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Labour, capital and property rights in a land abundant peasant economy: Explaining the relative success of Native Purchase farmers in Southern Rhodesia, c. 1930-1960

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Labour, capital and property rights in a land abundant peasant economy - explaining the relative success of Native Purchase farmers in Southern Rhodesia, 1930-1960s

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ABSTRACT

The lack of secure property rights has been identified by a number of economists – past and present – as an obstacle for long-term growth of output of African farming. The foundation for such a claim is that insecure property rights hinder long-term capital investments. Although the observed infrequency of private property rights in African history is correct there are exceptions. This paper examines one of these exceptions, namely the so-called African Native Purchase farmers in colonial Zimbabwe (Southern Rhodesia from here). The Native Purchase (NP) farmers consisted of a group of Africans that were allowed and able to buy land in specially designated areas. In this paper we analyse the performance of the Native Purchase farmers from their establishment in the 1930s up to 1960, both in terms of output and yields. At first glance, it seems like our case verifies the economic view taken by the proponents of secure property rights. We show that the average NP performed far better than the average African farmer in the Reserve (known as communal land/area after Zimbabwe's independence in 1980). Differently from what one would expect from conventional economic theory the chief differences between the NP and Africans in the reserves was not only capital, but also labour intensity. NP farmers applied more labour-intensive methods than the average farmer in the so-called Native Reserves. Grounded in the factor endowments literature and the concept of interlinked contracts we argue that the relative success of the NP farmers in Southern Rhodesia was largely an outcome of their capacity to use their control over land to access additional labour through share-cropping and tenancy contracts.

Keywords: Capital, land, labour, Native Purchase farmers, property rights, Southern Rhodesia, Zimbabwe

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INTRODUCTION

Well-defined and secure property rights system (read private property rights) is in ‘new’ institutional economic history and economics often identified as a key institution in enhancing long-term economic development (North and Thomas 1973, North 1990, Feder and Feeny 1991, de Soto 2000 Acemoglu et al. 2004). The argument is that secure property rights create incentives for capital investments by reducing the risk of getting the land confiscated. In light of this it comes as no surprise that a number of scholars have identified insecure property rights as an obstacle for long-term growth of agricultural output in Africa – past and present (see Platteau 2000 for an overview). Meanwhile, the empirical foundation for these claims has remained inconclusive. Research on individual programs aimed at strengthening tenure rights in Africa through land titling show that the results were at best mixed. In most cases they failed to achieve their expected goals in terms of boosting agricultural investments and productivity (Migot-Adholla 1993, Place and Hazell 1993, Ensminger 1997). The meagre results of the programs have been explained in various ways, e.g. widespread corruption or that land markets have remained ineffective and thin (Collier 1983, Bates 1989). Another set of arguments are based on the notion that property rights in Africa – guided by customary law – is and has not been as insecure as some economists have argued (Bruce and Migot-Adolla 1994, Ensminger 1997, Platteau 2002).

In this paper we contribute to the debate on property rights and agricultural development by zooming in on an exceptional case of land tenure reforms in rural Africa, namely the African Native Purchase Areas (NPAs) in colonial Zimbabwe (Southern Rhodesia from here). The NPA stands out for three reasons. First, NPAs differed from other titling programs by giving the farmers complete freehold rights over land in locations outside customary jurisdiction. Second, to become a native purchase (NP) farmer one had to meet certain liquidity targets and have the means to buy the land. Lastly, and most important, the NPA farmers did perform significantly better than the farmers working on customary land in the so-called Native Reserves. How can we explain this rare case of ‘success’? Following the proponents of secure property rights, it looks like the NPA epitomizes a case of private property rights boosting agricultural development. The fact that the NPA was a resettlement scheme, i.e. NP farmers moved either from the Native Reserves or European land into the NP areas, gives further support to this explanation. A number of scholars have pointed out that the risk of asymmetric information is

larger in newly settled areas. Under such conditions private property rights may be necessary for farmers to be able to obtain credit (Feder and Feeny 1991, Moor 1996).

If the proponents of private property rights are correct, we should expect NP farmers to employ a more capital-intensive mode of production compared to the average farms in the Reserves where property rights were regulated by so-called customary law. This was in part also the case. Compared to the average farmer in the Reserves the NP farmers invested more in agricultural equipment and machinery. Still, the major difference was not share of capital in the production process, but hours worked. NP farms spend significantly more working hours on farming than the average farm in the Reserves. Thus, rather than just shifting the production function upwards through technological change/improvements, they combined this with land intensification by adding more labour at diminishing rates of return. This calls for a revision of the secure-tenure literature, especially in a context of labour scarcity, which characterized Southern Rhodesia throughout the period studied here. While agreeing that property rights mattered in this case we disagree with the proposed transmission channel. We argue that private property rights enabled the NP farmers to perform above average, not by substituting labour for capital but because the tenure regime allowed them to access additional labour needed to pursue land-intensive growth.

To account for the performance of the NPA we take our starting point in the literature that links institutions to factor endowments. This literature claims that the efficiency of certain economic institutions is determined by factor ratios. In the case of Africa land abundance has, for example, been used to explain why private landed property rights have been rare (Austin 2008, Platteau 2000). If land is abundant and free for all to use, people would invest in farming rather than selling their labour on the market. To attract additional workers a farmer needs to offer wages on levels that it would eat up any profits. This is in essence following the logic of neo-classical economics. A move towards stronger and more secure property rights will only occur when land is becoming physically or ‘artificially’ scarce (Austin 2014, Green and Norberg 2018). Given that land was in abundance and labour scarce in the NP areas (see below) it is far from obvious why farmers would be willing to spend the substantial amount of money to buy the land. Yet, people with sufficient means and skills decided to resettle in the NPA areas where they over time established relatively successful farming enterprise. To explain this, we take our point of departure in the notion that the NP farmers’ production function remained a two-factor

one, where levels of accumulation are conditioned by previous year labour input (see Austin 2008). With this in mind we suggest a modification of the factor endowment approach, by arguing that under certain conditions private property rights in a land-abundant economy enable the farmer to access the factor of production that is scarce; labour. This because the land market is interlinked with the labour market.

Interlinked (or interlocked) factor markets is a concept that describes the simultaneous fixing of transactions in more than one market (Ellis 1998, see also Feder and Noronha 1987). It is often used to explain tenancy and share-cropping contracts, where for example transactions in land are connected to transactions in crops, labour services and/or credit. We argue that being able to buy relatively vast tracts of land enabled the NP farmers to access a larger labour pool by attracting migrants – both relatives and non-relatives - to settle on the NP farms. In exchange of land, the immigrant provided labour service and/or crops to the NP farmer and thereby enabling him to more efficiently exploit his land. This is why the NP farmers on average performed better than the average farmer in the Native Reserves.

Our paper is structured as follows: We begin with a brief background of the rise of NPAs in Southern Rhodesia. The second section focuses on the performance of NP farmers. We then compare the production systems of an average NP farm with an average communal farm with focus on capital and labour inputs in the third section. In the fourth section we analyse the role of landed property rights for the success of NP farmers. We argue that these gave the NP farmers an increased ability to increase the total hours worked on the farm, by attracting additional labourers. This allowed for increased output through a shift to a more labour-intensive mode of production. In the final section we conclude that the success of the NP farmers stemmed from their ability to combine a shift upwards in the production function through technological change/improvements, with land intensification by adding more labour at diminishing rates of return.

THE RISE OF NPAs IN SOUTHERN RHODESIA

The creation of the NPA was a political move, which explicitly differentiated freehold among Africans from the same pattern of land tenure among Europeans. The original concept of the NPAs was due partly to political expediency and partly to the genuine belief by the Government

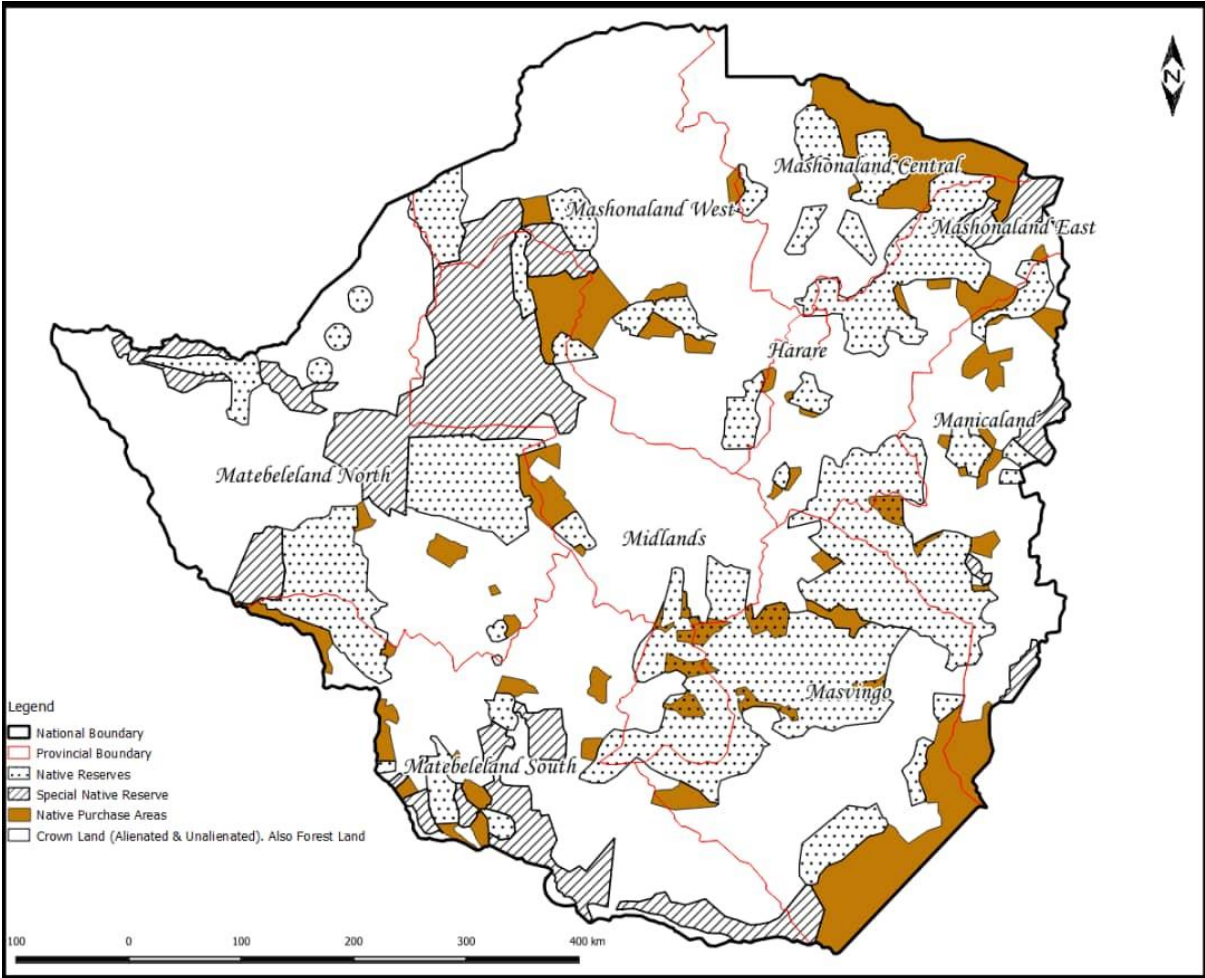
that selected African farmers could successfully be introduced to a system of freehold land tenure. African farming played an important role in the early colonial Southern Rhodesian economy. Africans were the main supplier of food to the growing mining and urban centers. By 1904, Africans produced more than 90 per cent of the country's marketed output (Arrighi 1966, Phimister 1988). During World War One Southern Rhodesia became more isolated and the domestic market contracted. Despite these developments parts of the African population continued to do relatively well. The Chief Native Commissioner (CNC) reported in 1919 that 'although no figures are available showing the exact amount contributed by the native in indirect taxation through custom dues, the indications are that the importance of the native as a consumer of imported goods is increasing, and that there is a growing native demand for better class articles' (cited in Andersson and Green 2016, p. 135). In the CNC Annual Report from 1920, it was stated that 'in the more prosperous districts the enormous prices do not appear to have prevented the natives from purchasing what they required, and the Superintendent of Natives, Bulawayo, writes –“In the same district (Bubi) ploughs are reported to be almost universal; in Matobo there is now a plough for every twelve souls of the population; in Bulalima [Bulilima-Mangwe] fully 1,000 ploughs were purchased at the enhanced price of fully 100 per cent”' (cited in Andersson and Green 2016, p. 135).

As the European farming sector took off in the inter-war period concerns were raised among the white settlers that vibrant African commercial farming was threatening their further developments (Andersson and Green 2016; Nyandoro 2007). European farmers began to pressurize the authorities to further tighten Africans' access and right to landed property. The colonial authorities, however, remained reluctant to consider the idea of complete institutional segregation of landholding rights between Europeans and Africans simply because they knew that the Europeans were depending on the labour provided by the Africans residing on European-controlled land (Green 2016, Nyandoro 2019). This is partly why the Land Commission of 1925 recommended a compromise, namely that land areas should be set aside specifically for Africans who wished and had the means to buy agricultural land under freehold title, so-called Native Purchase Areas (Moyana 1984; Floyd 1972; Gann 1963; Rifkind 1972; Nyandoro 2012). After debating the issue for nearly five years the NPA was formally recognized by the authorities under the Land Apportionment Act (LAA) of 1930/31. The Act, which legalized the division of the country's land and water resources between black and white,

made provisions among other things for wealthier Africans to buy land in the NPA (Shutt 1997; Nyandoro 2019). The adoption of such provisions was no less an admission by the colonial government that the rise of an African rural bourgeois class was inevitable (Nyandoro 2019).

In total, 7.4 million acres was set aside as NPA in the period 1931 to 1962 (see Map 1)

MAP 1: NPAs, Reserves and Crown Land in Southern Rhodesia, 1931-1962



Source: Adapted from Native Department, Reproduced by H.A. Cartography, April 2020.

Unsurprisingly the group of African farmers buying land in the 1930s were early recruits to the NPAs and these tended to be over-represented by relatively wealthy Africans, such as chiefs’ families and successful businessmen (Pollack, 1975: 265). Purchasing land required access to capital. While Europeans that bought land only required a deposit of 5 per cent and were allowed 19 years to repay, the Africans had to pay a deposit of 10 per cent and pay the balance

within 10–15 years. According to Palmer (1977), this implied that the prospective NP farmer was required to have accumulated between £10 and £100 in cash, cattle or small stock, which at the time was a substantial amount of money/wealth (Palmer, 1977: 213–214). It was initially believed by the authorities that only a very small number of Africans of this middle-class category with abundant land resources relative to labour would have the resources or incentives to move to the NPAs (Punt 1979; Shutt 1997; Nyandoro 2007). The authorities seem to have been correct in their initial predictions, as the number of applicants remained low in the 1930s. According to Palmer (1977) and Nyandoro (2007), however, a chief reason for the lack of interest among Africans to buy land was not that they lacked the means. Instead, it was an effect of the allocated land being on average inferior and lacking reliable water sources and being located far from major markets.

By the end of the 1930s things were about to change. The number of NPA farmers increased significantly and they bought up vaster tracks of land. Evidence of the increase in number is seen in that in 1940 there were 2,022 Native Purchase Farms, but by 1955 the number had increased to 9,244 while there were more than 5,000 Africans on the waiting list to become NPA farmers (Duggan 1980). The calculated average NP farm size was between 200–250 acres depending on area, but sometimes it ranged from 80 to 400 acres (Cheater 1984, 39; Johnson 1964, 216). This could be compared with the average farm size in the reserves, which approximately was between three (3) and 10 acres of land (Machingaidze 1991; Nyandoro 2007).

THE PERFORMANCE OF NP FARMERS

After the establishment of the Purchase Areas in 1930, eleven (11) years passed before any official mention was made of agricultural practices in these areas (Cheater 1984, 7). It appeared the farmers did not generate much productive surplus because, at the beginning, land was primarily perceived as a security resource. In 1942 the Native Land Board noted in its annual report that no more than a third of the farmers had adopted improved agricultural techniques such as applying manure, compost or following a crop rotation plan. Erosion and overstocking were causing concern to some officials, but the tone of this report does not convey any serious anxiety (Cheater 1984, 7).

Subsequent reports voiced similar reservations about production techniques and output, but it was not until 1948 that the Native Land Board became more selective in its allocation of farms, ‘discouraging applications by Natives with no agricultural background’ (Cheater 1984, 7-8). In 1953 a recognized agricultural training became a prerequisite for all applicants for farms (Cheater 1984, 8). This training itself was, however, hardly tailored to the requirements of managing a 200-acre farm or more, since it was designed for the communal producer working up to 10 acres, and emphasized crop rotations and manure applications rather than management decisions (Cheater 1984, Rukuni 1990). In addition, to become an NP farmer one now had to not only have enough financial means to buy land, but also be in possession of £300 above the purchase price of the farm and a Master farmer certificate (Duggan 1980).

While it may have been true that most of the selected NP farmers in the early years mainly used land as security rather than as a source to accumulate wealth this had all changed by the 1950s. Table 1 shows the estimates of average maize yields in NPAs and Native Reserves in the 1950s. The estimates reveal that the NP farmers performed significantly better than the farmers in the Reserves did.

Table 1: Estimated maize yields per acre (203 lb bags) in Native Reserves and NPAs, 1951-1958

Year	Total production: Native Reserves (203 lb bags)	Average yields (bags/acre)	Total production: NPAs (203 lb bags)	Average yields (bags/acre)
1953	5,734,900	2.3	260,400	3.3
1954	5,798,225	2.2	294,213	4.1
1955	5,861,550	2.1	320,000	3.5
1956	5,924,875	2.0	474,254	4.7
1957	5,988,200	1.9	N/A	4.1
1958	6,051,527	1.8	430,278	3.5

Source: Andersson and Green (2016)

We need to treat these estimates with a great deal of caution as they are averages. The performances of farmers varied significantly across time and space as well within the Reserves and the NPAs, although lack of estimates prevents us from studying these variations in any

great detail. To get a more in-depth understanding and picture of the differences between Native Purchase Farms and the farms in the Native Reserves we can make use of Massell and Johnson's (1968) detailed comparison between the performances of the Mount Darwin NP area with Chiweshe Native Reserve in Mashonaland Central Province.

In 1960/1961 NP farmers in Mount Darwin produced nine times as much per farm, and sales were 150 times as high as those of the combined value of production of maize, groundnuts, and millet from the Chiweshe Native Reserve. Part of the gap in output is explained by differences in farm sizes, these being significantly larger in the NPAs. However, the yield gap remains significant after controlling for land size. The NPA farmers were, on average, almost four times as productive (measured in value of yields per acre) compared to estimates of master farmers in the Chiweshe Reserve (Massell and Johnson 1968). The gap could also be an outcome of different agro-ecological conditions.

Unlike most reserves, Chiweshe Reserve was in a fertile and favourable agro-climatic region where farmers planted their crops on sand and red loam soils with higher yields recorded on red loam than on sand soils. Darwin NP possesses four distinct soil types namely brown sand, black cotton, clay and red loams. The average yield on each type varied but was not significantly higher than in Chiweshe. The difference in yields cannot be in the intrinsic fertility of soils, but in that the Chiweshe Reserve has been cultivated by a big population for a greater number of years with inadequate soil conservation. By contrast, the Darwin NP farms were settled more recently on 'virgin soil' that was more fertile than in Chiweshe, hence their greater productive capacity (Massell and Johnson 1966). Population pressure and levels of soil exhaustion rather than the quality of the soils can explain part of the yield gap between the two districts.

While the NP farmers performed well above the average in terms of yields per unit land, concerns were every now and then raised that the productivity levels of the NP farms were below their potential. Concerns were raised that the NP farmers had not fully embraced the extension education, which some farmers resisted as a colonial prescription. (Dunlop 1970; Hunt 1960; R. W. M. Johnson 1964; Matondo 1970; Paraiwa 1970, 1972). Others provided a more optimistic account on the farming methods applied by the NP farmers. Scoones, for example, claims that at least some NP farms, especially in Mshagashe in Masvingo Province

operated as profitable commercial enterprises (Scoones et al 2018). Although we lack reliable estimates the NP farmers seem to have continued to perform well in the 1960s. Reports spoke of a marked improvement in productivity in areas where there was ‘a swing towards cash crops and improved livestock management’ and in areas ‘where effective extension effort [was] applied’ compared to the Reserves.³ The colonial Director of Native Affairs, R. M. Davies (1969, 21-22), was impressed by NP performance as they increasingly invested in more productive capacity. He observed that:

The gap between the high standards applying mainly to the European farming sector and the farming activities in the Purchase Area [was] being significantly narrowed ... factors such as the lack of access to credit and the shortage of supervision and guidance which, in the past, seriously retarded the development of these areas [were] no longer obstacles to real progress.

While ecology and soil exhaustion can explain part of the yield gap it is not the only reason why NP farmers performed well in comparison with the farmers in the Reserves. It was also a consequence of different farming systems, whereby NP farmers used both capital and labor more intensively. While the former is in line with our expectations the latter is somewhat surprising and requires further investigation.

Labour and capital on NP farms

An average NPA farmer faced land abundance, relative abundance of capital but labour scarcity. Population densities varied between the different NPAs, but in 1936 the average population density was 2 people per square kilometer. In 1958 the average population density was just 6,6 people per square kilometer (Floyd 1962 Roder 1964). From a factor endowment approach it seems that access to labor posed the greatest challenge for the NP farmers, given, the relative abundance of capital and secure property rights one would hence expect the NP farmers to invest in labour saving technologies to improve their land and increase output. ,

Generally, data on agricultural inputs among NP farmers is scarce to say the least. Inputs on NP farms were not systematically recorded in the statistics and we therefore had to rely on scattered

³ National Archives of Zimbabwe (Records Centre), hereafter NAZ (RC), Purchase Areas ICG5 vol. 3, no. 2, ‘Report of the Rural Land Board (RLB) Committee on Productivity Problems in the Native Purchase Areas’, Box 129755, Location 28.2.8R, 1969-1971, 1.

evidence from individual farms and more-in-depth surveys. Massell and Johnson's cross-sectional comparison between Chiweshe Native Reserve and Darwin Native Purchase Area again provide us with useful insights in this regard. Table 2 shows the prevalence of the most common farm implements in the two areas in the mid-1960s.

Table 2: Farm Implements in Darwin and Chiweshe

Implement	Average Number Per Farm		Percentage of farms with at least one	
	Chiweshe	Darwin	Chiweshe	Darwin
Single furrow plow	1,04	1,7	100	100
Disc plow	0	0,05	0	5
Ridge plow	0	0,05	0	5
Double furrow plow	0	0,05	0	5
Planter	0,02	0,7	2	70
Cultivator	0,77	1,6	83	100
Simple harrow	0.29	0,9	27	85
Disc harrow	0	0,05	0	5
Sheller	0,02	0,25	2	25
Scotch cart	0,21	0,85	25	85
Water cart	0	0,15	0	15
Mower	0	0,05	0	5
Tractor	0	0,1	0	5

Source: Massell and Johnson (1968, 18)

As Table 2 shows, NP farmers used more sophisticated and more varied farming equipment, which is in line with expectations. The NP farmers belonged to a group of relatively wealthy Africans. Given this, the interesting question is not if the NP farmers invested more in their farms, but if they invested in order to save labour, the presumable scarce factor of production.

One way of looking into this is to compare working hours. Table 3 shows the total hours worked in the Darwin NPA and the Reserve in Chiweshe. It reveals that the farmers in the NPA were allocating significantly more working hours compared to the farmers in the Reserve. On average the NP farmers spent five times as much time on farming activities. The significant difference in hours worked was, in part, an outcome of variations of landholding sizes. The NP farms were

much larger than the farms in the Reserves. To control for that we compared hours worked per acre. The estimates are presented in table 4.

Table 3: Total hours worked per crop in Chiweshe and Darwin

Crop	Chiweshe	Darwin
Maize	610	2666
Groundnuts	310	1833
Millet	198	587
Total	1107	5096

Source: Massell and Johnson (1968, 22)

Table 4: Hours worked per acre, crop and operation in Chiweshe and Darwin

Operation	Corn		Peantus		Millet		Total	
	Chiweshe	Darwin	Chiweshe	Darwin	Chiweshe	Darwin	Chiweshe	Darwin
Manure application	6,73	18,55	0	0	0	0	6,73	18,55
Plowing and planting	15,79	20,35	37,89	42,12	25,47	14,24	20,01	24,7
Weeding, transplanting and cultivating	34,49	66,25	64,79	75,66	79,37	77,14	43,62	70,07
Harvesting	19,87	68,17	98,22	215,76	61,06	109,37	36,45	107,81
Total	76,88	173,32	200,90	333,54	165,90	200,75	106,81	221,17

Source: Massell and Johnson (1968, 23)

The gap between the average African farmer in the reserve and the average NP farmer is reduced if we measure working hours per acre, but the NP farmers in Darwin still used twice as much labour than the average African farmer in Chiweshe per acre.

Massell and Johnson's survey further shows that the African farmers in the Reserve in Chiweshe relied solely on family labour (see Table 5). All members of the family contributed, including the children, and women in general spent more hours in the fields than the men. Family labor, including child labor, constituted the main share of labour inputs on the NP farms as well. The importance of child labour on NP farms is further supported in a survey conducted by the Ministry of Agriculture in the mid-1960s. The findings should, just as the estimates presented in the tables above, be treated with caution as the small sample size is by no means statistically representative. Having said that, in areas like Mshagashe (Masvingo), Zowa and Chitomborwizi (Mashonaland West), and Chesa (Mount Darwin, Mashonaland Central)

children were recorded to work more hours in tending crops and cattle than any other labour category, their contribution accounting for 24% and 35% respectively.⁴

While family members constituted the main source of labour for the NP farmers in Darwin, they differently from the farmers in the Chiweshe Native Reserve also employed hired labour and ‘social labour’ as table 5 reveals. Massell and Johnson define the latter as all forms of additional labour accessed via social networks and not markets, i.e. reciprocal labour arrangements, help from friends and relatives etc. Hired and social labour on NP farms only accounted for about 3.8 percent of the total hours worked. One could therefore conclude that the most notable difference between the NP farmers in Darwin and the farmers in Chiweshe was not the reliance on additional labour, but hours worked by family members. The data reported by Massell and Johnson, however, needs to be qualified. Looking at the reported total hours worked by men and assuming that an NP farm was managed by a nuclear family lead to unrealistic estimates. Dividing the total hours by 52 weeks shows that on average men worked on the farm for more than 40 hours per week. For women the figure is even larger, i.e. on average nearly 50 hours per week throughout the year. Given the seasonal fluctuations in labour demand and hours needed on domestic work and agricultural related activities like transport and marketing we believe that Massell and Johnson’s estimates overestimate the hours that the husband and wife spent on the farm. Or, put differently, the recorded hours worked by men and women includes people outside the nuclear family constellation. It includes, we argue, extended family members who migrated to the Native Purchase Areas to provide labour service in exchange for land. This group of migrants enabled the NP farmers to move towards more labor-intensive farming.

Table 5: Hours worked per farm by labour group and crop

Crop	Men		Women		Children		Hired Laboures		Social	
	Chiweshe	Darwin	Chiweshe	Darwin	Chiweshe	Darwin	Chiweshe	Darwin	Chiweshe	Darwin
Maize	226	1103	287	1252	191	265	0	156	0	44
Groundnuts	93	748	177	945	79	207	0	30	0	10
Millet	61	231	99	306	54	45	0	12	0	85
Total	380	2082	563	2503	324	517	0	198	0	85

Source: Massell and Johnson (1968, 22)

⁴ NAZ, RG-3/AGR-5, no. 20453, *An Analysis of Some African Purchase Area Farms’ Physical and Financial Records, 1964/65 and 1965/66*, Economics and Markets Branch, Ministry of Agriculture, August 1970, 5. Besides children, NP labour categories mainly included the farmer/manager, wife/wives, adult males, adult females, regular labour and others.

That employment of non-family labour was common among NP farmers is confirmed by other sources. In the mid-1970s Cheater (1984) estimated that 85 per cent of all NP farmers in Msengezi employed wage labour. A majority were employed on short-term or casual contracts. Only 4.3 per cent of NP farmers in Msenezi hired wage labourers on a permanent basis. The dominance of casual labour make sense given the seasonal nature of labour demand. Weeding and harvesting (which only took a few weeks) were the two most crucial tasks of labourers and in both cases, speed was more important than accuracy. Under these circumstances casual labour was a more suitable form of labour compared to permanent wage labour, especially when the remuneration was directly related to the completion of a specific task, a form of labour known as piece work (Cheater 1984).

Private property rights, interlinked markets and the success of NP farmers

Capital investments mattered, but less so compared to working hours. They did not substitute capital for labour, but invested both more labour and capital to improve yields per acre. How did they manage to increase the number of working hours? It required access to non-family labour, which presumably was difficult to find because of the low land-labour ratios.

When establishing the Native Purchase areas, the colonial authorities envisioned that the farmers who bought land would develop into a new class of 'yeoman' farmers referring to a group of independent small-scale farmers in 17th century England and 18th century USA that intensively cultivated land, through a combination of capital investments and use of nuclear family labour (Allen 2000; Allen 1992). It was envisaged that they would develop into 'single family farms' that combined rotation agriculture with pastoralism (Shutt 2000). This vision proved difficult to realise because the combined activities required either labour-saving technologies or more labour or, most likely, both. In the early years (i.e. 1930s) many native purchase farmers faced serious economic problems. Installment payments were delayed and many of the farmers had to keep their urban jobs in order to survive. The colonial authorities, nevertheless, seem to have confused cause with effect and argued that the initial meager performance was because the selected NP farmers combined urban employment with farming instead of concentrating solely on farming (Shutt 2000, 64). On similar lines, historians have generally downplayed the economic performance of the NP farmers and argued that they

invested in land for political and social rather than economic reasons (e.g. Arrighi 1966; Good 1990; Palmer 1977; Shutt 1997, 2000; West 2002).

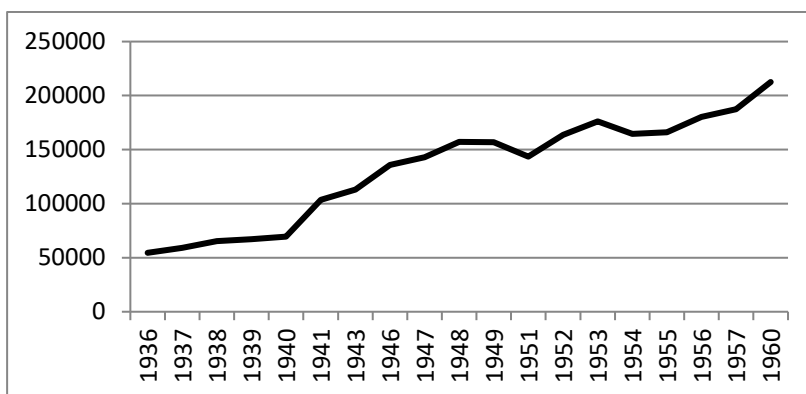
There are indicators, however, that the challenges the native purchase farmers faced in the initial years were rooted in real economic problems. By the mid-1930s the Native Land Board began to realise that the call for intensive farming based on nuclear family labour was not realistic due to labour shortages. The latter implied that the selected native purchase farmers, instead of following the stipulated approach of using intensive crop rotation farming methods, continued with extensive methods of the early 1930s cultivating only parcels of the most fertile land i.e. took advantage of differences in soil fertility by planting in patches (Shutt 2000, 68-69). In place of intensified production, the main trends were extensification of low productivity, mixed farming, 'opportunistic' use of wetlands and resource extraction of wood for timber and fuel or energy (Shutt 2002; Scoones et al 2018, 602).

Things were, however, about to change with the inflow of migrants into the native purchase areas, which allowed the native purchase farmers to put more land under cultivation through the help of so-called resident labour. Based on in-depth interviews with NPA farmers in Marirangwe, Shutt (2002) argues that immigrants to the NPA areas comprised of two groups: renters and 'squatters'. Both groups came to the area with the long-term intention of buying or leasing land from the NPA farmers. The 'squatters' initially found a piece of land where they planted vegetables to sell in town. The money saved was later used to buy land from the NPA farmers. Similarly, the renters provided labour services on the NPA farms in exchange for land. In some cases, the contract was transformed as the renter/tenant managed to buy the land after a couple of years. In other cases, squatters continued to rent land, but began to pay in cash rather than in kind. Equally important was the role of resident labourers (Shutt 1995, 1997; Scoones et al 2018). Cheater's (1984, 70) study of the Msengezi area indicates that a majority of the surveyed farms employed residential labourers (78 percent). These farms had 1-2 workers residing on the farm, but there are also a few examples of NP farmers having up to 7-12 workers residing on the farm.

It is difficult to get beyond these snapshots in order to assess the magnitude of immigration into the NPA areas. No surveys were conducted into the matter, despite the fact that colonial

authorities regarded it as a potential problem (see below). The closest we get is to make use of the aggregate population statistics. Figure 1 shows the estimated population growth of the NPAs provided by Andersson and Green (2016). The total population was significantly larger than the number of selected purchase farmers. In 1957 it is estimated that 187,505 people were living in the NPAs of Southern Rhodesia. Of this number, approximately 160,000 were living without legal title. More importantly, the figures indicate that the growth of population in the NPA areas increased significantly in the 1940s, just as the NP farms were recorded by the colonial authorities to be profitable. The increase in annual population growth in the 1940s cannot be explained by a natural growth in population. Instead, the figures reveal an inflow of people from other areas, and there is no coincidence that this inflow took off at the same time as the number of NPA farmers began to increase significantly.

Figure 1: Number of Africans in NPAs in Southern Rhodesia, 1936-1960



Source: PRO DO 64/25-88, Chief Native Commissioner Reports, 1936-1960

The colonial authorities continuously raised their concerns regarding squatting in the NP areas. The residential workers were identified as illegal squatters by the colonial authorities.⁵ The Native Land Board, after an inspection tour of the Mshagashe NPA in 1936 concluded that development in the area looked promising, but overstocking and ‘squatting’ was a potential threat to the success of NP farming (Mazobere 1985, 30). In the 1967 annual report the Rural

⁵ The epithet ‘squatter’ was initially applied, by Government officials, to all residents on NP farms who were not members of the landholders’ immediate families or known dependents. Over the years, this usage was extended to all adults to whom the landholder granted rights of cultivation on his farm, including his sons, whether married or not. However, NP freeholders resented or deplored the fact that their children and dependents were called ‘squatters’ who had to be contracted on the farm as paid labourers without which they would have to face immediate eviction (see Cheater 1982, 79).

Land Board concluded that: ‘this squatter problem [in the Native Purchase Areas] [was] more dangerous than low productivity – the net result [was] illegal sub-division and reduction of the economic potential of the farm’ (annual report quoted in Mazobere 1985, 20). The irony is that the constant inflow of people into the NP areas enabled the NP farmers to increase output by employing more people to till the land.

What all this suggest is that an important part of the relative success of the NP farmers stemmed from the fact that they could access additional apart from family labour. From the mid-1940s, NP farmers mainly tapped into a new social network for their labour needs in addition to relying on extended kin or nearby men and women for their labour needs (Shutt 2002). After the 1940s their network extended to squatters who migrated from the southern parts of the country to settle and work for landholders particularly those willing to offer land for work (Shutt 2002). Any labour that was appropriated by NP landowners from their dependant kin, it would seem, had access to land as a form of remuneration. In freehold areas, it was quite common that only those who had close kinship links to landowners obtained land to work for themselves in return for labour (Cheater 1984).

The private property rights that the NP farmers had claimed helped them to attract much needed labour, by enabling the farmers to use their allocated parts of the land to Africans who moved into the NPA areas in exchange for labour, hence the success of these farmers. Private property rights created an opportunity for the NP farmers to exploit the opportunities of interlinked factor markets. Being able to buy relatively vast tracts of land enabled the NP farmers to access a larger labour pool by attracting migrants to settle on the NP farms. In exchange of land, the immigrant provided labour service and or crops to the NP farmer and thereby enabling him to more efficiently exploit his land.

Conclusion

The paper contributed to the literature on landed property rights and agricultural development in rural Africa by analyzing the performance of the Native Purchase farmers in Southern Rhodesia. Differently from other scholars’ attempts to from-above introduce more secure property rights our case was relatively successful. The NP farmers performed on average better than the farms in the Native Reserves. In line with new institutional economic history and

economics, we argue that the shift towards private property rights played a significant role in explaining this gap between the two groups. However, we propose a different transmission channel. The chief reason why the Native Purchase farmers produced better yields than their counterparts in the Native Reserves was not that secure and complete ownership over land created incentives and enabled them to shift towards a more capital intensive farming operations. On average the NP farmers did invest more in machinery and farming equipment, but it cannot directly be compared with the average farmer in the Reserve as the NP farmers belonged to the wealthier group of Africans. The striking difference between NP farmers and the farmers in the Reserves were instead that NP farmers invested far more labour hours on farming operations. This could not have been done without access to non-family labour and it is from this perspective, we argue that one has to understand the role of private property rights in the NPAs.

Inspired by the literature on factor endowments and interlinked markets we argue that private property rights gave the NP farmers access to non-family labour in a context where labour was scarce. Having complete ownership over relatively vast tracks of land enabled the NP farmers to attract migrants to settle on their land under various forms of tenancy contracts. Thus, rather than just shifting the production function upwards through technological change/improvements, they combined this with land intensification by adding more labour at diminishing rates of return.

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