gaining access to cheap labour. However, nominal wages increased at the same time implying that the declining wage shares was driven by increases in value of output. In other words, the landlords were able to capture a larger part of the capital rent over time. It is difficult to find a correlation between the profitability of the European farming sector and land and taxation policies. On the contrary, the colonial authorities focused mainly on supporting African commercial farming from the 1930s and onwards. We conclude that domestic colonial policies played a very limited role in determining wages as well as wage shares. Instead, the performance of the settler sector has to be understood on both a regional and global context. Regional mobility of Africans – both entering and leaving the protectorate – had a significant impact on wages, while prices on the world market determined the value of output. The colonial authorities played an indirect role concerning the former by not trying to obstruct the inflow of people to Nyasaland. However, its' role was limited. Differently from settler colonies like Southern Rhodesia the Nyasaland authorities did for example not establish or used official recruiting agencies. (Gibbon 2011: 30, Chirwa 1994).

Relating more specifically to the historiography of Nyasaland we can conclude that our findings for the tea sector are largely in line with existing research. Meanwhile, our data for the tobacco sector challenges previous held views of comparatively inefficient and poor performing European tobacco farmers. We show that the tobacco sector was comparatively productive by the 1920s. Second, our estimates reveal that the tobacco sector did not collapse in the early 1930s as commonly argued. Our data instead show that the sector stagnated in the 1930s, followed by a second boom in the post-war period. Thirdly, and as already pointed out above, not only was the tobacco sector performing well, they also managed to capture a larger part of the capital rents over time.

Our data are obtained from the colonial Blue Books archived in the National Archives in London. From these books we have collected information on agricultural wages, acres under European cultivation, total amount of crop grown, total amount and value exported per cash crop and some scattered information on employment in both the tea and the tobacco sector between 1898 and the mid-1950s. Information on labour relations and labour control is taken both from the archives in London and the National Archives in Malawi as well as published scholarly work. We have especially benefitted from the empirical and analytical rich papers by Robin Palmer, Bridglal Pachai and Wiseman Chirwa.

We are facing a number of challenges in creating reliable time series. Three of them are especially worth mentioning. First, we lack data to create a reliable time series for transportation costs, which were the highest in southern Africa in the 1920s and 30s (Mandala 2006: 506). The only figures we have are provided by Palmers (1985a) and concern the early 1930s who argues that farmers needed to pay 0.97 pence per lb of agricultural product transported. We use this as a proxy for transportation cost for the whole colonial period. We believe that these extrapolations probably underestimate the transportation costs for the early colonial period, while they most likely overestimate the cost for the latter part of the period.

The second challenge concerns the creation reliable estimates for total wage labour cost. The problem is that for most of the period we do not know if people were employed on a permanent or temporary basis. Only for a few years in the mid-1950s do the records roughly indicate length of contract (temporary, semi-temporary or permanent). The ratio between (semi)-temporary and permanent workers in both the tea and the tobacco sector is around 1.3. This means that for every permanent worker, 1.3 temporary worker is employed. However this tells us nothing about the exact length of the contract. Based on past historical research on labour relations on European farms in Nyasaland (Chirwa 1997, Palmer 1985a, Green 2013)) we assume that labourers were on average employed for three months.

The third challenge is to account for the non-wage labour. Previous research on labour relations show that non-wage labour, i.e. tenants played an important role on European farms in the early colonial period, especially on the tobacco farms. Cash crop production by tenants is in the colonial reports only documented for tobacco and recorded as production by *Europeans and tenants*. In the early 1950s this category changes to Europeans only, while both hectares under

cultivation and tons of tobacco produced in this category remained constant³. Previous research, however, shows that the role of tenants decreased significantly from the mid-1920s (Chirwa 1997, Green 2013). The administration of production did not adjust to these changes. We have decided to include the tenants based on the plausible assumption that they had no significant impact on the aggregate labour costs from the mid-1920s and onwards.

SETTLER AGRICULTURE AND ACCES TO LAND AND LABOUR

European farming in colonial Africa should not be confused with the plantation complexes that developed in America (Curtin 2002). European farming was comparatively smaller and did, with a few exceptions, not rely on the use of slavery. Furthermore, a distinctive feature of the 20th century settler colonialism, as argued by Elkins and Perderson (2005) is that the Europeans remained in minority in the colonies. The latter has led Mosley to define African settler expansion in Africa as “colonisation of underdeveloped areas by European producers who became economically dependent on the indigenous population” (Mosley 1983: 237). Europeans who decided to settle and open up farms in Africa were faced with the challenging of securing access to labour. Relative low population densities and a general reluctance among Africans to supply labour meant that the settlers had to either offer comparatively high wages or develop institutions (coercive or non-coercive) that secured adequate supplies of indigenous labour. Cooper summarises that: ‘Colonial powers established islands of cash crop production surrounded by vast labor catchment areas in which coercion and, as time went on, lack of alternatives were necessary to extract laborers’ (1994: 1529).

The Marxist oriented literature of the 1970s and 80s argue that expropriation of land in southern Africa did not only give the settlers access to the most fertile areas, but also became instrumental for the Europeans to control indigenous labour. In 1966 Arrighi published an influential article on proletarianisation of the African peasantry in Rhodesia (to appear as a chapter in the book *Essays in the Political Economy of Africa* in 1969) in which he argues that land concentration in general and the establishment of Native Reserves in particular lowered the wages that the European farmers had to pay for their indigenous workers. Arrighi shows that Africans were already engaged in the market economy in the pre-colonial period by selling part of their produce and/or

³ And African production also does not increase sharply in this period.

cattle. The opportunity costs of this engagement were lower than the cost of providing labour on the white farms. For the white farming community, the solution to the problem was to increase the opportunity costs of cash crop production by removing Africans from the fertile land to the Reserves were land soon became a scarce resource, while at the same time introduce taxes to ensure that the Africans had to earn an income (1966, 201-203, 208). Land expropriation and taxation policies therefore became a pre-condition for the development and growth of large-scale farming in Africa (see also Cohen 1976, Palmer and Parson 1977, Phimister 1988).

That colonial taxation and land policies played a crucial role for settler farmers' access to local labour is shared by the more liberal oriented historians writing in the 1980s as well as more recent research in 'new' institutional economics and economic history. Mosley for example, comparing the developments in colonial Zimbabwe and Kenya reaches the conclusion that land expropriation had a negative effect on the real wages for the African workers (1983, see also Bowden et al. 2008). Griffin et al. explicitly conclude from a global comparative view that the main function of land concentration is for the large landholders to keep the cost of labour low without employing direct coercive measures (Griffin et al. 2002: 285-86). In a very recent publication Aceomglu and Robinson argue that land concentration and the creation of 'dual economies' in parts of Africa enabled European settlers to extract from indigenous labour (2012: 87ff and 258ff).

There is a consensus in the literature regarding the role the state played in establishing these unequal societies (e.g. Austen 1987, Arrighi 1966, Phimister 1988). Austen argues, for example that '[t]he major weapon employed by Europeans in this context was [...] not their superior access to various forms of producer capital but rather their influence over the state' (1987: 173). The basic assumption is that the settler farmers lacked the financial capacity to enforce processes of primitive accumulation. There are both methodological and empirical problems associated with the state and policy centered analysis. Empirically, the capacity of the colonial state to reinforce policies and steer the development towards the intended direction should not be exaggerated. A number of prominent scholars have shown that the capacity of the state to direct development was severely limited (e.g. Herbst 2000, Cooper 1981, 1994, 2002, Frankema 2010, 2011). Furthermore, historians have shown that African agency played a crucial role in the shaping of colonial policies. To quote Copper: 'European [colonial] policies is as much as response to African initiatives as African "resistance" and "adaptation" is a response to colonial intervention' (1996: xii). Methodologically, the idea that development process can be understood

as intentional is based on a confusion that arises, to quote Cowen and Shenton out of ‘an old utilitarian tautology’ by which development becomes both a mean and an end (1996: 4). If policy objectives are based on constant values and policymakers have unlimited powers, it follows that, to quote Douglas North, “it is not necessary to distinguish between the real world and the decisions maker’s perception of it; he or she perceived the world as it really is” (1995: 17). In this paper we avoid a policy centered analysis by starting from a different angle. We first measure wages and wage share and then relate these findings to colonial policies and as will be shown further below our approach signifies a limited role played by the colonial authorities.

Nyasaland never developed into a settler colony despite the visions held by the first governor – Sir Harry Johnston - to develop the protectorate to ‘another Brazil’ (Palmer 1985a: 213). The view taken by most historians is that settler agriculture, after four decades of fluctuating performance largely collapsed in the aftermath of the Great Depression in the 1930s. Only a few large companies cultivating tea in Thyolo and Mulanje districts in the southern region survived (e.g. Pachai 1973, McCracken 1983, Palmer 1985a, 1985b, 1986, Chirwa 1997, Green 2013).

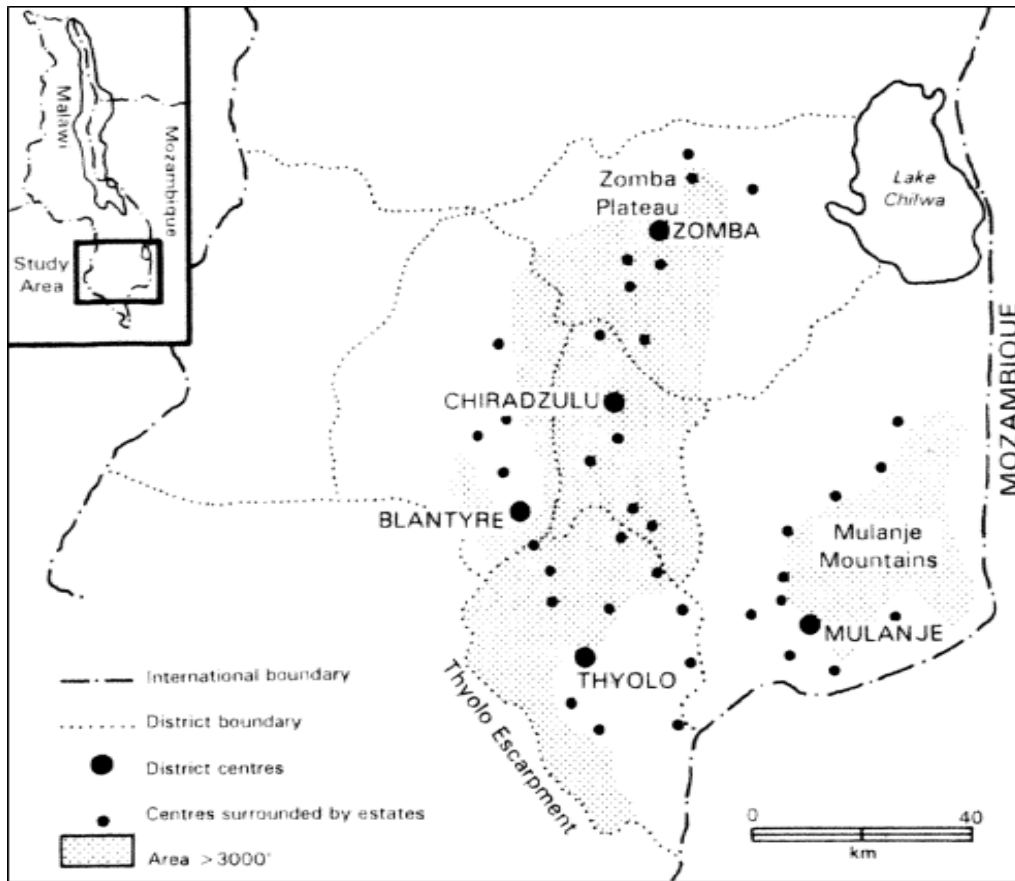
In the early colonial period, settler farmers concentrated their activities in the Shire Highlands partly because these areas were more accessible by boat, the soils more fertile and, as argued by Woods, because of the protectorate’s favourable land policies (1993: 131). A number of Europeans, mainly missionary and traders had managed to claim access to land in the very fertile areas of Shire Highlands in the southern part of Nyasaland (see map 1) already in the late pre-colonial period 1870s by signing treaties with local chiefs (Pachai 1978). It was not uncommon that Europeans expanded the land frontier beyond the borders stipulated in the contracts. In 1915 Chief Kadewere of Chiradzulu in southern Nyasaland told a commission of enquiry that Europeans often asked for a small a plot of land to build a house on, but later took control over far larger amounts of land to establish farms (Pachai 1973: 682). The early European settlers thus seem to have been able to take advantage of the relative fluid social order present in the southern region in the late 19th century by managing to take control over large parts of the most fertile land (Chanock 1975, White 1984). Sir Harry Johnston – Nyasaland’s first governor - was aware of the chiefs’ complaints, but nevertheless decided not only to accept the presence of the Europeans, but to grant companies, like the British South Africa Company, the Bruce estates Ltd. and the African Lakes Corporation Ltd freehold rights to large parts of the arable land in the Shire Highlands. Approximately half of all land in the fertile Shire Highlands passed into the hands of the Europeans by the turn of the century and of this land about two-thirds were under control of

five large companies (Palmer 1985b: 217). On a more aggregate level: eleven percent of the total arable land in Nyasaland was under European control by the early 20th century (Pachai 1973: 683).⁴

The European settler farmers in Nyasaland should not be treated as a homogenous group. Following Palmer (1986) we divide the settler farms into two groups. On the one side we find large-scale farms owned by companies. This group slowly shifted from tobacco to tea production. By 1960 the number of companies had increased to 28 cultivating an average of 1000 acres each (Kettlewell 1965: 265). On the other side, we have smaller farms owned by individual Europeans. These farms were mainly established in the inter-war period as part of the British Soldier Settlement Schemes. The settlers either leased Crown Land from the colonial authorities or private land controlled by companies where they mainly grew tobacco (Pachai 1973: Palmer 1985a: 222). When we are comparing tea and tobacco farms we are thus dealing with two significantly different types of farms, at least from the 1920s and onwards.

Map 1. Shire Highlands, Nyasaland

⁴ It is likely that the figure is an underestimate since it is based on land claims that were registered and, as Pachai argues, the number of registered claims was remarkably few (1973: 683).



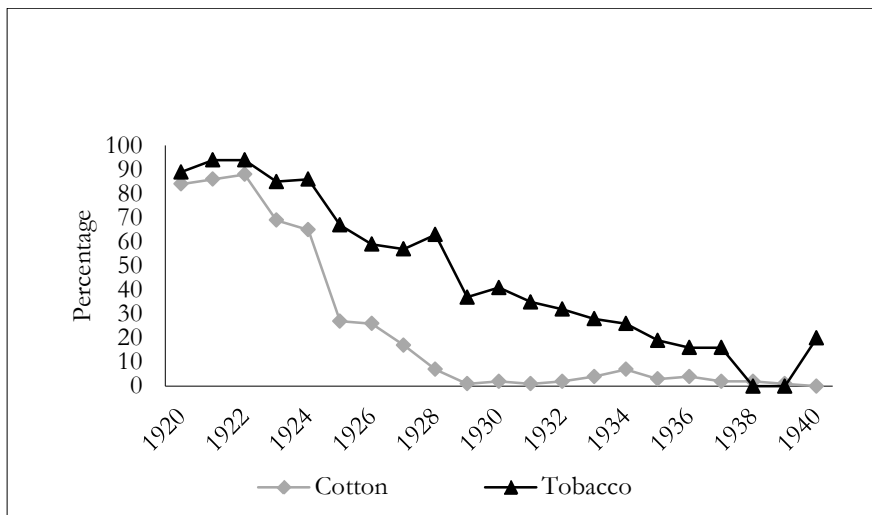
Source: Chirwa 1997: 266

Theoretically, European farmers in Shire Highlands benefitted from comparatively high population densities. The population density was estimated to 300-350 people per square kilometer in the late-1920s, making it possible to keep wages comparatively low.⁵ Despite the favorable circumstances the number of European settlers remained low. In 1921 there were 399 settler farmers in the protectorate (with a total population of approximately 1 200 000). By 1931 the number had declined to 290 and in 1945 there were only 171 European farmers left in Nyasaland (Palmer 1985a: 221). The modest and declining performance of the white farming community in the inter-war period was noticed in both absolute and relative terms. A significant feature of the developments in Nyasaland was Africans capacity to increase their market shares. Figure 1 shows how Africans contributed with more than fifty percent of the total cotton

⁵ Malawi National Archives (MNA) Circular from Acting Chief Secretary to all Provincial Commissioners on Ctrop Production Policy, 13th September 1951

production by the early 1920s and more than fifty percent of the total tobacco production by the late-1920s.

Fig. 1: Percentage of total cotton and tobacco production in Nyasaland 1915-1941 produced by white farmers



Source: Green (2007: 123)

The patterns above have led a number of scholars to highlight the weaknesses of the settler farming community in Nyasaland. Chirwa, for example, concludes that the ability of the settler farmers to adjust to local conditions was ‘minimal’ (1997: 279). Palmer argues that the great majority of European immigrants arriving in the inter-war period had been ‘largely driven off land following the 1928 slump’ (Palmer 1985a: 244). This view is further supported by contemporary witnesses. In a Colonial Office minute from 1936 it was concluded that “European agriculture except for tea, is virtually an economic failure” (cited in Palmer 1985a: 211). The colonial authorities held the European farmers responsible for the failure and accused them of lacking knowledge of proper farming practices. They were blamed for preparing their fields in marginal areas, which often led to large amounts of low quality leaf (Chirwa 1997: 270).⁶

Historians have identified transportation costs and access and control of labour as key factors explaining the relative poor performance of European farming. Nyasaland was landlocked and

⁶ See also MNA Annual Report Department of Agriculture, 1933-1938, Miscellaneous

the European farmers lobbied for the construction of a railway line that would connect Nyasaland with the harbor in Beira in Portuguese East Africa. The railway was finished in 1908 and in 1934 the infrastructure was further improved as the bridge over Zambezi river was opened.⁷ To build a railway was a costly enterprise and the, even for British Africa standards, financially weak administration in Nyasaland, found it very difficult to pay for the investment (Hillbom and Green 2010: 141). One effect was comparatively high railway rates. In 1933 it was calculated that the cost of sending tea to the nearest port - Beira in Portuguese East Africa – was four times higher than in India and seven as high as in Southern Rhodesia (Palmer 1985a: 230). Both the ‘poorer’ European tobacco growers and the tea companies continuously raised the issue of high transportation costs.⁸ In 1935 the tea growing companies came together and established the London Committee of the Nyasaland Tea Association with the primary aim of protesting against the high railway freight rates (Palmer 1985b: 220).

The powers of the European settlers to influence the transportation costs was, however, limited, which in practice meant that they had to keep the cost of labour as low as possible to remain competitive. Consequently, settler farmers notoriously and loudly expressed grievance over lack of labour.⁹ A number of historians have emphasized the European farmers’ limited capacity to control labour. Chirwa, for example, emphasize the role of African agency in determining European farmers’ capacity to control and access labour. Chirwa argues that European farmers were ‘severely limited in its ability to employ coercive methods’ (1997: 279). Green takes Chirwa’s conclusion one step further and claims that African workers and tenants were in the position to re-bargain labour contracts in their favour from the mid-1920s (Green 2013: 246-247). In 1941 the Labour Department concluded that the African worker ‘comes and goes as he like’ (quoted in Palmer 1986: 109).

TYPES OF LABOUR

Both the production of tobacco and tea were labour intensive, at least until after WWII, when more machinery and fertilizer was imported and employed mainly in the tobacco sector. Labour

⁷ PRO, CO 525/166 Annual Report Nyasaland, 1936

⁸ MNA, Annual Report Department of Agriculture, 1925-1941, Miscellaneous

⁹ See MNA Annual Report Department of Agriculture (various years), In 1940 the District Commissioner in Thyolo district in Shire Highlands argued that constant labour shortages held back production of both tea and tobacco on European farms. MNA, NSE 1/1/1 Correspondence between District Commissioner Thyolo District and Provincial Commissioner Southern Province, 17 April 1940,

to work in both sectors was obtained from three sources. Originally, the European farmers depended solely on indigenous labour and tenants. A majority of the indigenous labour resided in the Shire Highlands, while a few came from the lakeshore area north-east of the Highlands (Chirwa 1997: 529). However, tenants played a marginal role as labourers on the tea estates. The only estimate we have on labour types of labour is from 1941. Estimates from 1947 shows that 47 per cent of the workers on Nyasaland tea estates consisted of Africans from local villages, 27 per cent of Africans from other districts, 25 per cent of Lomwe immigrants and only 3 per cent were estate tenants (Palmer 1986: 108). Tenants played a more prominent role as labourers on the tobacco farms, at least in the early colonial period (Vaughan and Chipande 1986: 12). Tenants on tobacco farms paid for land by supplying their labour to the landlords. The system was locally known as *Thangatha*¹⁰ and was heavily disliked among Africans. It implied that tenants had to work for the landlord for one month to pay off their tax and another to pay their rent – both during the crucial rainy season. The agreements were made verbally and according to Palmer one month ‘proved in practice to be somewhat elastic concept’ (Palmer 1986: 107).¹¹ The tenancy contracts slowly changed as the European tobacco farmers began to phase economic difficulties in the 1920s. The smaller estates found it increasingly difficult to collect labour rent. The full quota of work were therefore seldom demanded and attempts to enforce rent requirement resulted in tenants quitting the estates (Chirwa 1997: 276). They were obviously in need of some kind of rent in order to survive. The situation had become desperate and we could therefore witness a relatively rapid shift from labour tenancy to share-cropping in the Shire Highlands in the late 1920s. Chirwa claims that by the 1930s ‘[...] almost all the tobacco and cotton estates in the Shire Highlands relied on share-cropping’ (ibid. 265). The *thangata* system did not disappear, but it was significantly reduced.¹²

¹⁰ Originally a pre-colonial Chichewa term for work gangs.

¹¹ The colonial authorities early put blame on the European planters for taking advantage of their control over land to access labour. This was made possible since there were no registered boundaries for existing villages, which enabled European farmers to go beyond their rights and force ‘free’ peasants to pay labour rent. This was against the intention of the authorities. There is no data on how common the practice was, but it was obviously taken seriously by the authorities and even caused a riot on the Shire Highlands in 1915 (Pachai 1973: 684, 687). The colonial authorities even took the matter to court in 1903. The colonial authorities alleged that a European farming company in the Shire Highlands had entered into illegal land deals and had negotiated labour-tenancy arrangements which ignored the terms of the non-disturbance clause. The Judge ruled in favor of the colonial administration (Palmer 1986: 107).

¹² The practice of *thangata* was addressed by the colonial authorities as late as in the mid-1950s, but the colonial authorities claimed that it by then was only employed in exceptional cases. MNA, Annual Report Department of Agriculture, 1955, Miscellaneous

Local labourers were soon complemented with Lomwe immigrants as the inflow of people from the Portuguese East Africa began to take off in the early 20th century. It is estimated that the number of Lomwe people in Nyasaland increased from 100 000 in 1920 to 380 000 in 1945, most of them settling in the Shire Highlands (Palmer 1986: 106). The constant inflow of immigrants was welcomed by the white settlers who saw this as an opportunity to access cheap labour. In 1924, the East Africa Commission reported that:

In many parts of the Southern Province the chief source of labour is Portuguese East Africa, whence thousands of natives immigrate yearly to work on the ... plantations in Nyasaland ... (quoted in Chirwa 1994: 525).

In the labour census report of 1925 the importance of immigrant labour for the European settler farms in the Shire Highlands was underscored even further. It was stated that if immigration from Portuguese East Africa were to be cut off, the effect would be that '[...] half of the plantations in the Mlanje, Cholo and Lower Shire districts would have to be closed' [due to lack of labour] (quoted in Chirwa 1994: 525).

MEASURING WAGES AND WAGE SHARES

In order to say something about the development of settler farming in Nyasaland, and how heavy the wage burden (or the total amount of money paid to wages) was for this sector we need to know how much the sector as a whole received from growing and exporting cash crops and how wages for labour developed over time. For this, we have collected information on agricultural wages, acres under European cultivation, total amount of crop grown (for both the tobacco and the tea sector), total amount and value exported per cash crop, total value of imports of agricultural machinery and fertilizer, and some scattered information on employment in both the tea and the tobacco sector between 1898 and 1960.

We start by looking only at farmers that are in business, so we abstain from start-up costs. Furthermore, we assume that the total value of exports of both tobacco and tea flows directly to the sector and if these farmers had no costs, this would represent total income or profit for the whole sector. However, they of course did have costs. The most important one of running the farm was labour costs, or wages. So for the sector as a whole, the total number of labourers employed times the average agricultural wage represents the total wage burden. The total value of

tea and tobacco exported are taken directly from the colonial Blue Books as they are consistently recorded during the colonial period. To obtain wages we have used all recorded agricultural wages also from the blue books. Sometimes wages per sector were included (especially for the latter period), sometimes a distinction between the wet and the dry season was made and sometimes only one single 'agricultural' wage was recorded. We have combined all these sources into one single observation per year until 1942. From 1942 to 1960 we use different wage series for the tea and tobacco sectors. However, the difference in wage between the two sectors is very limited – the ratio of tea to tobacco wages is on average 0.98 and ranges between 1.19 and 0.83. Whenever an upper and a lower bound were given for any wage rate, we have used a lognormal distribution, which places more weight on the lower values, to correct for overestimation. We have assumed people were employed on these settler farms for 3 months per year (see above).

Finding reliable estimates for employment posed the most difficult problem. From 1951 onwards we have for a number of years employment per sector and from 1955 overall agricultural employment in Nyasaland. Before 1950 only in a few cases, employment figures were given for a number of farms, but no overall estimates or per sector estimates were recorded. So we decided to extrapolate employment figures, based on the ratio of workers per acre calculated for the 1950s, combined with qualitative evidence about the labour land ratio. For the tobacco sector we find that on average 1.78 workers per acre under cultivation were employed on European farms. Rupert (1998) argued that in Southern Rhodesia, the minimum a farmer needed in terms of labour was one labourer per acre under cultivation. As Rupert referred to the absolute minimum, we believe our finding of 1.78 labourer per acre is not too far off. Hence we apply this ratio to extrapolate backwards employment figures for the tobacco sector on the basis of acres under cultivation. For the tea sector we apply the same method, and find a labour land ratio of 1.59. We use this labour-land ratio and the number of acres under cultivation to extrapolate backwards employment figures for the tea sector

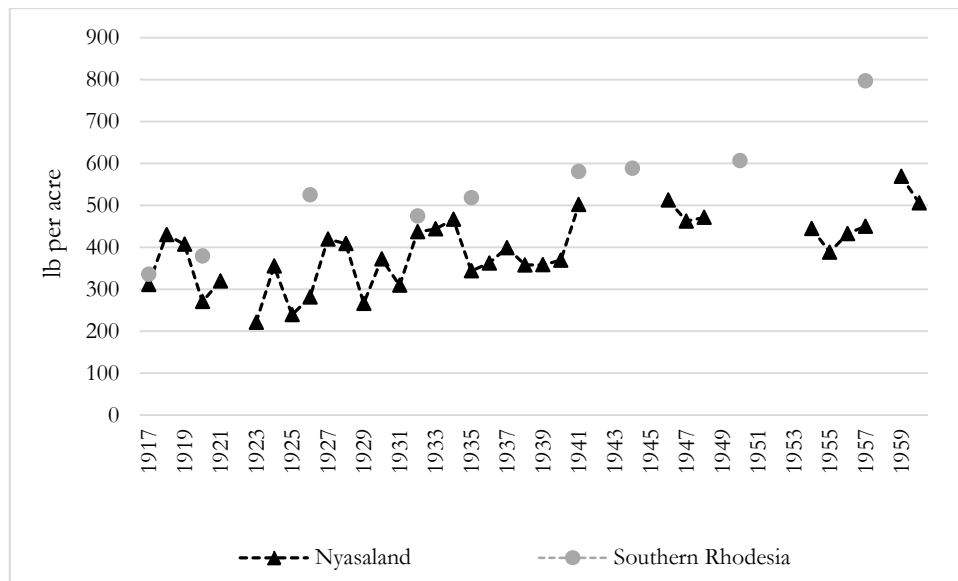
As described above, finding estimates of transportation costs also proved difficult. No mention of this is found in any of the colonial documents that we have scrutinized. Therefore we resorted to secondary information. Palmer provides an estimate for the 1930s of 0.97 pence per lb transported (1985a: 230). We have used this estimate to extrapolate transportation costs for both the tea and the tobacco sector throughout the colonial period by multiplying this with the total lbs of both tea and tobacco exported respectively. We also account for the investments in machinery and fertilizer by using the total value of agricultural machinery and fertilizer imports.

We only have figures up to 1941, so after that we assume constant import figures, which imply that we underestimate investments in the post-war period. This is counteracted by the fact that we have no way of distributing these over the two sectors, which forces us to assign the total to both sectors. This is obviously (much) more than either sector in reality spend on these imports, and therefore lowers any profitability that we find in settler farming in Nyasaland.

WAGES AND WAGE SHARES

Tobacco was the main settler crop until the Great Depression and was mainly grown by individual Europeans who leased land from the colonial state or private companies. The tea sector grew from the mid-1920s onwards due to companies moving out of tobacco into tea as that was expected to be more profitable. Looking at European tobacco production our estimates do not support the view held by both historians and colonial authorities that the tobacco growers were largely inefficient. If we compare land productivity of tobacco farmers in Nyasaland to land productivity on European tobacco farms in Southern Rhodesia (at the time the largest tobacco producer in the region) we find that European farmers in Nyasaland were almost as productive up until the 1950s. Figure 2 shows the tobacco yields per acre for both settler farmers in Nyasaland and settler farmers in Southern Rhodesia. The latter were in a more favourable position, with better access to capital through the Land Bank and access to cheap labour through the establishment of Native Reserves (Phimsiter 1988; Mosley 1983). Even so, the difference in land productivity is not great between the two countries until yields increase strongly in Southern Rhodesia somewhere in the 1950s.

Figure 2: Tobacco yields on European farms in Nyasaland and Southern Rhodesia, 1916-1960

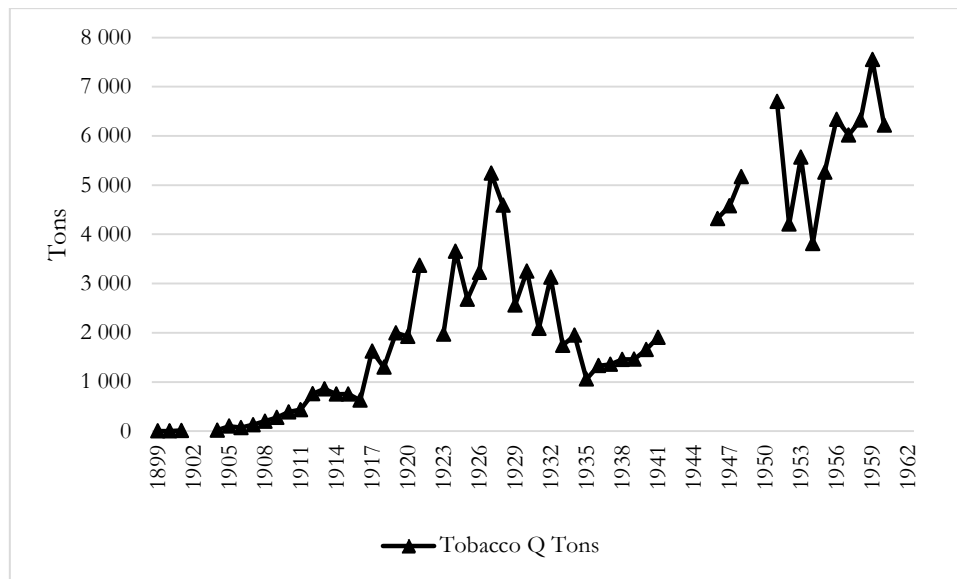


Source: Nyasaland: various colonial Blue Books. Southern Rhodesia: Moseley.

Further, our data shows that the European tobacco sector did not collapse in the 1930s as often assumed. Figure 3 show that European tobacco production in Nyasaland after an initial rapid expansion decreased between 1927 and 1935, after which the sector revived again and experienced a second boom in the post-war period. It is true that a large number of individual farmers went bankrupt during the depression and had to sell or abandoned land. Meanwhile, the wealthier tobacco farmers (and in a few cases also companies) took over the control of the land and continued to grow tobacco. The legacy of the Great Depression was not a collapsing European controlled tobacco sector, but an increase in land concentration within the sector.¹³ In the post-war period the number of Europeans settling in Nyasaland increased again. Between 1945 and 1960 an average of 300 Europeans moved to Nyasaland annually given a total number of 8 500 Europeans in 1960. Most of the arrivals worked within the colonial authorities, missionary stations or established businesses in the urban areas. About 500, however, opened up farms, which drove the second boom (Kettlewell 1965: 235).

Fig. 3 Total amount of European tobacco produced in Nyasaland, 1899-1960

¹³ MNA Annual Report Department of Agriculture, 1938, Miscellaneous



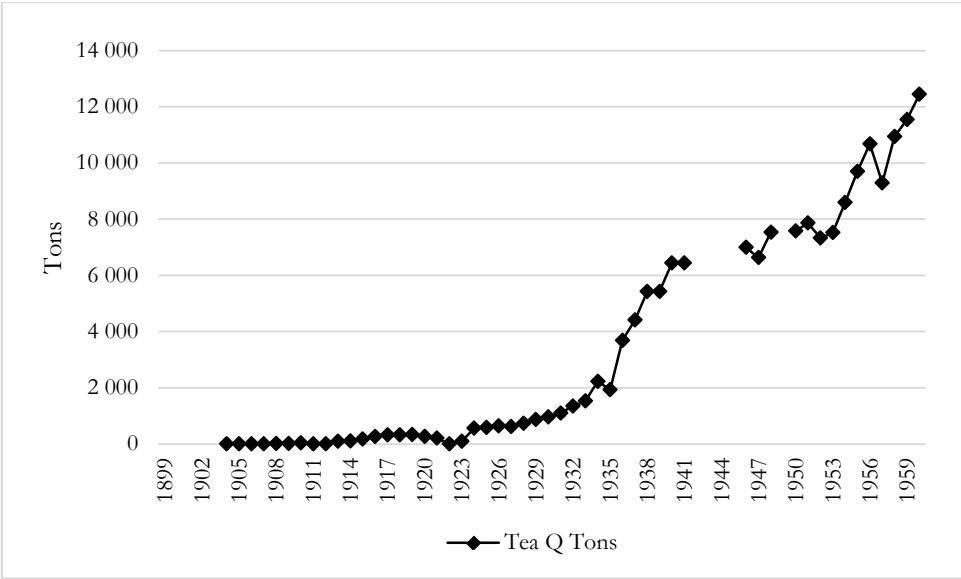
Source: Various Colonial Blue Books

The tea sector was even less affected by the Great Depression if we look at total output. Figure 4 shows that exports of tea expanded continuously from the mid-1920s, which is in line with previous research (Palmer 1985a and b, Vaughan and Chipande 1986, Chirwa 1997). The value of tea exported increased eightfold during the 1930s and by 1938 the colonial authorities regarded it as the most valuable cash crop in the protectorate (Palmer 1985b: 230).¹⁴ The different developments for tea and tobacco farming intuitively makes sense as the tea sector was controlled by relatively large companies, while the tobacco estates continued to mainly be owned by individual Europeans. The former had better access to capital, which enabled them to survive the Depression. In 1932 the District Commissioner in Mulanje district, one of the most prominent tea growing areas in Nyasaland, reported the tea producing sector had enough resources to ‘enable it to expand even in times of deepest depression’ (cited in Palmer 1985b: 220). They were also helped by the international tea restrictions, which did not prevent further decline in world prices for tea, but managed to slow down the decline compared with other export crops like cotton, coffee and tobacco (Palmer 1985a: 223).¹⁵

¹⁴ See also Malawi National Archives (MNA) Annual Report Department of Agriculture, 1938, Miscellaneous

¹⁵ In 1933 the Amsterdam Tea Association initiated an International Tea Agreement with the aim of avoiding further price slumps by introducing a global quota system for tea production (Palmer 1985a: 221).

Fig. 4 Total amount of European tea exported from Nyasaland, 1899-1960

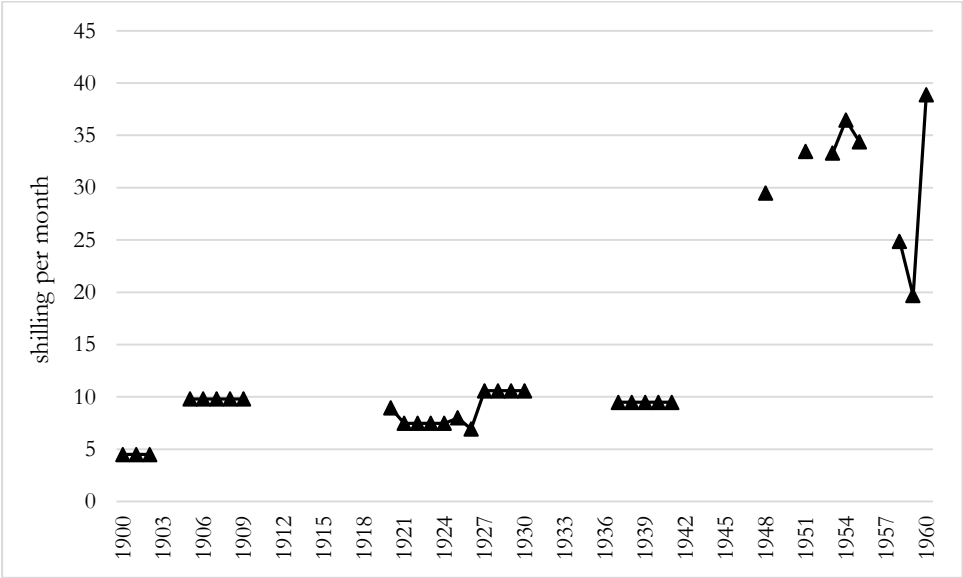


Source: Various colonial Blue Books.

Let us now take one step further and look at how the overall performance of the tobacco and tea sector relates to access and cost of labour. To what extent were labour shortages a real problem for the European settlers? One way of looking into that question is to look at how agricultural wages developed over time (fig 4). Before we look at the trends we must keep in mind that rural wages in Nyasaland throughout the period remained comparatively low. Differently from settler economies such as Southern Rhodesia and South Africa Nyasaland lacked a dynamic domestic market that could absorb large-scale estate production. Low wages were therefore the major incentives for settlers to invest in the colony (Palmer 1985a:235, Vaughan and Chipande 1986: 4). Starting from very low levels in the early 1900s, we see a slightly upward moving trend in wages paid to agricultural workers until the early 1920s. Does it signify a shortage in supply? We believe so at least to some extent and such an interpretation is in line with previous research and what we find in the colonial reports. Labour shortages were not caused by low population densities, but a general unwillingness of Africans to come and work on the European farms. After the early years, however, wages decrease again on overall remains low until the end mid 1940s which suggests sufficient labour supply, at least to the extent that wages could be kept low. This contradicts with previous research and the views expressed by the settlers. In 1927, for example, the Nyasaland Planters’ Association whose members consisted of both individual European

farmers and companies even argued that African farmers' engagement in cash crop production led to 'acute' labour shortages on the European farms (Palmer 1985b, see also, Chirwa 1997, Green 2013).

Figure 5: nominal average agricultural wages over time^a



^a the average wage paid to labourers in the tea and tobacco sector
 Source: Various colonial Blue Books

It could be that European farmers were struggling to make a profit and that is why they could not afford to pay higher wages. If that is the case, labour shortages could go hand in hand with declining wages due to the lack of resources on the side of the European farmers. To analyse this, we can look at how much of total profit in each sector was paid to labourers in the form of wages. Figures 5, and 6 show the results.

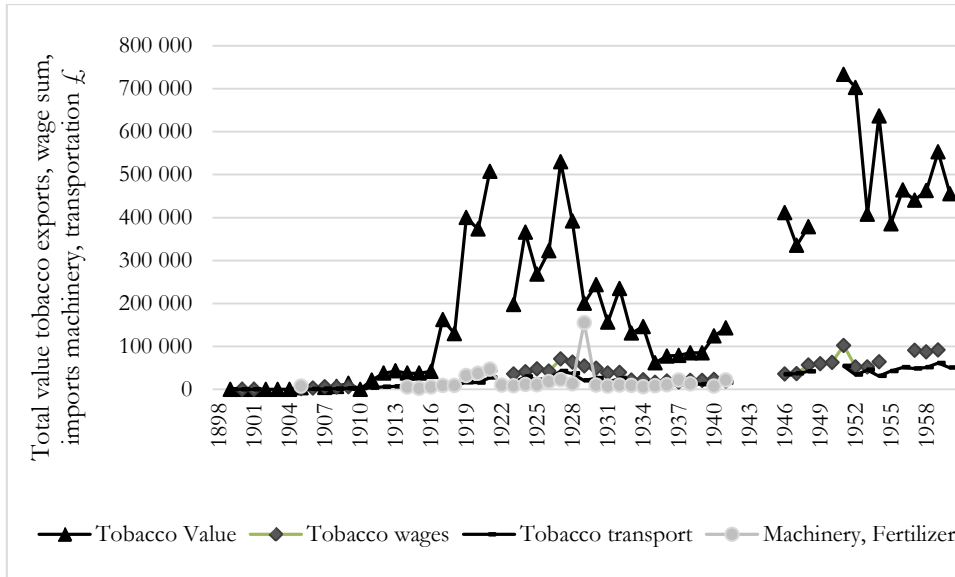
The total amount that both the tea and tobacco farmers paid to wages, the total wage sum, was indeed very close to the total profits from exports until the mid-1910s in tobacco and until the mid- 1930s in tea. The drop in nominal wages in the early 1920s as described above actually occurred after the profits in the tobacco sector increased. So it was not that the tobacco farmers could not afford higher wages which led to stagnating wages. In the tea sector in contrast, wages were a heavy burden until the mid-1930s, after which the tea sector took off in terms of profits and quantity exported (see also figure 3). This is not surprising considering the time gap between planting and mature tea plants. In Nyasaland it took four years before tea bushes were ready to

be plucked and twelve years before they came to full maturity (Palmer 1985a: 219). Further, tea cultivation demanded skilled manufacturing and processing at the spot, which meant that the Europeans had to make huge capital investments and find skilled African labourers. To build a tea factory in Nyasaland in the 1920s was calculated to cost eighteen thousands pounds and Palmer calculates (assuming a value of production of £50 to £60 per acre) that it would take a tea estate at least seven years to show returns on initial capital investments (ibid.).

The value of production of tobacco sharply decreased during the 1930s and especially the second half of that decade, the sector appears to be struggling to make a profit. However, the ratio of export earnings over the total of wages, imports of machinery and fertilizer and transportation costs was still nearly 2. From the 1940s onwards, the tobacco sector largely recovered as the increasing wage gap clearly indicates. The tea sector began to take off from the mid-1930s. Until 1952 there was a continuous increase in the value of tea exported – with the exception of 1947. The picture after 1952 is distorted as we could not find price information available after that year. So we used the average price for tea for the 1940s to calculate the total value of tea produced in (and exported from) Nyasaland. This most likely caused the sharp drop in the value of tea exports in 1953 (as prices in 1950-1952 were very high). Moreover, the increasing trend from 1953 onwards is now only driven by the increase in quantity exported, as the price we used to calculate value remained constant.

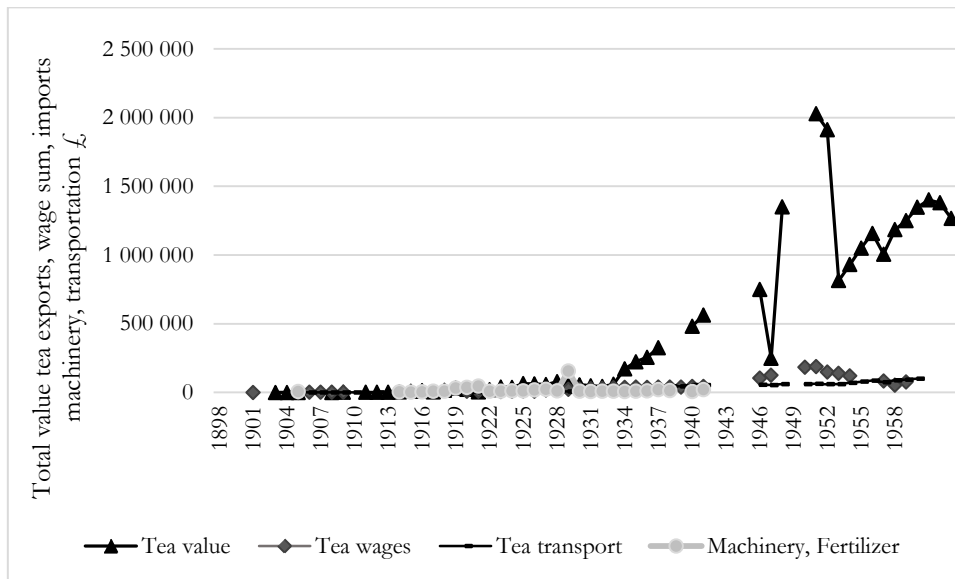
Even though wages also sharply increased in the 1940s, value exported increased faster in both sectors although more so the tea sector than in the tobacco sector. Over time, the farmers in both sectors were able to capture an increasing share of the rent over time. That is, the relative bargain power of the European settlers and companies seems to have increased significantly in the late-colonial period.

Figure 6: Total profits, total amount paid to wages and imports of machinery in the tobacco sector



Source: various Blue Books

Figure 7. Total profits, total amount paid to wages and imports of machinery in the tea sector until 1960¹⁶.



EXPLAINING CHANGES IN WAGES AND WAGE SHARES

¹⁶ For more details see appendix figure **

Let us now relate these findings to colonial policies and examine how important colonial authorities were in determining the wage cost that the European farmers faced.

Let us first discuss the low nominal wages 1920-1940s. Could it be that the colonial government implemented policies to keep wages low? Our findings suggest that the colonial authorities had limited powers to directly affect wage costs. The colonial authorities' take on European farming and their 'right' to cheap labour was from the very beginning ambiguous. They were officially criticizing the European settlers already on the early 20th century for exploiting labour, although their complaints mainly dealt with tenancy contracts.¹⁷ Meanwhile, the colonial authorities did implement policies aimed at facilitating Europeans' access to indigenous labour in the early colonial period. In 1901 a differential tax rate was introduced. Africans who worked on estates paid three shillings per month, while the others had to pay six shilling per month (Baker 1975). The effectiveness of this system is difficult to estimate because of lack of sources. However, it is clear from fig 4 that the tax system did not help reducing wages.

The Europeans initially struggled to gain access to indigenous labour. The latter was for various reasons not prepared to supply their labour to the Europeans, one of the more obvious being the similar agricultural cycles on the European and African farms, meaning that European demands for labour coincided with the need for Africans to stay and work on their own farms. Relying on local labour was therefore associated with structural problems, not necessarily leading to chronic labour shortages as stated by a number of historians as well as in the colonial reports, but seasonal variability in labour supplies (Chirwa 1997: 527-529, Kettlewell 1965: 265). In the early 20th century the European farmers, pre-dominantly engaged in tobacco production tried to extract as much labour as possible from their tenants as a strategy to keep labour costs as low as possible. However, the number of tenants was not enough, but had to be supplied with various forms of wage labourers. The introduction of the differential tax system was a necessary but not

¹⁷ In 1903 the colonial authorities even took a European farming company in the Shire Highlands to court alleging the company for having illegally entered land deals and had negotiated labour-tenancy arrangements which ignored the terms of the non-disturbance clause. The Judge ruled in favor of the colonial administration. He noted that the plantation owner's main concern was not to extract land rent, but to assure sufficient supplies of labour. The colonial authorities reacted by setting up a Land Commission whose findings confirmed the judge's conclusions. The commission found that the estate owners did nothing to provide their African inhabitants with sufficient land and that labour tenancy was subject to all sort of abuses (Green 2013: 239-240). The settlers, on the other hand, complained about their lack of control over tenants as they complained to the colonial authorities that the tenants tended to spend more time in their own gardens during the critical planting season (Chirwa 1997: 530).

sufficient condition for the Europeans to attract Africans to work on the farms as temporary labourers.

The differential taxation system, whereby farmers working on African land paid more than those working on estates, was abolished in 1921 when a flat tax rate of 6 shillings was introduced. The taxation policy was changed just as African production of cotton and dark-fired tobacco started to expand (Baker 1975:52). The support of African farmers, although modest in financial terms, continued throughout the 1920s and 1930s as the colonial authorities once and for all abandoned the dream of developing Nyasaland into a settler colony (Green 2009).¹⁸ In 1934 it was concluded that '[...] the government must make it clear for the Native Authorities that they want to see the acreage under economic crops to increase.'¹⁹ At a conference of colonial directors of agriculture it was stated with regard to Nyasaland that '[b]ut the latter fact – native peasants farming under close European supervision, is a characteristic that seem exclusive to Nyasaland'.²⁰ A number of measures were taken in the 1920s and 1930s to facilitate African commercial production at the expense of European farming. One of the most important was the Land Ordinance of 1928. The latter facilitated the transition from labour tenancy to share-cropping by stating that 'resident natives' had to be offered work at the usual market rate or be given facilities to grow cash crops (Chirwa 1997: 273).

Following the changes in colonial policies, i.e. the abolishment of the differential tax system and the support of African commercial agriculture, one would expect nominal wages to increase. Yet, figure 5 shows stagnating wages. The reason is that the supplies of labour increased significantly, not as a direct effect of domestic colonial policies but changing regional mobility patterns. As mentioned above, the Lomwe people had emigrated from Portuguese East Africa to Nyasaland from the early 20th century. In the initial years most of them settled on African lands, where they were often welcomed as long as they were prepared to provide labour services to the chiefs in exchange of land (Green 2005: 99ff). However, by the 1920s the population densities on African lands in the southern region had reach such levels that it became difficult to accommodate for more immigrants. In 1926 it was reported that the inflow of Lomwe people to the southern

¹⁸ By 1937 it was calculated that about 178 000 African households in Nyasaland were dependantdependent on cash crops as their major source of income, which accounted for about 30 percent of the African population, and is about the same amount as the number of households that depended on wage laboring on the European farms. See MNA *Malawi Population Census 1966*, National Statistical Office, Government of Malawi, Public Records, PRO CO 525/182/44176 Nyasaland Protectorate Annual Report on Native Affairs, 1937

¹⁹ MNA S1/411C733 Circular 15, Production of Native Economic Crops, 1934

²⁰ MNA 51/1058/30 Conference of Colonial Directors of Agriculture 1931

region of Nyasaland was so great that it ‘depleted the area available for the needs of the indigenous population’ (quoted in Chirwa 1994: 541). Consequently, the immigrating Lomwe people were left few options than to provide labour services on the European estates, something they earlier had been reluctant to do. Initially they settled on the estates as tenants, but by the 1920s an increasing number were employed as migrant labourers (Chirwa 1997: 529). The colonial authorities’ role in this was limited. They neither tried to discourage or facilitate immigration of Lomwe.²¹

Nominal wages sharply increased in the mid -1940s, which seems to have been a general trend in Southern Africa.²² The expansion of both tobacco and tea production required a further increase of labour inputs. Meanwhile, two developments reduced the supplies of local labour. First, in 1935 the South Africa lifted the ban imposed in 1913 on the recruitment of “tropical workers”. In practice it meant that the Witwatersrand Native Labour Association now was granted the right to actively recruit labour in Nyasaland. A year later, a Tripartite Labour Agreement was signed with Southern and Northern Rhodesia, which, to quote Chirwa gave ‘recruiters from these countries almost unlimited success to Nyasaland labor’ (1994: 546). People in Nyasaland, especially from the northern regions, had migrated to South Africa and Southern Rhodesia for decades, but upheaval led to a significant increase of people leaving Nyasaland. A new phenomenon was the increased number of people from the southern part of Nyasaland that emigrated. We lack reliable estimates as most people that migrated continued to do so under the radar of the colonial authorities. However, in 1937 the European farmers in Shire Highlands managed to persuade the colonial authorities to set up a committee to investigate the effects of emigration for the European farms. The Committee’s report stated that recruiters from South Africa and Southern Rhodesia was active in the region and that they were so successfully recruiting local labourers to an extent that it had it in the future would have an impact on the output of European farms (Palmer 1985b: 233).²³

²¹ The authorities was aware of the crucial role the immigrants played as farm labourers (see above), but had already in the early colonial period forbidden organized recruiting after a scandal involving mistreatment of immigrant labour by two recruiters (Chowar 1994: 533-534).

²² We see the same developments in Southern Rhodesia, where rural wages began to increase in the 1940s. Note that the figures for Southern Rhodesia include real and not nominal wages (Mosely 1983: 158-160).

²³ The incentives for the African population to migrate were strong. In 1946 it was calculated that a mineworker in South Africa could earn between £3 and £5 per month, which could be compared with the minimum wage in Nyasaland that was 35 shillings. MNA NNM 1/10/10 Memorandum on land tenure in Mzimba, prepared by J. H. Ingman, Secretary of Nyasaland Land Commission

Meanwhile the continued increase of Africans to engage in cash crop production was also affecting supplies of indigenous labour. The post-war period was marked by colonial authorities actively began to transfer public resources to African agriculture, by investing in agricultural extensive services and market infrastructure, making it even more profitable for Africans to engage in commercial agriculture instead of supplying labour to the Europeans (Green 2009). Chirwa estimates that an African farmer growing tobacco on fertile land could earn around 10-12 pounds annually, while farmers with access to less fertile land could earn between 1 to 4 pounds annually (ibid.: 271-272).²⁴ The former was more than twice the annual wage of an ordinary estate labourer while the latter was just above the average wage. Thus there were limited incentives for Africans to choose farm laboring before cash cropping. This was not only a phenomenon in Nyasaland. In most of British Africa did European settlers experience a decline in local labour supplies as African seized the opportunity of the global post-war boom and expanded their production of cash crops (Berg 1961: 482).

Differently from the early colonial period the wage increases from the 1940s did not pose a serious threat to the profitability of the tea and tobacco sector. The turbulent inter-war period with significant fluctuations in world market prices and recurrent overproduction crises in the African colonies were over as the world enter three decades of sustained growth in the post-war period. Profits increased faster than wages, which meant that the wage shares declined. In other works, the settler farmers managed to capture a larger part of the capital rent over time. The main determinant for these developments was the international prices for tea and tobacco. In both case prices increased significantly in the 1940s and first half of the 1950s (Jacks 2013: 48). The favorable conditions on the world markets still enabled the European farmers to capture a larger part of the rent despite decreasing supplies of local labourers and a colonial state that actively took measures to prevent further expansion of the settler economy. In 1965 the former Director of Agriculture in Nyasaland, confirmed that both the tea and tobacco estates had benefitted from the post-war developments and that the expansion of European agriculture in the 1940s and 1950s could not be explained by colonial policies (1965: 252ff).

CONCLUSION

²⁴ Chirwa does unfortunately not specify land sizes or labour input or he provides any references to the estimates. However, his calculations are partly supported by findings from Thyolo district, (Green 2008).

The historical role of European farming in southern and central Africa is a delicate matter that has received a great deal of attention among scholars over the years. Going through this vast literature a striking consensus emerges: success or failure of European farming in southern Africa was too a large extent depending on their access and control over labour. Control over labour ultimately depended upon non-economic measures, which could only be upheld by the support of the colonial state. What is missing in the literature to support these arguments is a link between the overall performances of the European farming sector and average labour costs for the sector. In this paper we have aimed to fill this gap by measuring wage shares on European farms. Using Nyasaland as our case in point we have shown that the wage shares for European tobacco and tea farms were high in the early colonial period, but then declined significantly declined from the 1930s to the late-1950s. Our findings suggest that domestic colonial policies i.e. land distribution and taxation played a minor role in shaping institutions that guaranteed Europeans farmers must be placed understood in a regional and global context. The latter determined value of output, while regional mobility of Africans had a significant impact on labour supplies on hence wages.

Our findings are not surprising. Nyasaland was one of the poorest colonies in the poorest region in the world. To assume that the colonial authorities had the capacity to direct developments in desired direction given these circumstances make little sense. For colonial Africa in general and settler colonies in particular we believe that both current and past research is exaggerating the role of politics. The colonies were not isolated units but had to adapt to regional and global circumstances. In some cases the adaption was more successful than others depending on local circumstances, like the political strength of the colonial authority, ecological conditions and socio-political developments. However, we believe that it is reasonable to conclude any analysis of long-term economic development in colonial Africa must be begin with understanding factor endowments from a local and regional perspective and how the colonies were integrated and integrated in the global economy.

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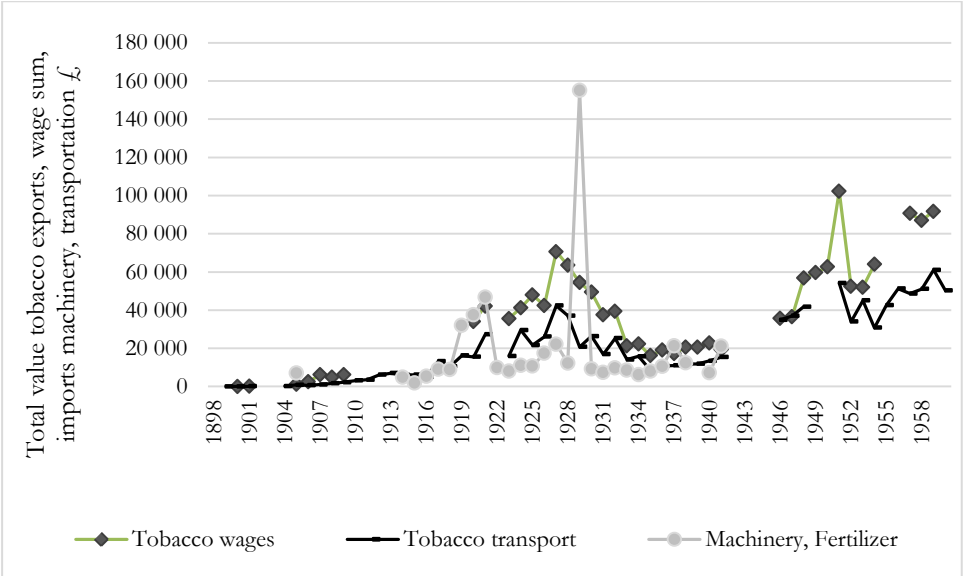
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Appendix figures

Figures 6 and 7 shown in the text display the difference between the total value of both tobacco and tea exported and the amount of money spend on respectively wages, imports of fertilizer and machinery, and transportation. Because this difference is especially for the latter half of the colonial period quite substantial, all variation in the three cost components is minimized. To show the variation over time in the wage sum, the total value of imports of machinery and fertilizer, and transportation costs, we here present figure 6 (tobacco) and 7 (tea) without the total export value.

Total amount paid to imports of machinery and transportation in the **tobacco sector** until 1960



Total amount paid to imports of machinery and transportation in the tea sector until 1960

