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IMACHI NKWU: TRADE AND THE COMMONS

JAMES FENSKE[†]

ABSTRACT. The conventional view is that an increase in the value of a natural resource will lead private property to emerge. Many Igbo groups in Nigeria, however, curtailed private rights over palm trees in response to the palm produce trade of the nineteenth and early twentieth centuries. I present a simple game between a property owner and a potential thief in which an increase in the price of a natural resource makes it possible to introduce regulated communal tenure. This makes the property owner better off, leaving the thief as well off as under private property. I use this model along with colonial court records to explain the political economy of property disputes in interwar Igboland.

“Palm cutting always cause palaver.”

Obuba of Ububa, Nkwo Udara Civil Suit 111/37

1. INTRODUCTION

Property rights matter for long-run economic growth, investment, and financial development (Acemoglu and Johnson, 2005; Alchian and Demsetz, 1973). For the majority of poor farmers in Africa, rights over land and trees are central to their economic decisions and to their well-being. In many African societies, group rights exist over these. While there is debate over the efficiency of African tenure systems (Brasselle et al., 2002; Bruce and Migot-Adholla, 1994; Feder and Noronha, 1987; Platteau, 1996), there is considerable evidence that secure rights to land promote investment and efficiency, both in Africa (Besley, 1995; Goldstein and Udry, 2008) and in other parts of the world (Feder and Onchan, 1987; Shaban, 1987). Why, then, do group rights persist in Africa and elsewhere? In this paper, I introduce a simple model to explain the adoption of communal

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palm harvesting (*imachi nkwu*) in response to commercialization of palm oil among the Igbo of southeastern Nigeria.¹

I argue that communal harvesting simplified the act of monitoring theft, lowering its marginal cost relative to the cost of supervising theft from private palm groves. Thieves needed only to be caught harvesting on the wrong day. Though property owners surrendered a share of the harvest under common property, rising palm oil prices increased the incentive to steal, making monitoring more costly under private property and accentuating the benefits of this arrangement. The key result of the model I present is that, if the price of palm oil rises above a certain threshold, communal property will improve the welfare of property owners while making potential thieves no worse off. I validate this explanation by showing that the model reflects the realities of communal palm harvesting in Nigeria during the 1930s and 1940s, as captured in colonial Native Court records. Disputes concerning palm harvesting reflect a split between property-owning elders and youths who wished to steal oil in order to pay for bride price, taxation, schooling, and other expenses that required cash. Monitoring was costly, though simpler with common property, and communal harvesting was an institution that limited harvesting effort. I discuss the implications of the model for the introduction of colonial taxes, and argue that youths' needs to collect oil for tax payment made it rational for elders to surrender some of their rights. This too is evident in the court records.²

This model and the evidence from Igbo society are relevant to three broader questions. *First, why does common property exist?* Demsetz (1967) argues that private property emerges to internalize externalities when the gains outweigh the costs. The two most cited sources of inefficiency associated with common property are the failure to externalize externalities (Hardin, 1968),³ and reduced incentives for private individuals to expend effort in raising their private returns (North, 1990). Division will be particularly beneficial when investment is needed for conservation (Baland and Platteau, 2003). Boserup (1965), alternatively, focuses on population pressure as the root of private property over land. These explanations, based on externalities and scarcity, suggest that trade will cause a shift away from common property.

¹In this paper, I use the standard division of property regimes into four types. First, under *open access*, no property rights exist and unrestricted use of the resource is available to all. This is not relevant to the case under study, except in instances where communal harvesting arrangements collapsed, so that access was unregulated. Second, under *state property*, the government owns the resource and has exclusive control over its use. This is not relevant to the present study. Third, under *private property*, an individual, corporation, or other small group can exclude others and regulate use of the resource. Fourth, under *common property*, an identifiable community of users can exclude others and regulate use.

²The relationship between taxation and common property is not unique to Nigeria. In Russia, for example, peasant communes facilitated the collection of collectively-owed taxes (Nafziger, 2010).

³Although a standard critique of Hardin (1968) is that he is implicitly criticizing open access and not common property, rent dissipation and resource depletion can still result if the community is constrained in its ability to regulate users.

These views do not allow for other outcomes, such as degeneration into open-access property (Baland and Platteau, 1998). By contrast, the literature on common property resources (e.g. Baland and Francois (2005); Baland and Platteau (2003); Grantham (1980); McCloskey (1975a,b, 1976); Netting (1976); Ostrom (1991); Runge (1986)) stresses scale economies, risk pooling, and equity as benefits that help explain why the commons survives. This literature also emphasizes problems with enclosure that limit its benefits. Division entails surveying, defining, registering, marking, and defending rights, all of which are costly. Those who benefit from division may not have the power to demand it. Monitoring common property may be cheaper, since users can work together to monitor each other and exclude outsiders. If there are limited returns to investment, the benefits of division may be low.

Formal treatments, similarly, show that movement towards private property is neither inevitable nor necessarily efficient. Hafer (2006) argues that ownership reveals information about the owner's defensive ability, so that rights become more secure over time. Tornell (1997), by contrast, provides a growth model in which the equilibrium moves from common to private property and then back to common property. Gonzalez (2007) finds that an equilibrium with more secure rights and faster growth may be Pareto-dominated by one with less secure rights and slower growth. de Meza and Gould (1992) argue that private decisions to enclose land need not be socially efficient. Grossman and Kim (1995) show that the social cost of appropriative activities may be a hump-shaped function of these activities' effectiveness.

Second, what facilitates collective action? For common property to work, communities must be able to effectively regulate the commons. The literature (cited above, also Baland and Platteau (1999); McCarthy et al. (2001); Olson (1965); Tarui (2007); Wade (1987)) suggests several conditions for successful collective action. *Group cohesiveness* provides past experiences of cooperation, existing arrangements, punishment systems, networks of mutual obligation, shared norms of reciprocity, trust, clear and stable group membership, and low rates of exit. Violations of social rules must be well-defined, especially in the enforcement of uncoordinated mechanisms (Greif, 1993). *Feasibility* demands that inexpensive means of conflict resolution and clear boundaries exist, so that intruders and violators are readily detectable and easily punished. *Information* about the limits of the resource convinces users to participate in regulation. *Resource value* makes regulation vital and worthwhile. Inequality and population have ambiguous effects.

Third, how does trade affect the commons? Trade may shape the sustainability of resource use and the nature of property rights. Taylor and Brander (1997) suggest that, in an open-access setting, international trade can be welfare-reducing, as price increases are offset by greater resource exhaustion. Lopez (1998) shows that higher agricultural prices in Côte d'Ivoire have increased depletion of common-property biomass. This is part of a larger debate over the impact of trade on renewable resources and how this

is conditioned by institutions (e.g. Ferreira (2004, 2007); Foster and Rosenzweig (2003); Lopez (1997)). Hotte et al. (2000) suggest that trade can convert open access into private property, though this may not be socially efficient. Copeland and Taylor (2009) argue that, at low prices, open access should prevail. With price increases, however, private property, limited management, or the continued open access will occur, depending on state capacity, resource growth, and technology. In practice, many communities, ranging from irrigation users in the Philippines to herders in Switzerland, have been able to successfully regulate common property for commercial use (Ostrom, 1991).

In the Igbo case, there were no economies of scale in palm harvesting, and there is no evidence that communal harvesting served as insurance. Rather, equity (ensuring all members of the community could pay their tax), political considerations, and, most significantly, the costs of maintaining private property relative to those of monitoring collective harvesting drove the adoption of *imachi nkwu*.⁴ I argue that the rising value of palm oil spurred collective action among the Igbo. The Igbo implemented collective palm-cutting in relatively small, homogenous communities, using already-existing institutions of local governance. Difficulties in defining the boundaries both of private groves and those areas belonging to specific communities made this regulation more difficult. Trade did not erode the commons.

While I look at one society, this study has broader implications. The basic result is that common property can limit the costs of competing over natural resources. If this competition becomes more intense as the value of the resource rises, common property will become more attractive relative to private property, not less. The Igbo lived in small, closely knit communities. This facilitated detection of violations of the communal harvesting rules and prevented the costs of common property from rising as quickly with commercialization. This will be true of any scheme that gives the broader community an interest in preserving the communal arrangement. The costs of competition rise with the value of the resource in the model because the effort expended in defending private property rises along with the incentive to steal. Here, the essential feature of Igbo society is that defense of property was largely private. The result, then, is most relevant where state enforcement of private property is weak. This is not true only of small agrarian communities, but of many situations in developing countries (de Soto, 2003; Field, 2007). Finally, this case will be most relevant to examples where it is simpler

⁴Monitoring here refers to members of the community and, to a lesser extent, neighboring communities. Protection of palm-groves from encroachment by in-migrants did not drive the adoption of communal harvesting. Udo (1975, p. 69-71) stresses that most migrants who established themselves in Igbo territory in order to harvest palm fruits did so in areas such as Ahoada and Nike that were less-densely settled, or areas such as Asa, where “the oil palm receives little attention from the local male population which concentrates on producing *garri*, a local staple from cassava, for sale to the nearby urban centres.” Udo (1975, p. 126-137) does not list centralization of control of palm trees among the strategies adopted by local communities for dealing with conflicts between themselves and migrants.

to monitor that resource extraction has occurred, rather than where or how much. Applications would include fisheries with a single harbor or forestry with a limited number of access roads.

In the next section, I provide background on Igbo history, land tenure, and the practice of *imachi nkwu*. In Section 3, I outline a game in which a rise in the price of palm oil may lead private property to be converted to a Pareto-improving communal alternative. In Section 4, I describe the primary sources I use to support the model. I then use these to show that the model is a good description of the larger palaver over palm cutting in colonial Igbo society. In Section 5, I extend the model to evaluate how the introduction of direct taxation under colonial rule altered property rights over trees. I compare these predictions to evidence from the primary sources. In Section 6, I conclude.

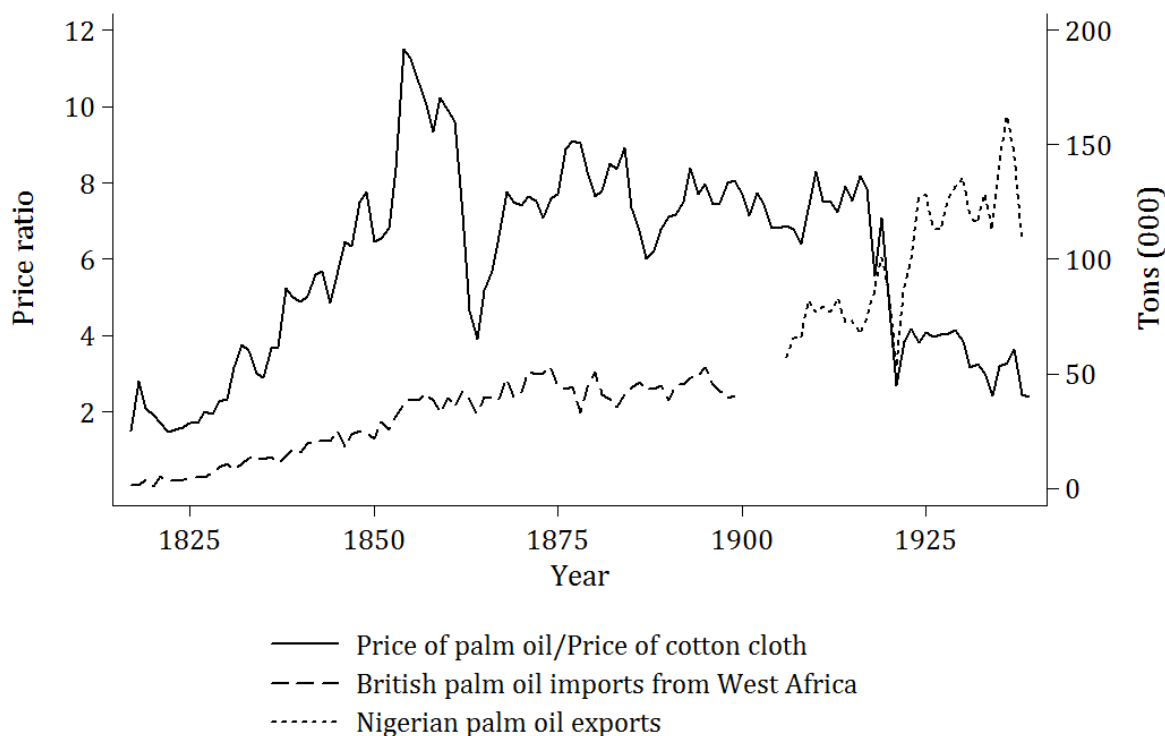
2. THE IGBO, PALM OIL, AND PROPERTY RIGHTS

2.1. The Igbo. The Igbo are Nigeria's third-largest ethnic group, and under colonial rule lived mostly in the Owerri, Ogoja, Onitsha and Calabar provinces. The Igbo lived during this period largely in communities ranging from half a square mile to over six miles in extent, with populations between a few hundred and over two thousand (Gailey, 1970, p. 23). Authority was decentralized in pre-colonial Igbo society with power divided between the *amala* (village council), the *Ezeala* (Earth priest), *umokpara* (the *ofo*-holders, or compound heads), the *okonko* secret society, and the age grades (Oriji, 1991, p. 31-42). From roughly 1900 until 1929, British rule was carried out in Igboland using a system of "warrant chiefs," who sat as members of local Native Courts (Afigbo, 1972). In 1928, annual poll taxes on adult males ranging from 4 shillings (s) to 7s were introduced. Late in 1929, the "Women Riot" against taxation, the warrant chiefs, the native courts and the depressed state of trade prompted reforms (Martin, 1988, p. 106). Native Courts were created, comprised in each village-group of a "massed bench of elders," while Native Authorities were established that included the eldest man of each *ezi* (compound) and any young men they chose to co-opt (Martin, 1988, p. 121). Records from these reformed Native Courts are the principal sources for the study.

Palm products were the most important Igbo exports during the nineteenth and twentieth centuries, and they were leading suppliers of this produce (Lynn, 1997, p. 34). Figure 1 gives prices and quantities in the palm oil trade between Britain and West Africa from 1817 to 1939.⁵ The increase in nominal palm oil prices was not uninterrupted, but the rise in Igbo purchasing power was; the ratio of palm oil to cotton textile prices rose continuously over the nineteenth century, which helps explain why exports were

⁵Although time series for specific regions of West Africa are not readily available for the nineteenth century, the bulk of this trade was from what later became Nigeria. Lynn (1997, p. 20) reports that roughly 80% of British palm oil imports in 1849-51 were from Biafran ports, and a further 5% came from the Bight of Benin. Similarly, no time series of local prices are available for the nineteenth century. Dike (1956, p. 50) states that, while the price in Liverpool was roughly £28 per ton in 1832, the local price averaged £14, though it could be as low as £5 in the less frequented rivers of the Niger Delta.

FIGURE 1. British Palm Oil Trade with West Africa, 1790-1939



Sources: Relative prices are from Allen (2011). Imports to 1898 are from Lynn (1997). Exports from 1906 are from Martin (1988) and Usoro (1974).

steadily increasing (Allen, 2011). Palm trees were rarely planted on purpose. One official estimated in 1907 that there were 6 palms per acre in the vicinity of Aba (Martin, 1988, p. 46). Palm fruits could be harvested year-round, though the greatest yields were achieved between January and May (Martin, 1988, p. 34). Assessment Reports for five Native Court areas of the Aba and Bende Divisions estimated that palm produce contributed between 1% and 51% of household income, averaging 20%.⁶ In the Aba Native Court Area (NCA), for example, palm nuts were cut every 24 days. On each occasion a man would cut approximately 5 heads of fruit – enough to produce 3 tins of oil (worth 18s) and 400 lbs of kernels (worth £2/4/0) over the course of a year (Abadist 9/1/1362).⁷

⁶Abadist files 8/11/2, 14/1/1077, 8/11/12, 9/1/1362, and 9/1/1362.

⁷The accuracy of these estimates should not be overstated. Gailey (1970, p. 91-93) outlines the difficulties faced by the administrative officers in making their reports. While their estimates of total income generally fell between £14 and £16, the Assessment Report for Degema Division gave a figure of £64, which the Resident (the highest provincial official) dismissed as obviously wrong. Further, these were put together knowing that direct taxation would soon be introduced. Weir believed that other officials had grossly overestimated the value of palm produce due to the coexistence of communal and individually owned trees and to the high proportions of trees not bearing fruit (Abadist 8/11/12).

2.2. **Property rights and *imachi nkwu*.** Three principles guided Igbo land tenure during the late colonial period: all land ultimately belongs to community and cannot be alienated without consent, within the community an individual has security of tenure, and no member of the landholding group is without land (Jones, 1949, p. 313). With some exceptions, the “village group” or “town” of four to five thousand people was usually the relevant landholding unit, and was generally coextensive with the maximal patrilineage (Jones, 1949, p. 309). Despite the principle of communal ownership, reasonably secure, permanent, and inheritable rights to farmland were frequently owned by minor lineages and even by individuals (Jones, 1949, p. 314). *Ofo*-holders had exclusive control over *okpara* (ancestral) land, though in theory they acted only as “custodians” of these plots and could not alienate them without consent of other members of the lineage.⁸

The rules governing trees are more ambiguous. Anthropological, legal and historical sources give less attention to these. Further, regulations varied considerably from place to place. Thomas (1913) outlines tree tenure in Asaba division, giving brief descriptions that differ for each village he visited. Similarly, Leeming wrote in 1927 of the Asa NCA that:

The nuts are collected upon different principles in different villages of this area. In some there is a day definitely fixed upon which the village will collect communally and competitively. In other villages no such rules exist and people may collect where and when they will. In some cases the fruit of the trees in the immediate vicinity of the village is reserved for the older people (Abadist 14/1/1077).

Obi (1963, p. 93) notes as well that, in some areas, palm nuts could be harvested at will, but in others appointed days were set aside for reaping. In some instances, the entire village met on certain days, pooling their harvests together to be used for public purposes.

Some general principles can, however, be identified. Trees surrounding compounds were “household palms,” and were usually owned by individuals (Chubb, 1961, p. 49). Where wild palms existed in groves, they were usually free to all members of a village, though they were often left un-harvested (Chubb, 1961, p. 50). On farmland, it was actionable to enter a farm for the purpose of gathering palm nuts between the period when it was cleared and when the harvest was reaped (Obi, 1963, p. 49). Where they were scattered on farmland not presently under cultivation, palms were generally free to anyone in the kinship group (Chubb, 1961, p. 51).

The rights that existed over palm trees in Igbo society before the adoption of communal palm cutting were not, then, always individual. This has led Northrup (1978, p. 187) to argue that “communal” systems were retained by the Igbo in response to the

⁸In the court records, groves on ancestral land are referred to using the terms *okpulo*, *okpulo ika* or *okpulo*.

palm oil trade, but that these became “more closely regulated.” There are two reasons why his interpretation does not fully describe the institutional change that occurred. First, groups such as families and quarters that had exclusive rights to certain trees surrendered them to the greater community when communal harvesting was introduced. Second, specific individuals (mostly elders) had individual claims to particular groves that were weakened or dismissed entirely under communal harvesting.

Colonial and anthropological evidence suggests that many Igbo areas of southeastern Nigeria responded to the export trade in palm produce during the nineteenth and twentieth centuries by limiting their recognition of the exclusive rights held by certain individuals and lineages over palm trees. In their place, Igbo groups such as the Ngwa enacted the practice of *imachi nkwu*, or communal palm-cutting.⁹ Allen noted it in his Intelligence Report on the Ngwa (SP021 CSE 1/85/3708), as well as his unpublished “Ngwa Customs,” which is quoted at length by Chubb (1961, p. 48-49):

As soon as the commercial value of palm-oil and kernels was appreciated by the people, new regulations were formulated by the village councils to control the taking of produce from communal trees. Gradually these regulations were tightened up until at the present time strict laws exist governing the ownership of all palm trees in a community. The majority of palm trees in a village are now reserved for the community, no matter whether they are of natural growth or have been planted by an individual... In order that each member of the community shall receive an equal benefit, and to prevent deterioration of the trees through continual cutting, a certain day is set apart generally once in 20 days, when every member of the community may cut as much produce as he desires. On this day a drum (*Nkwa Nkwu*) is beaten... This drum is in the care of an elder of the village, who is specially selected for this duty by the village council. Until this drum has been beaten any member of the community who

⁹The term itself comes from Chuku (2005, p. 51). The timing of events is claimed by Allen in both his unpublished “Ngwa Customs” and his Intelligence Report on the Ngwa (SP021 CSE 1/85/3708), with supporting evidence offered by Chubb (1961), Obi (1963), Bridges (1938) and Green (1941). Allen’s intelligence report, p. 33, states that “when palm oil began to assume a commercial value it was felt that a poor man with little land would reap little profit therefrom while the income of the wealthier citizens would be greatly augmented. This offended the communal spirit of the Ngwas, who therefore wisely ordained that all of the oil palms in a village should become the property of the community, no matter who might be the owner of the land on which they stood.” Thereafter, no one was to cut on communal trees except on fixed days, four times every three months. Falk (1920) is the only assertion I have found that the reverse was true; whereas in the past palm trees had been open to all for cultivation, he claims that with population growth harvesting rights became limited to members of the landowning family or compound. Mayne, by mentioning regulated communal harvesting in his Assessment Report on the Umuahia Native Court Area (Abadist 8/11/12) provides evidence that this predated the introduction of direct taxation.

The existence of common property in Igbo land tenure and palm harvesting is mentioned extensively in anthropological and legal work by both Igbo and white authors. It appears in the assessment reports and in the Native Court records. There is no evidence that the existence of these communal aspects are a fiction invented under colonial rule, however they may have been modified by it.

takes produce from communal palm trees is guilty of an offence for which he may be fined one goat, or the equivalent of £1 by the village council. Since the introduction of general tax this system has been extended to include trees which in ordinary circumstances are privately owned. At the commencement of tax collection an order is promulgated by the village council to the effect that for a specific period, generally three months, the ownership of all private palm trees will be vested in the community.

Similar institutions were employed by the Aro, in Umuahia, and in other densely populated areas of Owerri Province (Chubb (1961, p. 49), Chuku (2005, p. 51)). Chuku (2005, p. 51) writes that this was imposed three months a year for men and once for women, with the money being used for community projects such as schools. She infers from this that family and lineage heads used communal harvesting to extend their power to dictate the intervals of harvesting at the expense of women's freedom of choice.¹⁰

Allen explains *imachi nkwu* as a result of the palm oil trade and the "communal spirit" of the Igbo. Green (1941, 1964) adds taxes to this explanation. Green (1941) conducted fieldwork during 1935 and 1937 at Umueke Agbaja, in the south of Okigwi Division. While she found little land was left under group control (Green, 1964, p. 88), rights over palms were in "an interesting state of ambiguity," and during her stay "the pendulum swung uneasily between the restriction of rights to those who owned the land on which the palms stood and the extension of rights to anyone to cut anywhere" (Green, 1941, p. 17).

She was told that, in the past, people had restricted cutting palm nuts to trees on their own land, but during a period when the population dwindled, "it was decided that all should cut where they liked throughout Umueke" (Green, 1941, p. 18). With time, the population again rose and cutting was once more limited to land of one's own lineage. The eldest man in the village had been instrumental in passing the restriction "because he himself had many palm trees on his land. One also noticed that he was an elderly man whose climbing and cutting capacity would be less than that of a vigorous youth" (Green, 1941, p. 17). The rule had been passed, she was told, because "the strongest people cut to the detriment of the less strong" (Green, 1941, p. 17). Further, her informants stated that "it was the coming of tax that caused the swing over from relatively communal to private rights. Some people who were unable to climb saw others climbing the palms on their land and cutting the nuts, but when they asked these people to help them pay their tax they were refused, to their great vexation" (Green, 1941, p. 17).

¹⁰The circumscription of women's formal rights over land does not mean that they were unable to find creative means of exercising their claims. In UNC 24/38, the defendants had pledged a piece of land to the plaintiff for £2 when their husband fell into debt. The plaintiff refused to accept the plot without male witnesses. After the defendants encroached on the land and planted yams, he sued. The second defendant turned male authority into a rhetorical device, pleading to the court that "we are women and we never knew what was going on since our husband was in trouble, we consented and they made agreement...we are women how can we pledge *amala's* bush?"

This was the status quo when she first arrived in 1935, but it was an arrangement that could not last. Towards the end of the year, the young men of the village challenged this law, and through intimidation were successful in demanding cutting be again made communal. In their dealings with the elders, they stated that:

if the latter had refused to concede what they wanted they would have seized their cows and sheep and sold them, since they must live somehow. As [her informant] said, it is all very well for the old men, they have all got wives, but the young ones have still to get together bride price to marry theirs and they need palm oil to sell (Green, 1941, p. 18).

By 1937, when Green returned to Umueke, she found that an “intermediate” position had been reached between the two extremes of communal and private rights over palms (Green, 1941, p. 19). From this, she argues that “anything tending to increase the need for money – the introduction of tax, the increasing demand for European clothing, for schooling and so on” made the definition of rights more important and contentious, by raising the value of the ability to cut palm nuts (Green, 1941, p. 19).

3. MODEL

In this section, I outline a model of the defense of property. I demonstrate that, as the price of palm oil rises, Pareto-improving alternatives to private property become available. There were two advantages of common property in the Igbo context, which were made more attractive by a rise in the price of palm oil:

- (1) Monitoring under private property was largely undertaken by the property owner or his relatives, was non-cooperative, and required proving that a thief had attempted to steal oil from the owner’s trees. Under communal property, all that needed to be observed was that the thief cut on the wrong day. Any member of the community could catch a thief. As the effort expended on stealing rose with the price of oil, the cost of increasing monitoring in order to compensate rose less quickly under communal property than private property.
- (2) Communal harvesting gave former thieves incentives to monitor theft that they did not have under private property. First, anything stolen from the property owner was now also taken away from their share of the harvest, giving these potential victims greater incentive to monitor, though this would be limited by the obvious problems of free-riding. The value of this loss rose with the price of oil. Second, theft often occurred before palm fruits were fully ripe. These costs of early harvesting were now borne in part by those who before would have been thieves. Since these incentives allowed aggregate monitoring to be greater under communal property, the marginal returns to effort in theft were lower, and so the incentive to steal did not rise as quickly with the price of oil as under private property.

The model simplifies these advantages, focusing on a game between one youth and one elder. The first advantage is captured below as a lower marginal cost of monitoring under communal property. The second advantage is captured indirectly by the model. Under communal property, stealing by the youth reduces the amount of un-stolen oil distributed communally, and hence his share. This dissuades him from stealing.

3.1. Setup. There are two players – one elder E and one youth Y . The elder possesses a grove of trees that yield one unit of oil, which can be sold for a price of p . At the beginning of the game, the elder chooses between private property and communal property. If the elder chooses communal property, he also chooses at the outset what share θ of any un-stolen oil he will offer the youth. This is done subject to the constraint that he leaves the youth as well off under communal property as under private property. The purpose of this model is to demonstrate that, under reasonable conditions that fit those of the case under study, an increase in the price of palm oil can lead the elder to prefer communal property to private property.

Under either regime, there are two stages. In the first stage, the elder chooses a level of costly monitoring, defending his grove against theft. This monitoring affects the youth's cost of stealing in the second stage. At the beginning of the second stage, the youth chooses how much oil to steal. Under private property, the elder consumes whatever is left over. Under communal property, he shares the un-stolen remains with the youth, keeping a share $1 - \theta$ for himself and giving a share θ to the youth.

3.2. Private property. I begin by discussing outcomes under private property. In the first stage, the elder chooses his level of monitoring e . This costs him de , where $d \geq \frac{1}{2}$ is the elder's marginal cost of monitoring effort.¹¹ If the youth steals a share s of the oil, which will be a function of e , the elder is able to recover $(1 - s(e))$ units of oil at the end of the second stage. Hence, his problem is:

$$V_E^P = \max_e \{(1 - s(e))p - de\}$$

In the second stage, the youth takes e as given. He chooses a fraction of the oil $s \in [0, 1]$ to steal. This costs the youth $\frac{es}{1-s}$. Hence, the youth's problem is:

$$V_Y^P = \max_{s \in [0,1]} \left\{ ps - \frac{es}{1-s} \right\}$$

The youth's best response (from the first order conditions of the above problem), then, is:

$$s_{BR}^P = \max \left\{ 1 - \sqrt{\frac{e}{p}}, 0 \right\}$$

¹¹The restriction that $d \geq \frac{1}{2}$ is done to simplify the analysis, since it ensures an interior solution. This does not substantially affect the results; robustness of the results are discussed in footnote 13.

The assumption that $d \geq \frac{1}{2}$ ensures the elder's optimal monitoring will be less than p , the level of monitoring that drives the youth's stealing to zero, simplifying the exposition by guaranteeing an interior solution. The elder's optimal e (which is the equilibrium e) is found by substituting this into his problem above, and taking the first order conditions:

$$e_*^P = \frac{p}{4d^2}$$

Substituting into the youth's best response function gives equilibrium stealing:

$$s_*^P = 1 - \frac{1}{2d}$$

Substituting the equilibrium e and s values into the parties' objective functions gives their payoffs:

$$V_E^P = \frac{p}{4d}$$

$$V_Y^P = \left(1 - \frac{1}{2d}\right)^2 p$$

3.3. Communal harvesting. Under communal property, the elder begins by offering a share θ of any un-stolen oil to the youth. He is willing to do this because the costs of monitoring under communal property are lower, for reasons outlined above. In particular, his marginal cost of monitoring is now γ , where $d > \gamma > \frac{1}{2}$. It is assumed he can commit to θ ; in practice, youth harvested their own share. Communal property, however, also entails a fixed administrative cost of \bar{k} . This captures the cost of organizing and overseeing the harvest according to a set schedule of days.¹²

Thus, the elder's problem in the first stage is:

$$V_E^C = \max_e \{(1 - s(e))(1 - \theta)p - \gamma e - \bar{k}\}$$

The youth takes e as given when choosing how much to steal. In addition to what he steals, he receives a share θ of the un-stolen oil. Hence, his problem in the second stage is:

$$V_Y^C = \max_{s \in [0,1]} \left\{ ps - \frac{es}{1-s} + (1-s)\theta p \right\}$$

The youth's best response (from the first order conditions), then, is:

$$s_{BR}^P = \max \left\{ 1 - \sqrt{\frac{e}{(1-\theta)p}}, 0 \right\}$$

¹²Without \bar{k} , the elder's payoff under communal property will still rise relative to his payoff under private property as p rises. \bar{k} ensures that a rise in the price of oil will induce a switch; without \bar{k} , communal property would be preferred for any p . Without this assumption, the widening gap between the elder's payoff under communal and private property could be used to explain a transition from private property to communal property in response to rising prices if, instead, an initial state of private property and switching costs were assumed.

The elder's optimal e (which is the equilibrium e) is found by substituting this into his problem above, and taking the first order conditions:

$$e_*^C = \frac{(1 - \theta)p}{4\gamma^2}$$

The assumption $\gamma > \frac{1}{2}$ assures an interior solution.¹³ Substituting into the youth's best response function gives equilibrium stealing:

$$s_*^C = 1 - \frac{1}{2\gamma}$$

Substituting the equilibrium e and s values into each party's objective function gives the elder's payoff conditional on θ :

$$\begin{aligned} V_E^C &= \max_{\theta} \frac{(1 - \theta)p}{4\gamma} - \bar{k} \\ \text{s.t. } &\left(\theta + (1 - \theta)\left(1 - \frac{1}{2\gamma}\right)^2\right)p \geq \left(1 - \frac{1}{2d}\right)^2 p \end{aligned}$$

The elder will choose the minimum θ that satisfies the youth's participation constraint that $V_Y^C \geq V_Y^P$. In particular, he will choose:

$$\theta^*(\gamma, d) = 1 - \frac{\gamma^2(4d - 1)}{d^2(4\gamma - 1)}$$

Thus, the two parties' payoffs under communal property are given by:

$$\begin{aligned} V_E^C &= \frac{(1 - \theta^*(\gamma, d))p}{4\gamma} - \bar{k} \\ V_Y^C &= \left(1 - \frac{1}{2d}\right)^2 p \end{aligned}$$

¹³This is again done only to simplify the exposition. If I drop the assumptions that $\gamma > \frac{1}{2}$ and $d > \frac{1}{2}$, then there are two cases to consider:

- (1) $0.5 > d > \gamma$: Here, both the private and communal cases are at a corner solution. substituting in $e = p$ and $s = 0$ gives $V_E^P = (1 - d)p$. If the elder chooses θ so that the youth is at least as well off as under private property he can set $\theta = 0$, because the youth gets nothing under private property. Thus, $V_E^C = (1 - \gamma)p - \bar{k}$. The elder will prefer communal property if $p > \frac{(d - \gamma)}{k}$, which is positive due to the assumption that $d > \gamma$.
- (2) $d > 0.5 > \gamma$: Here, the communal case is at a corner solution, but the private case is not. Thus, the elder receives a payoff of $(1 - \gamma)(1 - \theta)p - \bar{k}$ under communal property, while the youth receives θp . The elder must choose θ so that the youth's payoff is at least his payoff under private property, so that $\theta = \left(1 - \frac{1}{2d}\right)^2$. The elder's payoff is thus $V_E^C = (1 - \gamma)\left(1 - \left(1 - \frac{1}{2d}\right)^2\right)p - \bar{k}$. The elder will prefer communal property if $p > \frac{4d^2\bar{k}}{(1 - \gamma)(4d - 1) - d}$. This is positive under the assumption that $d > 0.5 > \gamma$.

3.4. Commercialization. The elder will prefer communal property when $V_E^C \geq V_E^P$. From the above expressions, this is equivalent to stating that he will prefer communal property when:

$$p \geq \frac{4d\gamma\bar{k}}{d(1 - \theta^*(\gamma, d)) - \gamma}$$

That this is a positive cutoff for p can be verified by substituting in for $\theta^*(\gamma, d)$ and invoking the assumption that $d > \gamma$. This is the main result of the model: a rise in the price of palm oil can induce the elder to switch to communal property in order to reduce monitoring costs, leading the youth no worse off.

3.5. Other responses. Communal harvesting need not be the only option elders had available to cope with the rising costs of monitoring under private property. Why did they not respond by cooperating in their defense of private property, manipulating the village council in order to more cheaply protect their rights, or simply pay the youth to harvest for them?

Cooperative monitoring by the elders would have entailed a more severe collective action problem than communal harvesting. Whereas youths would have a direct interest in protecting their communal share from theft, other property owners had no direct interest in each other's property. Cooperative monitoring, then, would have to be sustained solely through repeated interaction. Economies of scale only exist in this type of monitoring in so far as there are spill-overs across private plots. Further, even if scale economies were to exist, the costs of this monitoring must decline more sharply with increased stealing effort than the costs of monitoring under communal property for the predictions of the model to change.

Judicial manipulation would have been self defeating. The village council was used to settle many disputes aside from palm harvesting. Traditionally, the village council gave orders for cleaning paths, regulated prices, and dealt with both economic and "minor judicial" matters, including issues arising within a single family or age grade (SP 021 CSE 1/85/3708). Damaging its credibility in this case would have made it less useful in other instances, especially as the village council did not have a monopoly over dispute resolution (SP 021 CSE 1/85/3708). Further, if the standard of proof were lowered artificially, punishments meted out by the village council would have become more arbitrary, and would not have been effective deterrents.

Wage labor was problematic for several reasons. Suppose elders must monitor the youths in their employ to discover whether they have kept any oil for themselves. If the costs of supervising wage laborers were to rise along with the incentive for the worker to keep some of the oil, the elder would come to prefer communal harvesting to the wage if the price rose past a certain threshold. Alternatively, Bellemare and Barrett (2003) suggest that giving too large a share of a resource to a tenant can create a risk of expropriation; elders may have feared that giving up symbolic control of the harvest would

have led to them losing control of their palms altogether. I give examples below where control of palms was politically valuable. Further, the timing of this payment presented a problem. Either elders would have to pay youth out of cash reserves prior to the harvest, or payment in cash afterwards would create the possibility of a hold up problem.

Further, wage labor was generally absent in the first half of the twentieth century. What wage labor did exist by the end of the colonial period was largely migrant and seasonal (Uchendu, 1965, p. 32). Martin (1988, p. 87-88) notes that, during the early twentieth century, “[m]arriage rather than contractual wage relationships continued to be the mainstay of labor recruitment.” Hired labor was a minor component of the labor supply in pre-colonial Igboland. Slaves, age mates, and clientelist relationships remained important means of labor recruitment through the first half of the century (Brown, 2003, p. 38).¹⁴

3.6. Other considerations. The model above abstracts away from reciprocity, observability, credibility of punishment, and Igbo seniority structures.

Adding *reciprocity*, the tendency to “reward kind actions and punish unkind ones” (Falk and Fischbacher, 2006), would strengthen the case for common property. In public goods games, altruistic types will generally punish free riders, encouraging greater contributions (Fehr and Gächter, 2000). Reciprocity would have two effects. First, while I have not modeled monitoring by the youth under common property, reciprocity would sustain greater aggregate monitoring than self-interest alone. This would reduce the returns to effort in theft, reinforcing the tendency for common property to become more attractive as the price rises. In addition, a youth motivated by reciprocity will view a relatively high offer of θ as “kind,” and reciprocate by lowering his effort in theft. This will make common property more rewarding to the elder, as it would partially offset the cost of an increase in θ , a benefit that would also rise with the price.

Adding *observability* would add little to the model. s could be interpreted as the probability that the youth steals successfully, while e raises the cost of evading detection. The model excludes *punishment*. The evidence below, however, makes it clear that thieves were sometimes taken before the village council. If punishment is costly, repeated interaction is needed to make it credible. Credibility would be greater under common property, because the greater number of potential witnesses and lower burden of proof reduced the costs of proving a case (see below). In addition, in experimental public goods games that resemble the common property scenario, individuals will punish bad behavior, even if it is costly, provides them no material benefits, and is not observed (Carpenter, 2007; Fudenberg and Pathak, 2010; Masclet et al., 2003).

¹⁴It is beyond the scope of this paper to explain the absence of wage labor in Igbo society. Two of the dominant explanations for the absence of labor markets in much of Africa are low population densities and seasonal bottlenecks, and cultural factors. The Igbo, however, occupy one of the most densely populated parts of Africa (Nwokeji, 2000). The elders’ need to defend their groves is evidence that the youth had time to spare in gathering palm produce. Neither of these explanations, then, suffice.

Finally, the *seniority* structure of Igbo society will discourage theft in both the private and common property scenarios. A youth who expects to become an elder by playing by the rules is more likely to follow either set of rules. Colonial rule gave youth outside options beyond their communities and changed the rules of the political hierarchy, weakening youths' incentives to observe community rules. This helps explain examples in the court records where common property arrangements had collapsed, and where elders' authority is questioned. This pattern is not unique to Igbo society. The Israeli kibbutzim, for example, use shared ideology and a loss of wealth on exit to give their members reasons to stay for the long term (Abramitzky, 2008).

4. EVIDENCE

In this section, I validate the assumptions that drive the results of the model, noting that conflicts over palm harvesting in Igbo society largely pit elders against youths as interest groups, that defense of property rights was costly, and that "communal" harvesting was used to restrict the effort costs associated with harvesting and monitoring. The evidence discussed, then, supports the assumptions of the model rather than its predictions. This is due to the nature of the evidence. The change to communal harvesting predates anthropological observations, and is observed only in the retrospective oral testimony cited above. Where observable transitions to communal harvesting occur in the court records, they came about in a world of Native Courts and direct taxation – evidence supporting the implications of this extension are discussed in Section 5.

4.1. Sources. The primary sources I use are from the National Archives of Nigeria at Enugu. These fall into three categories:

- (1) *Native Court Records*: A selection of Civil Judgment Books from the Aba-Na-Ohazu (ANO), Nkwo Udara (NU),¹⁵ Obohia (ONC), and Ugba (UNC) Native Courts were used based on their availability. These are the principal sources for this study.¹⁶
- (2) *CSE*: Central Secretary's Office, Nigeria, 1906-1940. This contains a variety of correspondence, including Intelligence Reports.
- (3) *Abadist*: This series contains documents and correspondence relating to Aba Division, including Assessment Reports. Land dispute records in these files generally contain facsimiles of the relevant court proceedings as well as petitions to colonial officials about the judgments rendered and correspondence between officials concerning these cases. A sample from this series has been included in the Web Appendix.¹⁷

¹⁵This series contains judgments from the Mvosi (MGC), Ovuku (OVU), Ovuoko (OVO), and Ovokwu (OVW) Group Courts.

¹⁶Citations of these cases are abbreviated for legibility. For example, Nkwo Udara civil suit 140 of 1935 is cited as NU 140/35

¹⁷See <http://www.jamesfenske.com/>. Specifically, this is Abadist 9/1/268. I was not able to copy a sample native court case from the National Archives in Enugu, since these are contained in bound volumes, but

The Native Court records that are available date mostly from the 1930s and later; Afigbo (1972) and Adewoye (1977) both outline the history of the courts from which these records are taken. Generally, these are rough transcripts handwritten in English by the court clerk during proceedings. Each record begins by stating the names and home villages of the plaintiffs and defendants; in cases involving violations of palm-cutting regulations, it is not uncommon to see more than ten defendants in a single case. The statement of grievance and any claim for damages are also given. Parties each make opening statements and call witnesses. Cross-examination by the opposing party and the court is common. Cases are often adjourned for further witnesses, inspection of the land, or swearing of juju.¹⁸ The court's decision is recorded, along with any statement by the president.

4.2. Intergenerational conflict. A typical civil suit over palm harvesting in the court records involves an elder, either alone or on behalf of the *amala* (village council), bringing action against a youth or group of youths either for trespass on a private *okpulo* (private grove) or for violating the village's rules concerning communal palm-cutting. This division between youth and elders is captured by the model above. Even the language of statements in court reflects the fact that disputes over property were largely conflicts between generations. In NU 195/37, Ovumoegbu, representing the elders, told the court that "Our village palm cutting is not in order... We never put a law for the young ones to stop cutting the palm nuts." In some of the records, the statement of claim itself is for "cutting the elders' palm nuts."¹⁹ UNC 62/35 pitted 35 youth against the elders of Amandara, including the defendants' "father," who had become "greatly annoyed" with them for not answering the summons of the *amala* (village council) after "all the elders came out with the wooden bell to know whether the dfdts [defendants] were guilty." In NU 55/25, the plaintiff Onwunka sued in his capacity as "the elder." The defendant had been summoned by the *amala* (village council) through his father, but had refused to come.

The facts of the cases further show the desire of youth to harvest more from trees under either the ownership or control of elders. In UNC 115/35, the village youth had gone to view the palm nuts before cutting them, and reported that people from a neighboring village had cut them. The next day, while the elders were away investigating a separate dispute, the defendants harvested the fruits. One of the defendants, who admitted in court that the drum had only been rung for street-sweeping and after he had finished cutting, referred to the plaintiff as his "father." The plaintiff of a different suit told the court that a specific day had been appointed for only the elders to cut palm fruits; the defendant, who he said "respects no elder," cut on that day. The defendant, in his own

the transcript of Umuaro Native Court Civil Suit 283/33 contained in this record is of the same format as the cases in these books.

¹⁸An object supposed to have magical properties, or the power associated with it. The word is of Hausa origin.

¹⁹See OGC 405/35 for an example.

defense, argued that he had given the stockfish necessary to become an elder, but had not been permitted to join the *amala* (village council) (NU 140/35).

The model emphasizes the distinction between elders and youths on the basis of their differing endowments of resources, and the consequent interests of elders in limiting the harvest effort of youth. To this must be added their differing demands for cash (stressed by Green (1941)), motivations of spite, and struggles for political power. The fragile authority of some elders is revealed by MGC 161/36. Osuenyieke, the eldest man in his village, told the court that he had been forced by the young men to join a “tax meeting.” When he hired two men to cut palm fruits from his trees, he had been fined 10s.

These generational conflicts were not only economic. They were also contests over political power. Whether palm trees were harvested communally or privately, control over them was a tool with which to wield political authority. Leeming reported that a common privilege of office for headmen and *ezealas* (Earth priests) in the Aba NCA was “the custom which widely maintained that on certain days palm kernel heads should be cut and collected by the townsmen in clearing the bush for his farm.” (Abadist 9/1/1362). Oriji (2007) argues that these privileges were a consequence of the taboos needed to maintain the sacredness of authority in Igbo society. Since the *ezealas* (earth priests) and *okparas* (elders) were not permitted to engage in mundane economic activities, they were dependent on tribute. The plaintiff in NU 313/38 told the court that, as the oldest man in his compound, “every family right has been invested to me, all jujus and family lands are in my care.” The palm nuts for his *onumara* (quarter), he claimed, were “given to me by my family to cut and to offer sacrifice to the jujus.” Similarly, the court found in OVW 11/37 that the eldest man Wogu was “entitled to monopolize the whole palm groves.”

Where reaping was communal, elders retained symbolic control of the harvest. A witness for the defence in one case told the court that before the village began cutting, all the men met together to “see if we are correct and then the elders will instruct us to go and cut” (NU 256/35). Even when the rules were violated, the *amala* (village council) sought to control the process of settlement. The plaintiff in NU 55/35 told the court that if the defendant had come to “beg” the *amala* (village council), no action would have been taken in court. In several of the records, at least one defendant had already settled in the *amala* (village council) before the case reached court, weakening the position of the other defendants who refused to do so.²⁰ In OVO 148/36, the court found that the defendant had been “heady and very bad” for refusing to comply when the case had been heard by the *amala* (village council). His father testified against him, and he was fined an additional 10s for his behavior.

As political authority was diffused outside the *amala* (village council), other interests also exercised social control through regulation of palm cutting. In some villages, the

²⁰See ANO 244/41, UNC 132/38, and OVO 148/36 for examples.

okonko (secret society) had days specifically reserved for its members to harvest. In one suit, the defendant claimed that he had left the *okonko* (secret society) after converting to Christianity and had since been denied any rights over communal palms. He stated that “my town people generate this rule to draw me from following my Lord’s way.” This was part of a larger reaction on the part of traditional authorities against the spread of Christianity. Faced with Garrick Braide’s iconoclastic evangelism during the 1910s, Igbo authority holders had “responded by banning those involved from farming in their communal land, harvesting its oil palm trees, and even nominated them for forced labor on Sundays. *Okonko* [secret society] leaders dispatched their executive arm to burn Christian churches and punish the evangelicals” (Orij, 2007, p. 277).

Town authorities, similarly, used their control of palms as leverage. In NU 115/35, the defendant was a stranger who had lived in the town for 10 years, but six months previously had committed adultery with his half-sister. The elders wished to expel him from the village, but were unable to do so, and instead fined him £1, denying him the right to harvest palm nuts until the fine was paid. Palm trees were a source of cash income, but also a fount of ritual and political authority.

4.3. The costs of defending property. When private rights over palm groves were recognized, they had to be defended. The costs of maintaining private property could, as in the model above, be such that a regulated communal harvesting arrangement was preferred. The quarters of Ukomadu and Umuokiri had united in their palm cutting “because,” as the defendant in NU 111/37 told the court “at first we were suing against each other in the court here.” Monitoring effort was costly – thieves had to be caught in the act. In the sample of court cases, there is no evidence of cooperative defense of private property.

Witnesses in the court records do not systematically report what they were doing when thieves and violators of the communal cutting rules were caught, but isolated examples support the hypothesis that monitoring was more costly with private than communal harvesting. Landowners often had to depend on their own kin to detect violators. One of the plaintiff’s witnesses told the court in a 1935 case²¹ that it was his children who had caught the defendant. The nature of communal harvesting allowed monitoring to be carried out by the village as a whole. The witnesses in NU 256/35 indicated that they gathered together before harvesting; this would make supervision easier. In a 1924 case,²² the plaintiff Orji had not yet rung the wooden bell when one Uboaja reported to him that he had seen a palm tree cut. Orji then ordered that no one should reap until the perpetrator was found. In OVO 148/36, the *amala* (village council) had found the party guilty of violating the communal harvesting rules by making everyone swear juju – the defendant was the one who had refused. One of the witnesses in a 1933

²¹Abadist 9/1/794: Mbutu Umu Ujima Group Court Civil Suit 142/35.

²²Abadist 13/8/50: Aba Native Court Civil Suit 10/24.

dispute²³ told the court that he and the other youths of Obette had been ordered by the elders to go into the bush to see if men from neighboring Osa were reaping from trees on their land. They knew when to lie in wait when they heard the Osa drum being rung, to signal that harvesting had begun there.

Even when a thief was caught infringing on rights of private property, enforcing judgment was costly, as cases were easily extended by questions of fact or points of law. Factual disputes most commonly centered around the boundaries on which the trees stood; this was a central issue in MGC 222/36. Proving facts before the *amala* (village council) and in the Native Court required either witnesses or oathing. A party who failed to bring supporting witnesses, such as the plaintiff in ONC 713/21, could lose on this ground alone. A witness might not be enough – the reviewing officer in MGC 256/35 only accepted the evidence of the plaintiff’s witness because one of the defendants had contradicted his own story. Physical evidence was of no use; in UNC 199/38, the plaintiff brought to court one bunch of nuts he alleged had been cut by the defendant, but it would have been impossible from these to tell who had harvested them and from what tree. Inspection of the land by the court was possible, but also costly and potentially indeterminate.

Even with witnesses, oaths were frequently used to prove facts. In NU 217/38, the plaintiff volunteered to swear on a Bible that the defendants had cut palm fruits on his people’s land. The court found in his favor when the defendants refused to provide a Bible. The case was later reopened, and an inspection revealed that the defendants had in fact harvested from their own trees, and the plaintiff had been motivated by malice. Fear of supernatural punishment was not sufficient to induce truth-telling; the plaintiff of a land dispute that had been settled against him protested that “after one month from the time of such swearing of the said juju produced by me, the deft and his people went to the man from whom I brought the juju, bribed him with £8 plus a fowl, and the man pronounced that the juju should not kill them again.”²⁴

Often litigants feared that their opponents, given the opportunity to swear falsely, would do so. The plaintiff in a 1935 case²⁵ had caught the defendant reaping nuts on his land on three occasions. Five elders testified that they had inspected the land, and that the trees belonged to the plaintiff, but believed it was noteworthy that the defendant was willing to swear that he had never reaped from the trees in question. One of the plaintiff’s witnesses clearly feared the court would allow the defendant to take an oath, and told the court that “I do not want the Court give judgment on juju. The trees in question really belong to Plff [plaintiff] I know that very well because I am the elderly man in Deft’s [defendant’s] compound. Let Court give judgment accordingly.”

²³Abadist 9/1/268: Umuaro Native Court Civil Suit 283/33. This case is included in the Web Appendix.

²⁴Abadist 9/1/26: Omuma Civil Suit 25/29.

²⁵Abadist 14/1/504: Arungwa and Amavor Group Court Suit 81/35.

Points of law were equally pernicious for landowners attempting to defend their rights. The claim that palms were harvested communally was a common defence; this was the point of issue, for example, in NU 154/35. Some of these assertions were outright lies. In one case, it was noted that Umuokoro had originally had a common day for reaping palms, and that the plaintiff had later sworn juju that “everyone should cut palm fruits from his land.” He had come to court, however, accusing the defendants of cutting on the wrong day, and stated that “according to our custom we have no private palm groves since from origin palm groves planted by anyone in our town are cut in general.” His claim failed when his duplicity was exposed (OVO 318/36).

In some instances, however, the customary law was actually unclear. In NU 610/37, the plaintiff’s late brother had pledged land to the defendant’s late father, on which either the defendant or his father had planted coconut trees. The plot had since been redeemed by the plaintiff. The defendant told the court, “I am a boy. I want the court to decide whether I am entitled to use them, or not.” The case had to be adjourned so that the court could consult other Ngwa elders who “all agreed that pltf [plaintiff] is entitled to whatever thing on his land.” Further, the procedure for redress was complicated by the diffusion of political authority, as disputes could be alternately settled before the *amala* (village council), by the *okonko* (secret society), inside the *ezi* (compound), within the age-grade, or with the help of the *oke amadi*, the wealthy members of the community who Allen labeled “the true de facto rulers of the village” (SP 021 CSE 1/85/3708).

The Native Courts added an extra layer to this complexity and made their own procedural demands. In UNC 150/35, the plaintiff had brought his claim as a criminal suit two months previously but been ordered to take a civil action. Though he won the latter, the costs of defending his property in terms of time, effort and cash had increased. Political concerns also interfered with the working of the Native Courts. In one dispute,²⁶ the District Officer ordered that the proceedings from an earlier and related case be read to the court. The plaintiff, writing for an appeal, complained that this had not been done, “because the clerk himself would have been assaulted by the then sitting chiefs in the attempt to have it read openly to them as he was instructed.”

This is not to imply that regulation of effort when palm trees were harvested communally was costless. Where the rules were clear, however, monitoring need only detect that a violation had occurred, not on whose land, and could be effected by any member of the village. Whereas defense of private property was a largely private act, maintaining the rules of communal harvesting was in the interest of the whole community. This is the critical distinction between the costs of monitoring under private and communal property in the model; while under private property the costs of monitoring rise with the price of oil, they do not rise as quickly under communal harvesting.

²⁶Abadist 9/1/26: Umuma Native Court Civil Suit 35/29

Where difficulties arose with communal harvesting was when the law itself was ambiguous. In NU 42/35, the plaintiff claimed that his people and those of the defendant had decided to harvest separately, and that the matter had been related to the defendants' elder Ehuwa at the *okonko* (secret society) meeting. The defendants denied this, and their spokesman told the court that "from the beginning of the creation, we cut palm fruits, brushing roads and do every thing together." The case had to be resolved with the swearing of juju. Similarly, the palms under dispute in UNC 49/35 were owned in common by four towns, while both privately and commonly owned trees coexisted. Twelve years before, the elders of Umuala had made regulations concerning the use of these trees and killed a goat to mark the occasion, but the meat had been refused by the defendants' elders, who did not inform their youth of what had occurred. The youth, then, had no means of knowing what the rules were. The defendant in another case pleaded to the court that "we have no common day for general palm nut cutting. This law had not been instituted in our place" (OVW 35/37).

Collective action is made easier when the users of a natural resource are similar to each other. In cases where several quarters attempted to enact communal harvesting together or where other social conflicts intervened, co-operation would at times break down. Because of offenses against cutting regulations, Umueteghbe decided to no longer cut together, each *onumara* (quarter) keeping to its own land (NU 243/35). The defendant in NU 192/27 similarly told the court that his village had cut communally in the past, but a year ago, after a dispute where "Emereole had wanted to kill Nwaeke," the *amala* (village council) had "decided that we should cut palm nuts from each compound's bush." The representative of the *amala* (village council), however, told a different story, informing the court that "[w]e said as it is the tax payment season that no one should cut palm nuts again... We got a writer and a book and put the law in writing."

4.4. Communal harvesting and effort costs. The model above abstracts away from the methods used to regulate harvesting. Those communities that practiced *imachi nkwu* attempted to maintain strict controls over when and how their members could cut. While reaping palm fruit did not cause permanent damage to the trees, the village stock of palms was like a fishery insofar as the gathering of fruits by some individuals could leave others without the means to pay tax when it came due. Where there were restrictions, specific days were set aside at regular intervals during which individuals could cut palm fruits at will. The beginning of the communal harvest was signalled by the beating of a drum, and cutting when it had not been rung was punishable by a fine.

Within these outlines, regulations differed by village. In NU 284/37, it was stated that the grown men had been divided into two groups, each with separate turns. Some villages ceased completely to recognize private rights over trees while others did not – the defendant in one suit listed for the court some individuals who used to have private rights but stated that "since 12 years we have deprived them of their *Okpulo* [private]

palm trees” (MGC 161/36). Consistent with the interpretation that these restrictions were imposed to reduce the negative externalities of harvest effort, some villages permitted cutting to be suspended if one of its residents was under arrest or away at court (ANO 281/38).

Whether individuals could hire helpers or sell their own turns varied. Mayne noted that among the northern Ohuhu of the Umuahia NCA, those individuals who could hire the greatest number of laborers from neighboring towns collected the most fruit (Abadist 8/11/12). In the village of Umuoke-nunu, people were permitted to sell their turns, as was revealed when one of the defendants of ANO 308/42 was charged with selling his turn to each of the three other defendants at once. The defendant in NU 82/35 claimed that hiring of up to three reapers was permitted at Umuejea; while the plaintiff disputed this assertion, he took action against the defendant, and not against the man to whom the defendant had sold his turn (and who had sold his harvest to the plaintiff’s wife). At Ndiegora, a stranger living in the town was brought to court because, on the orders of his host, he “joins us in palm cuttings and he has been severally warned to go to his town to join” (ANO 109/41). Similarly, at Umumkpakara Mkpuru it was said that a person who “cut palm nuts by two persons” was made to pay a fine. The defendant in a subsequent case from the same village claimed that he had hired a man to cut nuts for his brother who was away at school, but the plaintiffs protested that he should have called a boy to cut, as “an adult can not be called to cut palm nuts for a young boy” (ANO 167/43).

5. DIRECT TAXATION

Green (1941) suggests that direct taxation under colonial rule intensified the conflict between elders and youth over palm harvesting, leading to communal harvesting in places where it had not already existed. Taxes also help explain why low interwar prices of palm oil did not lead communal harvesting to be abandoned. Suppose, in the model, that the youth has to pay τ in taxes, regardless of the cost, so that under private property he faces the constraint $sp \geq \tau$. If the private equilibrium gives him this, nothing changes. If not, he will steal exactly enough to pay the tax, and so monitoring over and above what is needed to keep him to this amount of stealing is ineffective. The elder will then reduce his monitoring to this amount, $(p - \tau)^2/p$. Reducing monitoring in order to let the youth steal is, like communal harvesting, another mechanism by which the elder chooses to self-interestedly cede his property rights. In the remainder of this section, I check this prediction against evidence from the court records.

Poll taxes were introduced in Igboland in 1928, in order to bolster the power of the Warrant Chiefs through the creation of Native Treasuries.²⁷ The heart of disputes over palms was that they were a valuable source of cash income that could be used to pay

²⁷Both Afigbo (1966, p. 550) and Gailey (1970, p. 76) cite this as the prime concern that motivated the extension of taxation to the Eastern Provinces. Ikime (1966, p. 559) also notes that British officials felt it was inequitable that the East should remain immune from direct taxes, when these were already in existence

tax. Usoro (1974, p. 60) makes a rough estimation²⁸ that 20% of the palm oil exported in 1931 was collected as tax. At the time taxes were introduced, the value of the tax was roughly equivalent to one four-gallon tin of oil, though this physical burden doubled within a year due to falling prices (Martin, 1988, p. 113-117). Where palm oil was harvested privately, the receipts were put to uses for which cash was similarly necessary; the defendant in one case told the court that he had harvested palms to pay his younger brother's school fees (ANO 167/43). In another suit, one party had pledged an *okpulo ika* (private grove) belonging to the *ofo*-holder on behalf of the *onumara* (quarter) in order to pay the collective fine levied after the Women Riot (OVU 461/36).

It was difficult for youth to pay their taxes by means other than palm harvesting. Allen wrote that palm produce was the *only* means of obtaining cash with which to pay tax or purchase imports. There is little indication in either the literature or archival sources how individuals that did not have access to palm produce or paid employment were able to meet their tax obligations. Afigbo (1966, p. 551) writes that, when taxation proposals were discussed with the Igbo, district officers were asked if they would prosecute people who pawned their children to pay the tax. It is clear that men did pawn themselves to pay tax (Afigbo, 1966, p. 553), and that women sometimes had to use their savings to pay their husbands' tax the first year it was collected (Gailey, 1970, p. 98).

Even where there was no conversion from private to communal property, the introduction of direct taxation raised the incentives for youth without groves of their own to steal from others. In a 1939 case, the defendant admitted that the plaintiff owned the trees from which he had harvested and accepted his contention that "the palm trees known as *Okpulo* [private] palm belong to the elderly man of the family. And that it is not lawful for any other person cut it." Even still, he had reaped from these trees because he had no other means of paying the tax (UNC 17/39).

Supporting the predictions of the model, in several cases the communal controls imposed on palm cutting are stated directly by witnesses to have been linked to the payment of tax. In UNC 62/35, the witness Waeke stated that the palms had been reserved for paying tax. In another suit, the plaintiff argued that, four weeks previously, a rule had been made that no-one was to cut palm fruits until notice was given, so that the fruits could ripen and yield enough oil for the payment of tax. This rule had, however, become unenforceable, and when an attempt was made to renew it a goat was sacrificed to solemnize the decision (OVU 418/35).

in the North and West. While in other parts of British Africa, poll taxes were introduced as a means to increase the labor supply (Arrighi, 1970; Perrings, 1979), there is no indication this was a deciding factor in the Igbo case. Direct taxes were not a major source of revenue; rather, the British fiscal interest in palm oil was in export duties, which had been imposed in 1916. Customs and excise duties formed 46% of the government's revenue from 1922-27, and excise taxes on palm oil averaged 7% of the value exported (Martin, 1988, p. 112). Produce inspection fees of 9d per ton of kernels and 1s per ton of oil were introduced in the Eastern Provinces in 1928 (Martin, 1988, p. 58).

²⁸ $\frac{0.25 \text{ adult males per person} \times 2,563,148 \text{ taxable population in the palm oil belt} \times 7/6 \text{ tax per adult male}}{\pounds 10.28 \text{ per ton estimated producer price} \times 118,133 \text{ tons exported}} = 19.9\%$

The difficulty of enforcing regulations made when palms were made communal for tax payment is a persistent theme of the court records. This is a complication not directly captured by the model. The defendant in OVO 440/36 told the court that “since the tax payment the palm nuts had been set free for anyone to cut to pay tax,” but because of violations, the rule had become ignored. In some instances intermediate solutions between communal and private property were attempted. One compound in the Ovuku Group Court Area had given three consecutive turns to the young men to cut from “both private palm and communal palm,” though the law had been “spoilt” by persistent violation (OVU 66/36). In UNC 35/39, it was stated that “the villagers” had asked all persons to whom palm groves had been pledged “to come and cut their palm fruits and leave it to ripe again for *Amalas* [village council] for general use.” The defendant in the suit objected to this, telling the court that he had not agreed to give the plaintiff “my palm fruits to cut and pay their tax.” The court found in his favor.

Several complexities of the interaction between direct taxation, property, and institutional change are highlighted by the two cases of UNC 89/38 and OVO 344/36. In the first case, the plaintiff had ceased to allow the young men to harvest fruit from his trees after he did not receive his share of the 10% rebate of tax revenues paid by the colonial government as compensation for assistance in tax-collection. By his own estimation, this would have been 15s. The defendants were then compelled to borrow money to pay their taxes. When their creditors troubled them, they gathered oil from the fruits on his land. The plaintiff protested:

I told them that my father never told me that one could take one's palm trees by force, and that we use to appear in open square and pass a rule that the owners of the palm trees should allow young men to cut nuts for tax.

The witness Akarawolu told the court that Kelly, the British officer, had told instructed the young men to meet with the elders “in discussing of anything,” but had also told the old men to have “one ‘*Okpulo Ika*’ [private grove] and one only.” The court found for the plaintiff, deciding that he should not be forced to surrender his palms and was free to “carry on with his palm trees and do what he pleases.”

In the second case, the elders of Umuakole had initially responded to the poll taxes by arranging for a time during which young men could cut from private groves. In the past year, the arrangement had collapsed, and palms were being cut in common with no restrictions on the time of harvest. A meeting was summonsed and juju administered that no one should cut except on appointed days. The defendants in the case had not adhered to this decision and forced their way into the plaintiff's land. A tax demand note was then received stating that 24 days remained until payment was due. The first defendant told the court that a meeting was then held and cutting suspended “as payment of tax has come into force.” The defendants, however, were annoyed that, of the eleven persons in Umuakole with private palm groves, they believed only three were

entitled to them. Further, the plaintiff and others had “exceeded more than what their ancestors had.” The court initially found for the plaintiff, but on review the defendants were cautioned and discharged. The reviewing officer noted that the “elders take this case much to heart. They say unless the defts are punished, the young men will get out of control. Nonetheless, *fiat justia ruat coelum*, usurpation of *okpulos* [private groves] is at the root of the trouble.”

In both these cases, the youth admitted that the palm groves in question were the property of the elders, but were not willing to allow rights of ownership to interfere with their ability to pay tax. While colonial officials tried to uphold the authority of the elders, they also limited their accumulation of property when it interfered with revenue collection and village peace. The aims of Indirect Rule and the means of funding it pulled the men on the spot in opposite directions. Phillips (1989) has described British colonialism in West Africa as a “makeshift settlement.” The initial ambition of importing capitalism came up against the realities of labor costs, land tenure systems, and the need to placate traditional authorities in order to maintain law and order. While she focuses on the conflicting aims that faced individual governors, it is clear these same contradictions also forced local administrators into a balancing act.

6. CONCLUSION

In this paper, I have described the political economy of property rights as part of a micro-level study of institutional change. Certain Igbo groups responded to the rising commercial value of palm produce by curtailing private rights over palm trees. I have presented a model in which this outcome is in the interests of both those with trees and those without. Because defense of property rights is costly, a regulated scheme of communal harvesting may be preferable to the private-defense equilibrium, and a rise in the price of output can make such an arrangement sustainable. I have used model along with colonial court records to explain the political economy of disputes over palm trees that occurred in Igbo communities during the first half of the twentieth century. These were understandable as conflicts between the economic and political interests of elders with property and a tenuous grasp on village authority with youth, who had little property, the burden of bride-payments, and aspirations to political power.

I have added to our understanding of common property, collective action, and the impact of trade on the commons. For the Igbo, common property existed because it helped reduce the costs of defending private property that had intensified as palm oil became commercialized. It provided a mechanism by which those who did not own trees of their own were still enabled to pay tax. The collective action needed for the operation of this scheme was facilitated by the relative ease of detecting violations, by the small size of Igbo communities, and by the fact that it could be enacted within an existing institutional arrangement. It was hindered by the diffuseness of authority in Igbo

society, by cases where the rules governing harvesting were not clear, and by the additional complications created by the Native Courts as a competing jurisdiction. These points echo the general findings of Ostrom (1991). Trade did not undermine common property or collective action in the Igbo case, but instead strengthened them.

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