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**The Myth of Extractive Indian Landlordism: The Case of  
Colonial Bengal**

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# The Myth of Extractive Indian Landlordism: The Case of Colonial Bengal \*

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## Abstract

How extractive were Indian landlords before land reform? At least in the case of the Bengal *Zamindars*, this paper argues that they were not very good at it. The fundamental reason is that they gave their land out on cash rent permanent leases. I outline the implications of this for the distribution of income – the tenant was basically a peasant proprietor subject to a rent charge – then show that inflation dramatically reduced the real rental burden over the long run. I compile a new dataset on nominal rents per acre in Bengal between 1790 and 1940. These abysmally failed to keep up with inflation: by the 20th century, in real terms, they were less than a third of what they had been at the start of the 19th century. Next to no movement in nominal rents strongly suggests that they were customary rather than rack rents, and that such long term land contracts (a form of private property) were secure. Colonial Bengal, almost accidentally, underwent a gradual, peaceful, and largely market-driven land reform that few commentators seem to have picked up on.

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\*This is a shortened version of old work, with improvements to minor points of argument and presentation, written while an Oxford-Richards Graduate Scholar at Wadham College, I am thankful for their funding. Thanks go to Tirthankar Roy, Peter Robb, Clive Dewey, Stephen Broadberry, and Susan Wolcott, who provided feedback on earlier iterations of the chapter. Alex Boote and Yunyufei Luo provided helpful comments on this paper version. Errors and opinions are entirely mine. This is a complex subject and I have focused on brevity here, so those who want more detail can email me.

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## Introduction

Where Indian landlords exploitative as is commonly alleged? This paper examines the path of rent and the evolution of tenurial institutions in colonial Bengal – where landlords were supposedly the most exploitative – with novel data and finds that they were not at all exploitative (to the dubious extent that a market transaction like asking for rent in exchange for land can be considered exploitative). Indeed, by contrast, the tenants got the better of their landlords almost entirely by market means. This empirical exercise turns out to strongly suggest that one of the most repeated tropes about Bengali and Anglo-Indian history is wrong, and demonstrates that the minority of dissenters from that crowd have been correct. For those expressing, or relying on (as many, it seems, have been misled), the received, incorrect, wisdom, see, *inter alia*, Boyce (1987, p. 157), Thorner & Thorner (1962, pp. 53-4), Islam (1978), Bhadhuri (1999), Stepanek (1979, pp. 91-95), Banerjee & Iyer (2005), Iverson *et al.* (2013), Caum-Julio (2024), and Lord Curzon (GoI, 1902, p. 6). For the minority of dissenters, who turn out to be largely correct (given my evidence presented here), see Ray (1979), Abdullah (1980), and Panda (1997). The best account of this alternative, but correct, view, is still, to this day, that of W. H. Nelson, a senior colonial civil servant, in his evidence to the Land Revenue (Floud) Commission, henceforth FC, in the late 1930s (GoB, 1940, Vol. V, pp. 1-23).

The tenants "exploited" the landlords because of the contractual form they had agreed to around 1800: the perpetual lease. So long as tenants paid their rent the land was effectively theirs and their heirs'. The tenants acquired a form of property in the soil. The overwhelming majority of such contracts stipulated nominal rents, and over the 19th and early 20th century the trend of agricultural prices in Bengal was upwards to a substantial degree. As nominal prices rose, real rents fell. And yet because the landlords had contractually committed to a certain nominal rent and the perpetual possession of the tenants, they could not, legally speaking, arbitrarily evict the tenant and jack up the rent. The tenants, however, were able to sublet at market rates and capture the difference between their customary rate and that the marginal subtenant was willing to pay. By 1880, the interest of the perpetual tenant was worth more than that of the superior landlord: Colonial Bengal had seen a gradual, peaceful, accidental, and market driven land reform. From one of the most unequal places on earth, when it came to landed property, in the

18th century, chance ensured that Bengal would merely have unexceptional levels of inequality by 1900.

That the big landlords could not renege on their contracts and jack up customary rents implies that immovable property in the colonial countryside was largely secure. Indeed, the colonial state, from an early date, offered legal protection to these types of contracts, and as the value of the tenant rights rose it took further steps to ensure their legal and practical security. The above is merely a story. The rest of this paper proves it, using more data - perhaps an order of magnitude more - than anyone else writing on the agrarian history of Bengal, to my knowledge, ever has. I first outline the historical background and how the system of permanent tenancies worked in theory. I then examine the path of nominal rents on these permanent tenancies over time, and that of paddy (the staple crop) prices.

## **Background**

In 1793, Lord Cornwallis, British Governor-General, made the Permanent Settlement of the land tax in Bengal - it was to be fixed in perpetuity, a commitment to a marginal tax rate of zero that was upheld all the way to independence; the colonial state did not suffer from the commitment issues institutional theorists make such a great deal about (at least in this case). This settlement was made with Bengali landowners, known as the *zamindars*. The origin of these landowners is somewhat uncertain, but (as a class) they had been around before the Mughals - thus the assertion that they were a "colonial institution", popular among the economists (Banerjee & Iyer, 2005), is untrue. After invading Bengal, that empire fought with them for an extended period before a deal was made respecting their rights so long as they paid taxes. (Ray, 1979, p. 18). Most famous of these were the *Bara Bhuyias* ("the 12 landed magnates"), the descendants of which were often still found in possession of estates in the 1870s (Wise, 1874, Vol. 43, No III). The Mughals never surveyed Bengal, and so the landowners kept the difference between what they paid as tax and what they collected as rent; the *zamindars* were apparently "numerous, rich and powerful" in Akbar's time (GoI, 1884, p. 21).<sup>1</sup> Their ability to fight with the Mughals

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<sup>1</sup>On the precolonial origin of the Bengali *zamindars*, see also Ray (1979, pp. 14-18), Harington (1805, Vol III, Fourth Part, Section I), Eaton (1993), Raychaudhuri (1969), and Datta (2000, Ch. 3). *Zamindars* were found across the Mughal Empire, see Nurul Hasan (1964), Habib (1958), and Alam (2013 - 1986).

certainly suggests that they were rich and powerful, and the small increase in the Mughal tax demand up to the early 18th century suggests that they added to their wealth by keeping any increased rents, but, if the data from the colonial era is to be believed, they were not very numerous. As Mughal power waned, the Nawab of Bengal relied upon some of the larger *zamindars* for political support, and these built up very large estates through court favouritism and physical force (Ray, 1979, pp. 26-28).<sup>2</sup> Such was the exceptionally unequal distribution of landed property that the East India Company inherited and, after a period of trying to squeeze the *zamindars*, it decided to come to terms with them, much as the Mughals had done. The result was the Permanent Settlement. This was a very potent cocktail for extreme inequality. There could not have been more than 100,000 *zamindars* (excepting one district, which, for historical reasons had about as many as the rest of Bengal), out of a population of at least 18 million in 1793 - and there was also substantial inequality within the *zamindar* class.<sup>3</sup> Bengal was primarily an agricultural society, and so a miniscule share of the population appeared to stand to benefit from the zero marginal tax rate, and the future increase in land rents owing to population growth and trade.

### **Why Landlords were not Exploitative: Permanent Tenancies**

Largely by accident, this was not to be the case. The *zamindars* gave their lands out on permanent leases, crucially with cash rents, and even many of the large permanent tenants ("tenure holders") gave their land out on permanent subtenancies.<sup>4</sup> This occurred both on land already cultivated in 1793, but also on land which was not (equivalent to around a third of the cultivated area in 1939).<sup>5</sup> Perhaps especially so on this waste, for this process of subinfeudation, as the granting of permanent tenancies was called, played a major role in incentivizing reclamation.<sup>6</sup> The

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<sup>2</sup>See also Buchanan-Hamilton (1833, On Estates).

<sup>3</sup>The exceptional district was Chittagong, which had a very large number of *zamindars* due to its colonisation by soldiers during the Mughal period.

<sup>4</sup>Those acquainted with Chinese history will immediately see a parallel with the "Two Owners, One Field" system of top soil and sub soil rights that was common across Southern China before the revolution.

<sup>5</sup>Some degree of subinfeudation was in place before 1793, e.g. Beveridge (1876, p. 416) describing multiple degrees of tenures in East Bengal in 1790. See also Datta (2000, Chapter 3).

<sup>6</sup>This was true even when Europeans were involved: One British capitalist purchased a large tract of waste and enticed cultivators with perpetual fixed rent tenures after financing land clearance before any tenancy legislation (Indigo Commission, 1860, p. 234).

permanent tenant had a "heritable and transferable" interest (GoB, 1930, Vol I, p. 26).<sup>7</sup> The usual term for such tenants in official reports was an "occupancy *raiyat*", or *raiyat* for short. The vernacular names varied from place to place: *jotedar*, *howala*, *khudkasht raiyat* and so on. The most of the literature has suffered from a "what's in a name?" problem - having permanently leased his land, the landlord was more of a constitutional monarch than an absolute one.

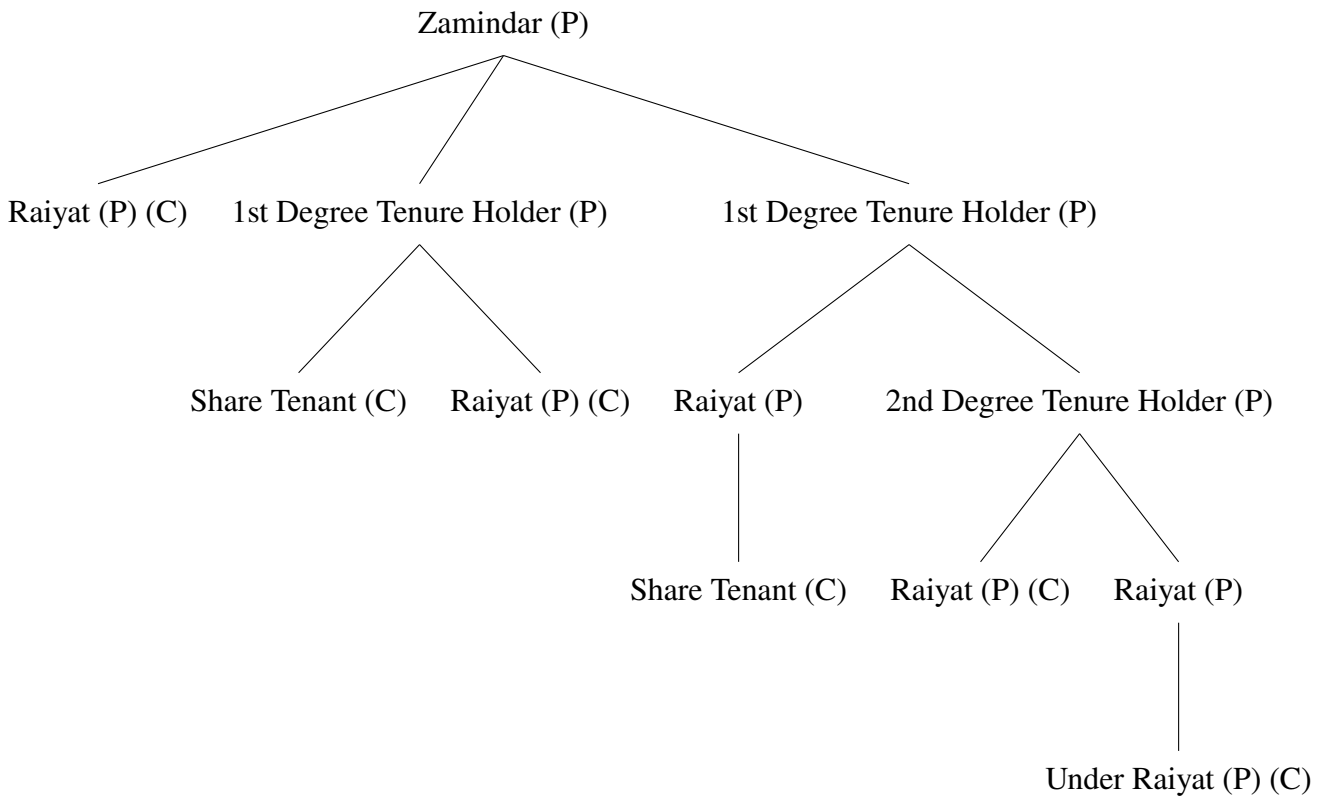
To illustrate things, Figure 1 presents a tenure tree, showing the layers of permanent tenancies, for a hypothetical estate in Bengal. Although there is a single *zamindar* as the proprietor of the estate, which covers six acres, there are ten separate permanent property rights. Six acres is smaller than the average estate was, but the principles are no different. Permanent rights required less than economic rents, for otherwise they would have no value. But since there were many other permanent, valuable, interests in land besides that of the *zamindar*, landed property was more widely distributed than it seems at first glance, or when looking at tax classifications (which would suggest that the *zamindar* had absolute control).

Only temporary tenants, who were often sharecropper subtenants of some degree, actually paid competitive rents. Whether the lowest person with permanent rights cultivated himself or through a temporary tenant, he paid some cash rent to the person above him in the tenurial chain and earned the difference between this and the competitive rent. Contrary to the views of contemporaries and later historians, there is no inherent connection between the degree of subinfeudation and high rents. Subinfeudation did not lead to higher rents - its essence was instead their limitation. Note that the rent receiving interests are more like bonds than equity: the right to any marginal income is preserved in the hands of the lowest permanent right. That rent receiving rights were like bonds implies that their owners did not need to know anything about the land in question so long as rents were paid - thus absenteeism was no problem - and the true landowner, in an economic sense, was the permanent tenant with possession. In Figure 1, out of the six people actually cultivating, four of them (two thirds), have permanent interests in the land. They were more like peasant proprietors than tenants-at-will. Although they did not pay competitive rents, the permanent tenant with possession felt the opportunity cost of using the land through the possibility of subletting or sale. And so market signals and the price

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<sup>7</sup>The landowner may have reserved the right to control transfer at the inception of the lease, but as this could be renegotiated, even these tenancies were ultimately transferable at the end of the day.

Figure 1: Example Tenure Tree (Tenancy Act Classifications)



**Note:** (P) stands for permanent rights, (C) for the actual cultivator.

system were still in operation.

To see what this meant for the distribution of income, let us take values from the 1930s, being the result of close to a century and a half of supposed landlord oppression. Suppose that each cultivator cultivates one acre, and the value of the produce is 50 Rupees.<sup>8</sup> Since there are six cultivators, the total value of output is 300 Rupees. The cost of cultivation gets paid to the cultivator for his efforts (agricultural labourers are ignored here). The residual income, i.e. the economic rent, is then to be distributed by right according to the tenure tree. Share tenants often paid half of the crop, but part of this represents risk (and perhaps input) sharing. Assume therefore that the economic fixed cash rent, i.e. the value of output minus the cost of cultivation, was forty percent of gross output, or 20 Rupees an acre. I in fact believe it was closer to thirty per cent, see Pal & Quizon (1983, Tab. 4), but taking a higher figure raises the potential for inequality, and so I bias my figures upwards this way. In the 1930s, the average rent per acre paid by a *raiyyat* to his superior in the tenure tree was around 3.5 Rupees, while the average rent

<sup>8</sup>See Table 2 below.

Table 1: Example Tenure Tree: Class-wise Distribution of Rents and Income

Class	Net Rental Income	Total Income	Share of Aggregate Rental Income	Share of Aggregate Income
Zamindar	11	11	8.46	3.67
1st Degree Tenure Holders	28.5	28.5	21.92	9.5
2nd Degree Tenure Holders	3	3	2.31	1
Raiyats	74.5	164.5	57.31	54.83
Under Raiyats	13	43	10	14.33
Share Tenants	0	50	0	16.67
<b>Total</b>	<b>130</b>	<b>300</b>	<b>100</b>	<b>100</b>

**Note:** Derived in Appendix A.

paid by an under-*raiayat* to his *raiayati* landlord was approximately 7 Rupees an acre.<sup>9</sup> Assume that the 1st degree tenure holders paid 1.5 Rupees an acre to the *zamindar*, and the 2nd degree tenure holder paid 2 Rupees an acre to the 1st degree tenure holder above him.<sup>10</sup> The results of the rather tedious calculations of the distribution of income, even in this fairly straightforward example, are presented in Table 1. The details of the calculations are presented in Appendix A.

The big landlord, the *zamindar*, winds up with 8.12 per cent of rental income, and a mere 3.67 per cent of gross agricultural income (minus around 1 per cent for tax). This is in stark contrast to the 100 per cent and 40 per cent implied by the usual meaning of the term "landlord". If we expand the landlord class to include the tenure holders (who were in fact tenants themselves), the landlord share of rent comes up to just under 30 per cent, and their share of income to just over 13 per cent on this estate, which, as we will see below, is higher than my estimate for the all-Bengal average. Within the landlord class, the 1st degree tenure holder who rents out an acre to a share tenant does much better than the pure absentee rentier types; taking an interest in your estate was far more remunerative than being an absentee in the long run. The majority of both rental and agricultural income is in the hands of the peasantry. There is, however, differentiation within this group, as the share tenants are much worse off than either *raiayats* or even under-*raiayats* with permanent rights. The big landlords were defeated over the long run, but this did not mean that there was no inequality. This still left many people functionally

<sup>9</sup>Again, see Table 2 below.

<sup>10</sup>The Settlement Report of Faridpur district puts the average rate of rent paid to the *zamindar* by 1st degree tenures holders at 1.5 Rupees an acre (Jack, 1916, p. 26).

landless and reliant on their labour.

One may wonder how land titles worked under such a system. In the middle of the 19th century the state undertook a cadastral survey that recorded and demarcated the boundaries (and tax obligations) of *zamindari* estates (Baden-Powell, 1892, Vol. 1, p. 456). Later legislation created a register of such titles, with penalties for non-registration (GoB, 1930, Vol I, p. 175), (Baden-Powell, 1892, Vol. 1, pp. 684-8). What about the tenants? As their rights derived from contract, they had the creative lease agreement as proof of title, and receipts for the payment of rent acted as a continuous proof of possession. Such leases outlined the specific details of their tenancy besides rates of rent, e.g. whether the consent of their landlord was required for transfer (which was customarily given on payment of a transfer fee when it was in fact required) or if it was freely transferable. Thus any uncertainties regarding rights and obligations, where not covered by the statute and case law, could easily be solved by updating the lease agreement, and this would obviously be done if it raised the value of the holding on net.<sup>11</sup> Registration of deeds was introduced in the middle of the 19th century, and in the early 20th century the state undertook cadastral survey operations to create a "record of rights", this time covering every interest in land, not just the superior landowners'. In actual practice, one government enquiry in the late 1920s reported that cases of *raiyyats* without written leases were "rare" (GoB, 1930, Vol I, p. 176). By that time deeds registration had been going on for 70 years or so, and a majority of the province had a record of rights. Land sold for at least 20 years' purchase in the early 20th century, which does not indicate any large degree of insecurity (GoB, 1940, Vol IV, Evidence of K. B. C. Sinha, p. 383). In 1912, for example, the ratio of the number of civil suits for immovable property to the number of interests in land (approximately 20 million) implies that 0.15 per cent of them were subject to a civil case regarding title each year, i.e. on average once every 667 years.<sup>12</sup> Given that landlords regularly sued for arrears of rent of less than 10 Rupees (approximately 100,000 cases in 1912), this was not because the courts were too expensive to resort to or unutilised.<sup>13</sup> Any uncertainties about rights, it seems, were due to individual failures of due diligence rather than systemic problems, at least after the mid-19th

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<sup>11</sup>In particular, the right of free transfer could be bought if you had not done so at the inception of the tenancy.

<sup>12</sup>The rate for the United Provinces - which had continuously maintained records of rights - was much higher. Suits from *Stat. Ab. 1903-04 to 1912-13*, p. 26.

<sup>13</sup>Suits of less than 10 Rupees from *Stat. Ab. 1903-04 to 1912-13*, p. 27.

Table 2: Bengal Average Rents Per Acre 1939

District	Rent (Rs.)	Produce (Rs.)	Rental Share
Bakarganj	4.5	53	8.491
Bankura	2.063	36	5.731
Birbhum	3.875	40	9.688
Bogra	2.875	48	5.99
Burdwan	3.938	41	9.605
Chittagong	4.688	55	8.524
Dacca	2.813	59	4.768
Dinajpur	2.438	47	5.187
Faridpur	2.563	56	4.577
Hoogly	7.438	52	14.304
Howrah	8.188	50	16.376
Jalpaiguri	2.313	45	5.14
Jessore	2.5	44	5.682
Khulna	3.375	42	8.036
Malda	2.25	45	5
Midnapore	3.938	39	10.097
Murshidabad	3.438	42	8.186
Mymensingh	2.875	61	4.713
Nadia	2.438	43	5.67
Noakhali	4.25	57	7.456
Pabna	3.063	53	5.779
Rajshahi	3.188	48	6.642
Rangpur	3	62	4.839
Tippera	3.125	58	5.388
24 Parganas	5.813	46	12.637
Darjeeling	2.313	29	7.976
<b>Average</b>	<b>3.313</b>	<b>49.469</b>	<b>6.697</b>

**Sources:** GoB (1940, Vol II, Tables No. VI (a) and VIII (a)). **Note:** The output estimates are more likely to be underestimates than overestimates.

century.

So there were big landlords in Bengal on paper, but in terms of control over land, in theory, these were neutered by tenant right. The *zamindars* were landowners without really having land. A recent article by Jordi Caum-Julio (2024) estimates land inequality in Bengal by using the number of *zamindars* as the only land owners. This results in a high Gini coefficient (close to 0.8), but this is misleading, because it ignores the fact that land ownership was split into multiple types of interest, not just those recorded as "proprietors" by the official statistics.<sup>14</sup>

<sup>14</sup>His Gini coefficient estimates for the "peasant proprietor" regions are also often well below the mark, since he – given the constraints of the source material – tends to count all landowners equally, which ignores most of the considerable inequality of holding sizes, rental values, etc within the set of landowners.

Perpetual leases are hard to square with the *zamindars* having monopoly power in the land market. Lest they create future competition for themselves, monopolistic landowners should restrict the amount of land leased out to sub-competitive levels, and only give land out on insecure short term rental agreements (Coase, 1972). Caum-Julio argues that there is some link between revenue classifications and wage to income ratios, due to the oligopsony power of the supposedly few landlords depressing wages and any market power in the land market raising rents. This cannot have been the case in Bengal, as actual land use rights (and therefore the decisions about whether or not to hire labour given prevailing wages) were in the hands the millions of *raiyyats* in addition to the limited number of landlords who had home farms. Indeed, the Bengali puzzle is that most rents were well below, not above, competitive levels. Consider Table 2, which calculates rent to output ratios for the late 1930s - does the rent to output ratio for, for example, Dacca district of 4.8 per cent (less than one in twenty!) really strike you as evidence of landowner monopsony power?

## Rents Over Time

These tenancy arrangements had legal security, at least in theory, from an early date.<sup>15</sup> From 1793 they had common law protection.<sup>16</sup> As W. H. Nelson put it: "The rights of *raiyyats* were not secured by statute but by custom" before 1859 (GoB, 1940, Vol V, p. 2). That is, judge made law (the common law) respecting local customs and agreements upheld them rather than any special act of the legislature. The first tenancy act, in 1859, created a statutory class covering permanent rights and merely shifted the presumption towards the tenant after 12 years of holding, and did not restrict contract choice. Here is one of the High Court Judges:

"It was the intention of the Legislature to declare and define existing rights, - not to create a new class of rights; The [Tenancy Act] ... covered the great mass of resident [Occupancy] ryots who had held so long or much longer, and relieved from

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<sup>15</sup>For alternative accounts, see Roy & Swamy (2016, Ch. 2) and Robb (1997).

<sup>16</sup>E.g. In Jessore district, a civil servant sent by the government to enquire into the state of rights in land shortly before the 1885 Tenancy Act, found the civil courts enforcing customary rates for tenants with permanent rights (Momen, 1925, pp. clxxi-clxxxv). Francis Buchanan also came across the courts deciding cases of permanent rights around 1810 (although not always in the favour of the tenants - it really depended on the facts of the case), e.g. Buchanan-Hamilton & Jackson (1928, On Tenures, p. 442), and Buchanan-Hamilton (1936, Vol II, pp. 555 and 580).

the burden of proof ancient ryots whose proofs could not be carried back beyond a limited period.” (GoI, 1884, Justice Campbell, p. 120).

Later tenancy legislation in 1885 was more comprehensive, and made the granting of permanent tenancies compulsory on certain types of superior landlord (the obvious parallel here being Ireland), although they could still cultivate themselves or lease to share tenants for short terms. The *raiya*s could sublet themselves at fixed rents for short terms and evict the subtenant at the end of the agreement, so there was still an active market for the short term renting of farmland. By that time however, virtually all land was held by permanent tenants, and so it was the existence of these that resulted in legislation, and not the other way round.

Of course, the law may not reflect reality. If the state was willing, but, for some reason, unable to uphold tenant right, then the usual story about *zamindars* may have been true. We can test this by looking at the time series of rents, as persistently low rents imply security of tenure. To see why, consider a variant of the “market for lemons” situation with an addition of a rental market (Akerlof, 1970). The market for tenant right can be a market for “lemons” if there is uncertainty about the future security of such rights from confiscation by landlords. A tenant contemplating the expansion of his landholding could either purchase some sort of right in a plot of land, or take a temporary tenancy. Assume that he would prefer a permanent tenure, perhaps because it provides better incentives and therefore the net produce is higher. He would like to agree upon a rent and then pay a premium (known as a *salami*) on admission, following which the land would be his. If his tenure was likely to be insecure and landlords unable to commit to not expropriate these rights once conveyed, he would rationally refuse to pay a premium *ex ante*. The only option left would be to take a temporary tenancy at high competitive rates of rent. Even if there were landlords who could commit as well as those who could not commit, asymmetric information may result in all tenancies being temporary rack-rented ones - the market for “lemons” collapses - unless the former had some sort of credible signal of his type. So the persistence of less than economic rents indicates security of tenant right. The logic is simple: insecure rights get extinguished and rents get pushed up. Alternatively, rent could have risen through entirely voluntary means: Landlords could have bought out their tenants and re-granted the land on another permanent tenancy at a higher initial rent. This would occur if

the market price of such a tenancy implied a rate of return far above that of landlord rights, for example.

This section examines the rental burden by estimating the path of rents per acre over time, which is the key empirical exercise of the paper.<sup>17</sup> But first the reader should consult Table 2 to see the picture in the 1930s - despite the price collapse of the Great Depression, rents were, on average, only 6.7 per cent of the crop for such permanent tenants. To examine changes (or, rather, the lack thereof) in rents over time, consider the "hedonic" regression specification:

$$\ln(\text{Rent}_i) = \sum_j \beta_j \text{Decade}_j + \sum_k \gamma_k \text{District}_k + \epsilon_i \quad (1)$$

I also run the annual equivalent of this regression. I estimate these equations with OLS using a data set of 2,637 rent observations over the period 1790-1940. The data are described in Appendix C, but come from three main sources. The largest group are the rent rates reported in W. W. Hunter's *Statistical Account of Bengal*, followed by district subdivision averages presented by the Settlement Reports, large documents written up following comprehensive cadastral surveys associated with the creation of a record of land rights undertaken after 1885 (earlier cadastral surveys had only recorded the superior landowners), and the third largest group come from a series of rents reported in court case documents. There are also a number of miscellaneous observations.

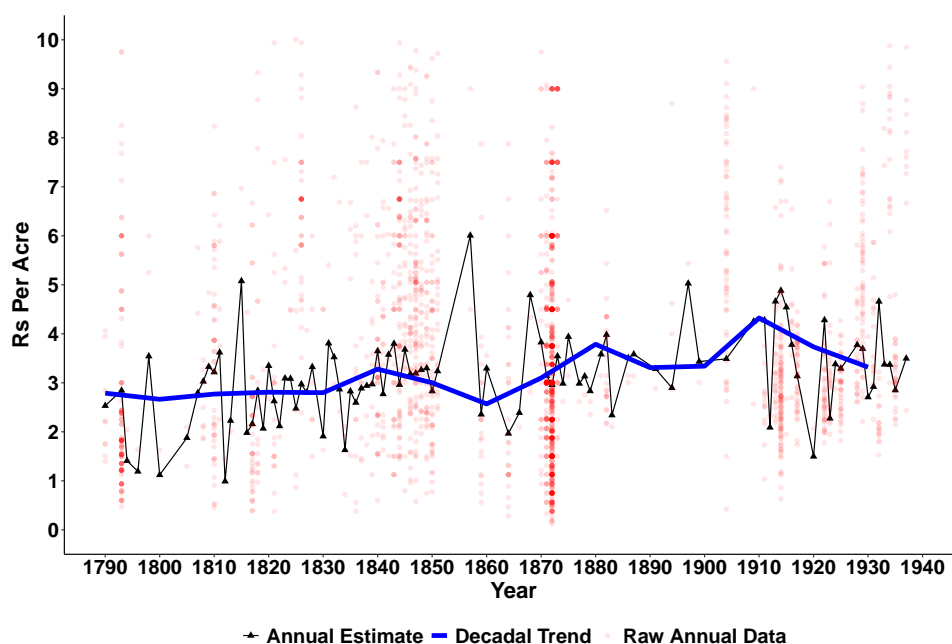
Figure 2 plots the rent observations for all districts over time alongside my annual and decadal district-adjusted averages. The implied average rate of rent per acre in the 1790s is around 2.78 Rupees from the hedonic regression. Nominal rents do not rise by very much at all. By the 1930s they are only on average 3.3 Rupees an acre. In the meantime there is some decade to decade variation, but a glance at the confidence intervals suggests that this is likely due to sampling variation. It is safe to conclude that nominal rents were essentially stationary, which is strong evidence for their customary rather than competitive nature.

These estimates also allow us to slay another myth of Bengali history: that the Permanent Settlement highly taxed the landowners. The permanently settled land revenue was approxi-

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<sup>17</sup>Note that since these are customary rather than competitive rents they tell us nothing about agricultural performance.

Figure 2: Nominal Rents Over Time



Sources: See Text and Appendix C.

mately only 20 million Rupees, and so it could be covered by the rent of around 7.19 million acres. The FC gives the net cultivated area at 28.94 million acres in 1939, and so, if the Permanent Settlement truly took all of the assets of the *zamindars*, we would have the cultivated area expanding by a factor of 4.03 (GoB, 1940, Vol II, p. 112).<sup>18</sup> This is far too high a figure, as it would imply a major increase in cultivated land per capita. The rule of thumb (based on a remark by Lord Cornwallis) is that the cultivated area expanded by 50 per cent, and so 19.2 million acres were under the plough in 1793.<sup>19</sup> This would give a gross rental of 53.4 million Rupees.<sup>20</sup> It appears that the *zamindars* paid closer to a third of their income as taxes rather than the 90 per cent asserted by the received wisdom.

The main evidence for the high tax theory is the low price of estates from the auction sales

<sup>18</sup>This calculation ignores tax free estates.

<sup>19</sup>There is some support for this statement. Henry Colebrooke estimated the cultivated area in Bengal and Bihar at 30 million acres in 1793 (Colebrooke, 1884, p. 12). Assuming that Bengal had two-thirds of this (the same proportion as to its population), there would have been 20 million acres under the plough.

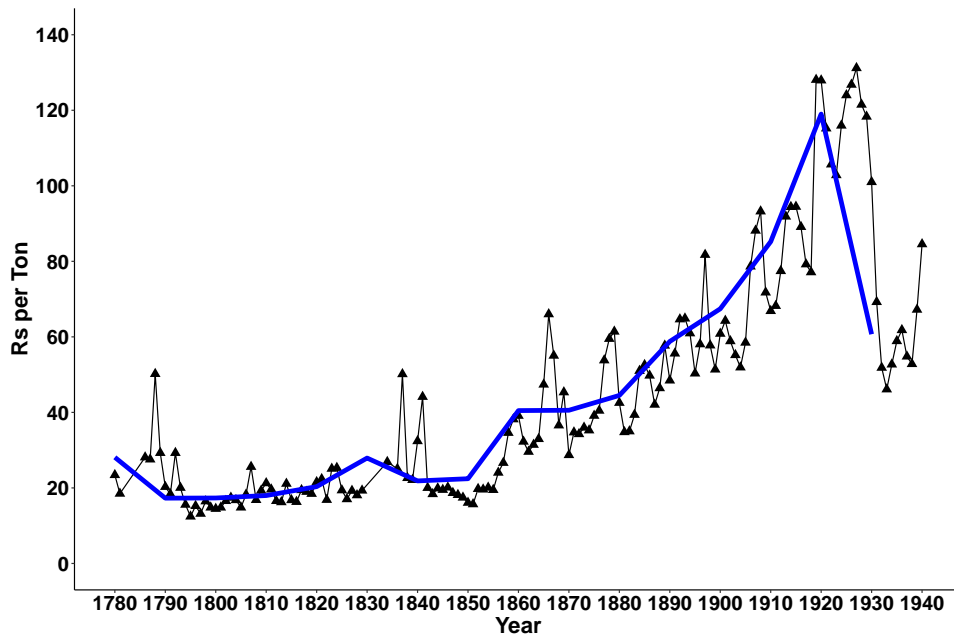
<sup>20</sup>This figure ignores the tenure holders, but their rents were not far from the *raiyyati* ones at this period, and the number of tenures expanded considerably after 1793. The average rent per acre in 1939 was 3.313 Rupees, and on a cultivated area of 28.94 million acres, we would have just under 96 million Rupees. The FC's gross *raiyyati* assets were 128 million Rupees, and the difference is accounted for by (a) tenure holders' own cultivation, and (b) produce rent *raiyyati* tenancies, which formed a tiny proportion of the total, but paid far higher rents than the cash rent ones.

Table 3: Rent Regression Results

Coefficient	Rupees Per Acre / District Adjustment
1790	2.789 (2.384, 3.262)
1800	2.664 (2.089, 3.396)
1810	2.770 (2.314, 3.316)
1820	2.808 (2.403, 3.282)
1830	2.799 (2.289, 3.422)
1840	3.279 (2.913, 3.690)
1850	3.001 (2.583, 3.485)
1860	2.569 (1.904, 3.466)
1870	3.099 (2.785, 3.449)
1880	3.786 (3.230, 4.437)
1890	3.309 (2.696, 4.061)
1900	3.340 (2.764, 4.037)
1910	4.324 (3.753, 4.981)
1920	3.733 (3.414, 4.083)
1930	3.319 (2.926, 3.765)
Bakarganj	0.781 (0.673, 0.907)
Bankura	0.939 (0.764, 1.154)
Birbhum	0.842 (0.729, 0.973)
Burdwan	0.992 (0.876, 1.124)
Chittagong	0.949 (0.834, 1.080)
Dacca	0.494 (0.399, 0.611)
Dinajpur	0.472 (0.403, 0.553)
Faridpur	0.411 (0.344, 0.492)
Hooghly	1.669 (1.479, 1.883)
Howrah	1.766 (1.524, 2.048)
Jalpaiguri	0.707 (0.433, 1.154)
Jessore	0.650 (0.582, 0.727)
Khulna	0.609 (0.521, 0.711)
Malda	0.344 (0.284, 0.417)
Midnapore	0.540 (0.451, 0.647)
Murshidabad	0.619 (0.541, 0.709)
Mymensingh	0.395 (0.337, 0.464)
Nadia	0.394 (0.340, 0.457)
Noakhali	0.728 (0.600, 0.883)
Pabna & Bogra	0.599 (0.527, 0.682)
Rajshahi	0.622 (0.541, 0.714)
Rangpur	0.716 (0.632, 0.810)
Tippera	0.596 (0.493, 0.721)
Observations	2,637
Adjusted R <sup>2</sup>	0.841

**Note:** The decade rows present the regression coefficient to the power of  $e$  adjusted from the 24 Parganas baseline to the all-Bengal equivalent, alongside 95 per cent robust confidence intervals. The district rows present the regression coefficient on the district fixed effects to the power of  $e$ , alongside 95 per cent robust confidence intervals. The high R-squared alongside little time variation in rents implies that the district fixed effects capture most rental variation.

Figure 3: Paddy Prices Over Time



Sources: See text and Appendix B.

for arrears of revenue.<sup>21</sup> But only the estates that were highly assessed would be sold for arrears - sampling bias - and winners' curse would ensure that the most highly assessed estates would be repeatedly sold for arrears. It was in the interest of the others to pay promptly because they earned handsome rents net of tax. This assumes that auction prices signal the actual value of the estates, but the auction process was itself frequently manipulated by the employees of *zamindars*, whether acting for their master or in their own interest - private information about the value of the estate results in low auction revenues. Indeed, Ratnalekha Ray provides numerous examples across Bengal of auction mischief in the wake of the Permanent Settlement (Ray, 1979, pp. 99-103, 121-124, 180-189).

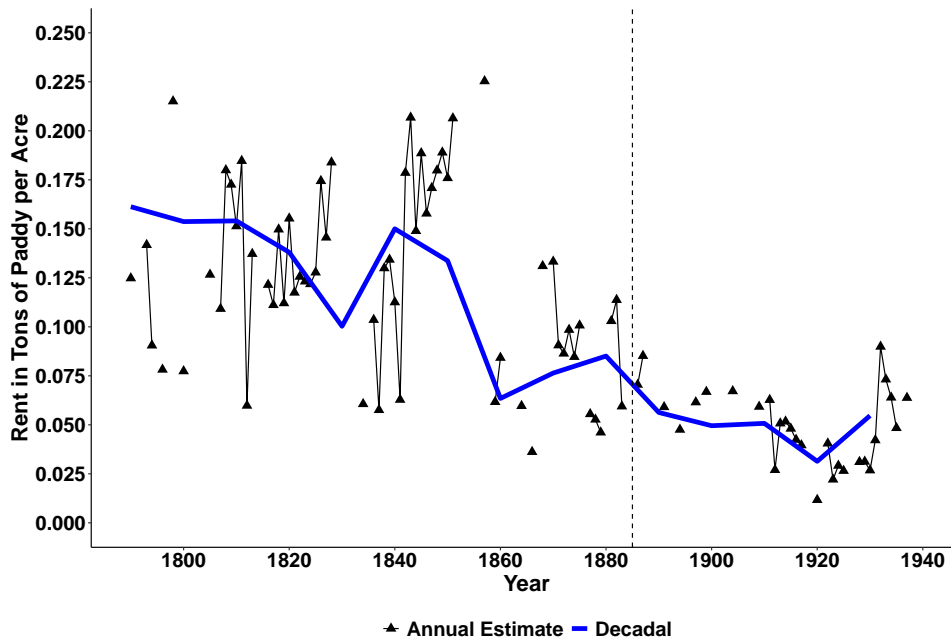
So much for nominal rents. What about real ones? To extract price trends I run the following regression on 354 paddy price observations:

$$\ln(\text{Paddy Price}_i) = \sum_j \alpha_j \text{Decade}_j + \eta_i \quad (2)$$

Which extracts decadal averages. I also run the annual equivalent of this regression. Figure

<sup>21</sup>E.g. virtually all of the evidence in B. B. Chaudhuri's article (Chaudhuri, 1975). Even in the 1920s, land sold for non-payment of revenue went for a large discount relative to private sales (GoB, 1930, Vol II).

Figure 4: Real Rents Over Time



**Sources:** See text. **Notes:** Real Rents are predicted nominal rents divided by predicted paddy prices. The vertical dashed line is 1885, the year of the Bengal Tenancy Act.

3 plots the resulting paddy price path over time. With data covering nominal rents and nominal prices, real rents are then simply:

$$\text{Real Rent}_t = \frac{\text{Nominal Rent}_t}{\text{Nominal Price}_t} \quad (3)$$

Figure 4 plots the yearly and decadal average rents in terms of paddy. There is a clear long term trend downwards, broken by a significant spike between 1840 and 1855. Part of this seems to be a few high rent observations from Hooghly and Howrah districts, but this was also a period of low prices. Thereafter real rents continue their downwards trend, interrupted only by the Great Depression. Note that the bulk of the decline in the real value of rents occurs before 1885 (the dashed line), i.e. before statutory restrictions on enhancement came in. As real rents fell, the value, and strength, of the interest of the tenants in the soil increased.

## Conclusion

Landlords were not permitted to renege on tenancy agreements once unanticipated shocks turned out to be in favour of their permanent tenants. Mass dispossession of smaller landowners (to the

extent that the owner of a permanent tenancy should be called a landowner) to the profit of the *zamindars* was not in the political interest of the colonial state. They had been given 93 years (1793-1885) to buy out or (perhaps illegally) dispossess their tenants in order to switch to short term fixed rental arrangements, and this they refused to do - they dug their own grave instead by granting permanent leases. As creeping inflation was the main reason for the shift in the distribution of income, the landlords were akin to the unaware frogs in the proverbial pot. The story may have been very different, of course, if the landlords were mainly Europeans, as was the case in many other colonies. Tenant right, therefore, seems to have been generally secure both by law and also in practice. Indeed, whether custom (backed, of course, by the common law) was failing when statutory law came into action is doubtful. As F. A. Sasche, author of the Mymensingh Settlement Report, remarked:

”The [Bengal Tenancy Act of 1885] act might have been passed in Fiji islands for all the immediate difference it made to the natural dealings of landlord and tenant. So long as they paid the rent fixed from time to time, and there is abundant evidence to show that arbitrary or abrupt enhancements were never demanded, the jotedars [Tenants] were never dispossessed and all tenancies passed from father to son. Transfers by gift or sale were almost equally matters of course.” (Sachse, 1920, p. 73).

Tenancy legislation in Bengal was not introduced because landlords, by and large, were at the time exploiting their tenantry, but because they had largely failed to do so, and lest they start in the indefinite future. That future, as it turns out, was off the equilibrium path. To emphasise my point by reiteration: The lack of enhancement was not really due to legislation, legislation was rather due to the lack of enhancements.

The *zamindars* of Bengal were known for their contributions to literature, rather than to agricultural or any other sort of development. Rabindranath Tagore is the classic example. The proximate reason for this can be found in the nature of agrarian contracts and the path of rents. Subinfeudation was a form of alienation of land: the perpetual tenant had the right to any residual income. The landlord, by contrast, received what amounted to little more than a rent charge and social status. If they wanted to invest in agriculture, they would have bought out

their tenants (or perhaps rented short term from them). That they could ensure that markets for land rights were integrated with those of other assets. That they did not tell us that there was little to be gained from doing so. Remember that as the permanent tenancy rights could be bought and leased market forces were in operation, and so small-holder peasant cultivation survived that test of efficiency.

The period after the Second World War was one of fairly radical land reform across much of the globe. One place where it was not very revolutionary at all was Bengal, as wartime inflation had reduced the already low rental burden even further and the big landlords had all but abolished themselves.

**Note:** GoI = Government of India. GoB = Government of Bengal.

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## A Calculating the Distribution of Income in the Example Tenure Tree

Assume that:

- The value of the Gross output per acre was Rs. 50.
- The competitive (economic) fixed cash rent was Rs 20 an acre, i.e. 40 per cent of the crop.
- Share tenants paid 50 per cent of the crop, economic rents (40 per cent) plus a premium for risk sharing. This premium gets counted as rental income/outgoings.
- Raiyats paid 3.5 Rupees an acre to their superiors.
- Under-*raiya*ts paid 7 Rupees an acre to their *raiya*ti landlords.
- 2nd degree tenure holders paid Rs 2 an acre to the 1st degree tenure holders.
- 1st degree tenure holders paid Rs 1.5 an acre to the zamindar.

For cultivators (c):

$$GrossOutput = CultivatingIncome + RentalIncome$$

but their net income is:

$$Income_c = CultivatingIncome_c + RentalIncome_c - RentalOutgoings_c$$

i.e.

$$Income_c = GrossOutput_c - RentalOutgoings_c$$

So in general, for interest  $n$ :

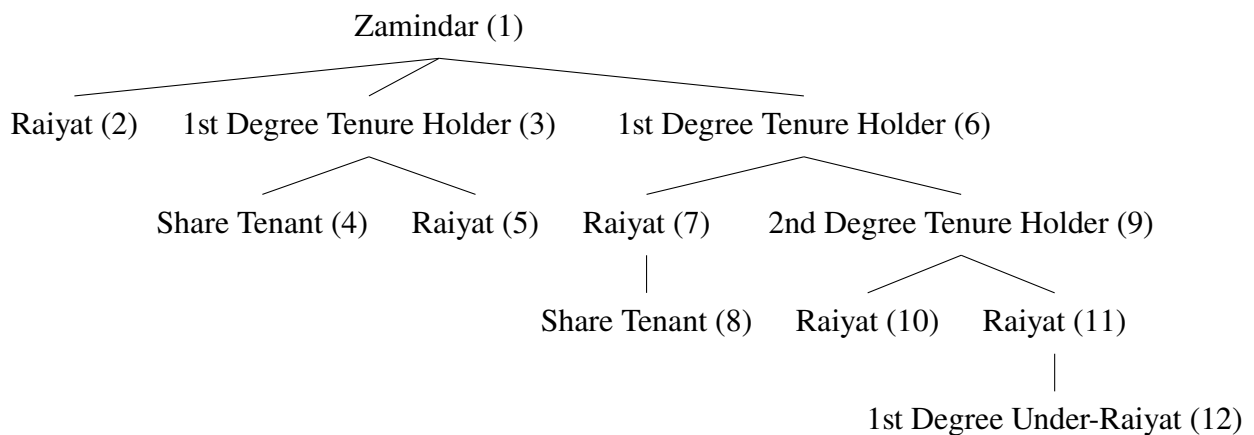
$$Income_n = CultivatingIncome_n + RentalIncome_n - RentalOutgoings_n$$

For purely rentier interests,  $CultivatingIncome_n$  equals zero.

*RentalIncome*, therefore, includes the economic rent for cultivators before they pay their rental outgoings.

To calculate the income of each person, I have assigned them numbers 1 to 12. Start at the bottom of the Tenure tree.

Figure 5: Example Tenure Tree (Tenancy Act Classifications)



**Note:** () denotes the identifying number.

(12) 1st Degree Under Raiyat: Cultivating one acre, has interests in one acre. Value of output: Rs 50. Rental income: Rs 20 (from cultivation). Rental Outgoings: Rs 7 to *Raiyat*(11). Net rental Income: Rs 13. Total Income: Rs 43.

(11) Raiyat: Does no cultivation, but has interests in one acre. Value of output: Rs 0. Rental Income: Rs 7 from Under-raiyat (11). Rental Outgoings: Rs 3.5 to 2nd Degree Tenure Holder (9). Net Rental Income: Rs 3.5. Total Income: Rs 3.5.

(10) Raiyat: Cultivates one acre, has interests in one acre. Value of output: Rs 50. Rental Income: Rs 20 (from cultivation). Rental Outgoings: Rs 3.5 to 2nd degree tenure holder (9). Net Rental Income: 16.5. Total Income: Rs 46.5.

(9) 2nd Degree Tenure Holder. Does not cultivate, but has interests in two acres. Value of output: Rs 0. Rental Incomes: Rs 3.5 from raiyat (10) and Rs 3.5 from raiyat (11), total Rs 7. Rental Outgoings: Rs 4 to 1st degree tenure holder (6), i.e. Rs 2 per acre. Net Rental Income: Rs 3 Total Income: Rs 3.

(8) Share Tenant. Cultivates one acre, has interests in no acres. Value of output: Rs 50. Rental Income: Rs 25 (from cultivation). Rental Outgoings: Rs 25 to *Raiyat*(7) Net Rental

Income: Rs 0. Total Income: Rs 25.

(7) Raiyat. Does not cultivate. Has interests in one acre. Value of output: Rs 0. Rental Income: Rs 25 from share tenant (8). Rental Outgoings: Rs 3.5 to 1st degree tenure holder (7). Net Rental Income: Rs 21.5. Total Income: Rs 21.5.

(6) 1st Degree Tenure Holder. Does no cultivation but has interests in three acres. Value of output: Rs 0. Rental Income: Rs 3.5 from raiyat (7), Rs 4 from 2nd degree tenure holder (9), total Rs 7.5. Rental Outgoings: Rs 4.5 to the zamindar (1), i.e. Rs 1.5 per acre for 3 acres. Net Rental Income: 3. Total Income: Rs 3.

(5) Raiyat. Cultivates one acre, has interests in one acre. Value of output: Rs 50. Rental Incomes: Rs 20 (from cultivation). Rental Outgoings: Rs 3.5 to 1st Degree Tenure Holder (3). Net Rental Income: Rs 16.5. Total income: Rs 46.5.

(4) Share Tenant. Cultivates one acre, has interests in zero acres. Value of output: Rs 50. Rental Income: Rs 25 (from cultivation). Rental Outgoings: Rs 25 to 1st degree tenure holder (3). Net rental income: Rs 0. Total Income: Rs 25.

(3) 1st Degree Tenure Holder. Cultivates zero acres, has interests in two acres. Value of output: Rs 0. Rental Income: Rs 25 from share tenant (4) and Rs 3.5 from *Raiyat*(5), total Rs 28.5. Rental Outgoings: Rs 3 to zamindar (1), i.e. 2 acres at Rs 1.5 per acre. Net rental income: Rs 25.5. Total Income: Rs 25.5.

(2) Raiyat. Cultivates one acre, has interests in one acre. Value of output: Rs 50. Rental Income: Rs 20 (from cultivation). Rental Outgoings: Rs 3.5 to zamindar (1). Net Rental Income: Rs 16.5. Total Income: Rs 46.5.

(1) Zamindar. Cultivates zero acres, has interests in six acres. Value of output: Rs 0. Rental Incomes: Rs 3.5 from *Raiyat*(2), Rs 3 from 1st degree tenure holder (3), Rs 4.5 from 1st degree tenure holder (6). Rental Outgoings: None (Zamindars paid taxes, but these are ignored here). Net Rental Income: Rs 11. Total Income: Rs 11.

Table 4: Net Rental and Total Income According to Position in the Example Tenure Tree

Position	Net Rental Income	Total Income	Class
1	11	11	Zamindar
2	16.5	46.5	Raiyat
3	25.5	25.5	1st Degree Tenure Holder
4	0	25	Share Tenant
5	16.5	46.5	Raiyat
6	3	3	1st Degree Tenure Holder
7	21.5	21.5	Raiyat
8	0	25	Share Tenant
9	3	3	2nd Degree Tenure Holder
10	16.5	46.5	Raiyat
11	3.5	3.5	Raiyat
12	13	43	1st Degree Under Raiyat
<b>Aggregate</b>	<b>130</b>	<b>300</b>	

Table 5: Summary of Paddy Price Sources

Source	Years	Number	Notes	Citation
Floud Commission	Various	26		GoB (1940, Vol II, Table III)
Index Numbers	1861-1931	71	Rice Adjusted	GoI (1933, p. 3, Table III)
Jessore Settlement Report	1790, 1791	2	Rice Adjusted	Momen (1925, p. clxxxvi)
Labour Enquiry	1863 to 1892/3 Quinquennially	7	Rice Adjusted	GoI (1896, app. A)
Maddox	1836-1898	63	Rice Adjusted	Maddox (1900, p. 119)
Phipps	1815-1822	8	1st Class Rice Adjusted	Phipps (1823, p. 261)
Sykes	1845-6	2	Rice Adjusted	Sykes (1847)
Toynbee, Orissa	1811-1817	7	Rice Adjusted	Toynbee (1873, p. 100)
Toynbee, Hooghly	1793-1813	21	Rice Adjusted	Toynbee (1888, Appendix E)
Bengal Paddy Enquiry	1901-1937	37	Rice Adjusted	Paddy Enquiry (1939, V 1, p.24)
Abstract of Agricultural Statistics	1936-1945	10	Rice Adjusted	W. R. Natu (1949, p. 163)
Asiatic Researches	1820-1829	10		Walters (1832, 557)
Report on the Marketing Of Rice	1935-1940	11	Rice Adjusted	GoI (1942, app. XLVI, p.555)
Gleanings in Science	1700-1813	79	Coarse Rice Adjusted to Paddy	G. Herklots (1829, pp. 368-9)
<b>Total</b>		<b>354</b>		

## B Paddy Price Series: Sources

A few things need to be noted about my paddy prices. Where prices were stated in terms of rice, to convert these to paddy prices I multiplied them by 0.65, which was the average ratio in the early 20th century (GoI, 1942, App. XLVI). Where prices were clearly urban ones in early periods, I adjusted them by 0.75 to account for higher prices at Calcutta than near the farms, e.g. Toynbee (1888, App. E). Where the price of premium 1st class rice was mentioned, I adjusted these by 0.7, e.g. (Phipps, 1823, p. 261). Some prices are from neighbouring Orissa, provided by an early history of the province by Toynbee (1873, p. 100) and one of the late 19th century Settlement Reports by (Maddox, 1900, p. 119). Maddox reported rice prices, and noted that while the common adjustment ratio from rice to paddy is approximately 0.65, 0.5 came up in his Orissa sources. Toynbee reports both paddy and rice prices, and 0.5 appears to match the ratio better than 0.65 for this period. I have therefore adjusted Maddox's rice prices by 0.5, which gives paddy prices that fit the figures provided by the other sources better. Robert Allen and Roman Studer have compiled a price database for India. My data is generally consistent with theirs, and the only major difference is that my price of rice (assumed to be that of paddy divided by 0.65) usually lies below their Calcutta figures for the period 1790 - 1820. My prices,

however, are consistent with their prices in the Bengal countryside, which are more relevant to determining the burden of farm rents (Allen & Studer, 2009).

Table 6: Distribution of Rental Observations by Source

<b>Source</b>	<b>Count</b>
Statistical Account	1,191
Settlement Reports	848
Zillah Court Records	517
Misc.	81

### **C Rent per Acre: Sources**

The rent data came from a number of sources, as outlined in Table 6. There are three main sources: the Settlement Reports, W. W. Hunter’s Statistical Account of Bengal, and the *Zillah* court (appellate) records. There are also a number of miscellaneous sources with far fewer data points. The Settlement Reports primarily relate to the 20th century, and were the product of land titling operations recording rents in every plot of land, but often contained a discussion of the path of rents over time. Some of these are cited in the references section, but a full list is available on request. All but a few of these were available from the main catalogue (having been published for the public at the time) and collection of the Bodleian Library and were not in the archives and manuscripts collection. As a result there are no manuscript (MSS) reference numbers, but they can be found by searching on the SOLO website. The rest are held at the British Library, again available from the main catalogue. Since they give the average rental per acre for the standard class of occupancy *raiya*ts by district subdivision, I use these. Hunter’s account gives rents in each district around 1872, and commonly also gave rents for earlier years (Hunter, 1875 - 1877). These observations are usually for different classes of land in different district subdivisions. They usually provide a range with a lower and higher figure.

The *Zillah* Court records are from 1849-1852, but frequently refer to rents that were set in earlier years (GoI, 1846-1851). Where no year was specified when rents were set, I recorded it as the year of the court case. These observations relate to rents on specific holdings, and either the per acre (or local land measure) figure was mentioned or the size of holding enabled me to calculate it. The Settlement Reports and Hunter cover all districts. The *Zillah* court records, on the other hand, were primarily from West Bengal.

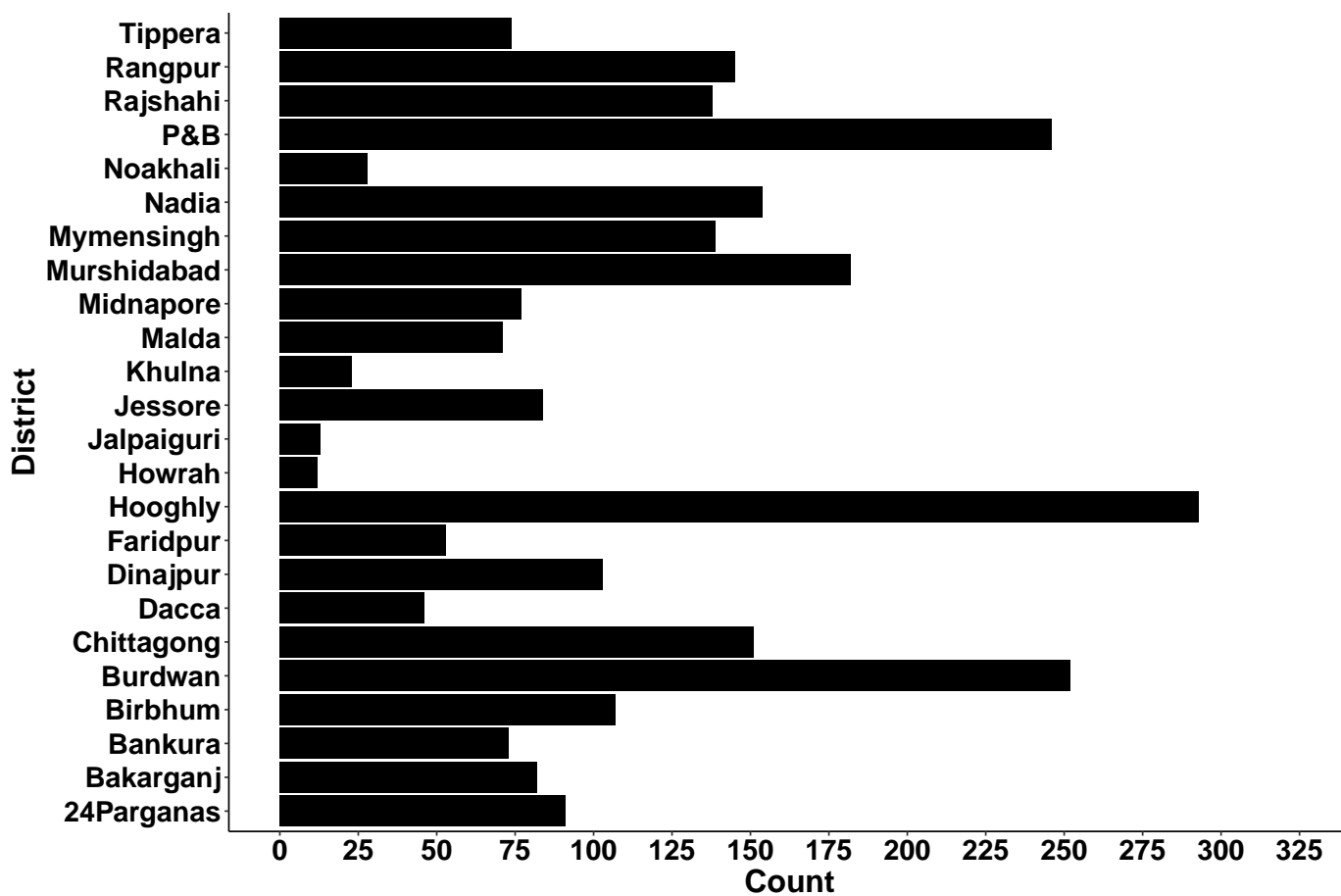
I decided to exclude rental figures for homestead land (usually including a garden) and

that suited to special, high value crops such as sugar cane and betel nut. Such tenancies paid far higher rates of rent than the average one did, but formed a small share of the total area. Importantly, the settlement report figures do include these in their averages (appropriately weighted). I exclude them from the earlier figures, and so, if anything, this would tend to bias the results towards enhancement over time.

For a few districts Hunter and his co-authors purport to give very low rents existing at the time of the Permanent Settlement, but these were below the average rate of land revenue per cultivated acre in 1939, which had basically been unchanged since 1793. Since the land revenue is a lower bound on the rate of rent, these figures are implausible. One district was Hooghly, where the existence of a substantial revenue free area made this even more unlikely. The other was Rajshahi. Hunter gives the figure of 2.5 annas a bigha (7.5/16 Rupees an acre), but the average rate of revenue per cultivated acre in 1939 was around 1.2 Rupees. Since cultivation expanded somewhat, the 1793 figure was likely to have been higher; this figure is too low.

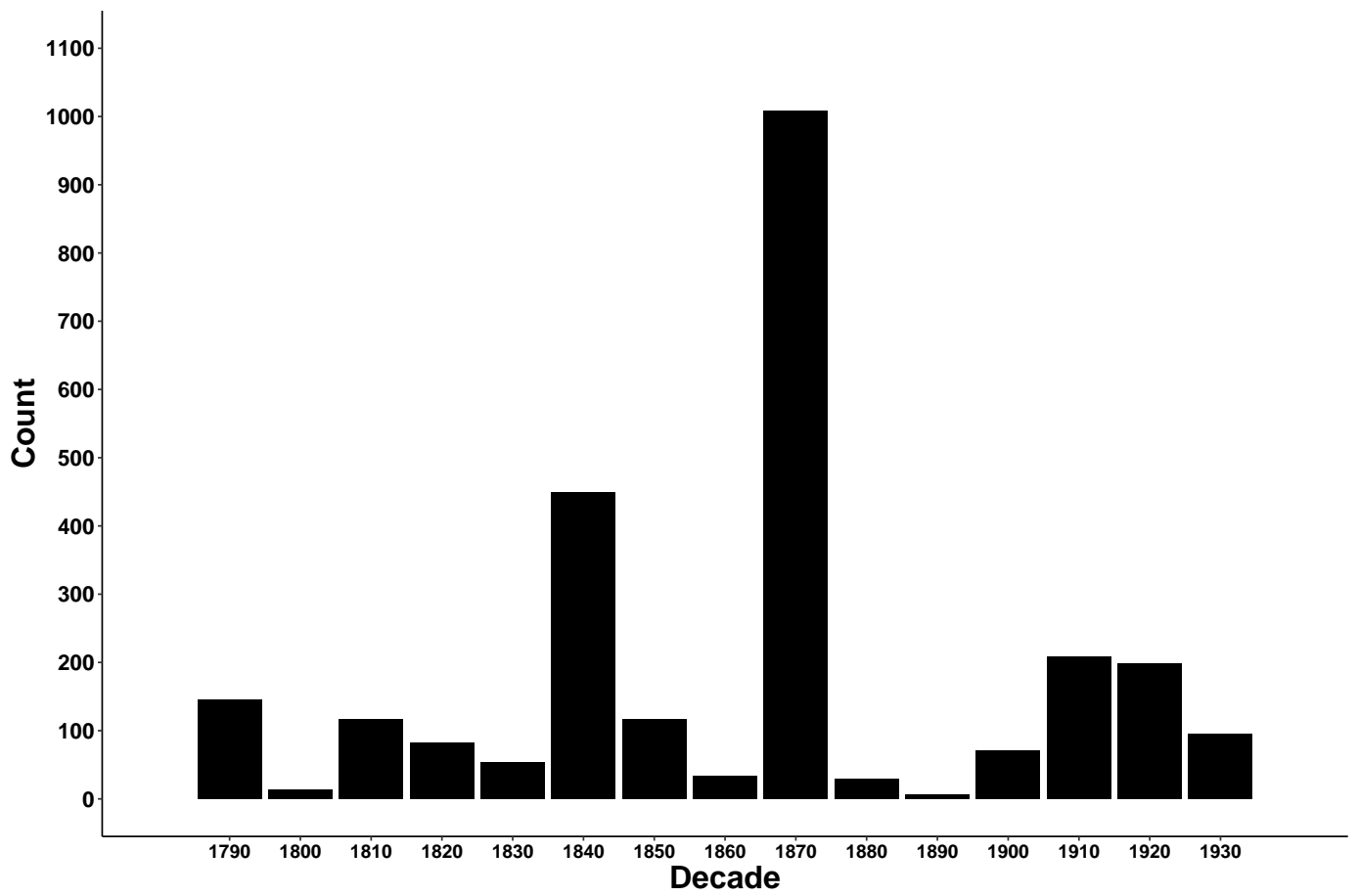
Often rents were given per local unit of land, and these I converted into acres. Figure 6 outlines the number of observations per district. Some districts were combined because they were only separated fairly late into the 19th century: H&H stands for "Hooghly and Howrah", J&K stands for "Jessore and Khulna", and P&B stands for "Pabna and Bogra". Figure 7 presents the distribution of observations by decade.

Figure 6: Distribution of Rent Observations by District



Source: See Text.

Figure 7: Distribution of Rent Observations by Decade



Source: See Text.

Table 7: Rent Sources from Hunter's Statistical Account of Bengal

<b>District</b>	<b>Volume</b>	<b>Approximate Pages</b>
<b>24 Parganas</b>	I	155-57, 336
<b>Bakarganj</b>	V	210
<b>Bankura</b>	IV	265-8
<b>Birbhum</b>	IV	370
<b>Burdwan</b>	IV	87-90
<b>Chittagong</b>	VI	180
<b>Dacca</b>	V	101
<b>Dinajpur</b>	VII	406
<b>Faridpur</b>	V	326
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<b>J&amp;K</b>	II	266-273
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<b>Rajshahi</b>	VIII	74
<b>Rangpur</b>	VII	284
<b>Tippera</b>	VI	413

**Source:** Hunter (1875 - 1877). **Notes:** H&H - Hooghly and Howrah. J&K - Jessore and Khulna. P&B - Pabna and Bogra.

Table 8: Rent Sources from the Zillah Court Records

Year	Volume	Pages
1846	1	38, 60, 71, 73-4, 4, 5, 6, 7, 10, 12, 30, 35, 54, 62, 74, 79, 83, 86, 88, 110, 126, 141, 143, 69, 7, 13, 37, 38, 47, 53, 60, 73, 78, 79, 80, 87, 98, 39, 30
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1848	2	27, 39, 41, 50, 65, 66, 75, 75, 101, 103, 107, 119, 123, 135, 171, 68, 69, 70, 88, 118, 128, 140, 151, 151-156, 157, 159, 160, 162, 169
1848	3	26, 33, 112, 164, 167
1849	1	10, 31, 34, 41, 46, 67, 76, 81, 83, 88, 105
1849	2	18, 31, 32, 83, 2, 9, 12, 50, 51, 55-6, 65, 67, 73, 97, 100, 111, 124, 128, 153, 155, 1, 5, 6, 11, 33, 42, 55, 97, 99, 107, 108, 121, 122, 124, 134, 148, 167, 168, 171, 173, 178, 185, 190, 195, 163, 187, 192, 207, 227, 223
1849	3	49, 63, 69, 76, 88
1849	4	14, 37, 40, 54, 56, 62, 120, 141, 167, 192, 213, 233, 250, 253, 139, 140, 154, 33, 37, 55, 24, 25, 55, 56
1850	1	126, 127, 128, 129, 136, 147, 163, 215, 253, 267, 297, 309, 313, 318, 320, 321, 355, 356, 407, 412, 415, 42, 70, 136, 138
1850	2	76, 93, 116, 120, 136, 138, 140, 91, 120, 121, 126, 157, 176
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1851	2	96, 67, 82, 60, 83, 169, 170, 183, 190
1851	3	250, 495, 461, 205, 213, 229, 239, 11, 14, 24, 294
1851	4	100, 105, 109, 114, 116, 362
1851	5	50

**Source:** GoI (1846-1851). **Notes:** Each volume reset the page numbers when it moved onto a new district, and included some Bihari districts. I only look at those in Bengal.

Table 9: Miscellaneous Rent Sources

<b>Source</b>	<b>Author</b>	<b>District</b>	<b>Number of Observations</b>	<b>Page</b>
A Sketch of the Administration of the Hooghly District	G. Toynebee	H&H	71	173 (Appendix O)
Asiatic Researches, 1811	W. Carey	Dinajpur	2	3
Geographical, Statistical, and Historical Description of Dinajpur	Francis Buchanan	Dinajpur	4	237, 242, 244, 246
Principal Heads of the History and Statistics of the Dacca Division	Government	Mymensingh, Faridpur, Bakarganj	3	158-160, 202, 236
FC, Vol V	W. H. Nelson	H&H	1	8

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