Wealth Inequality in Pre-industrial Rural England

Yuzuru Kumon

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Abstract

How unequal were the commons preceding their enclosure in the 18th-19th centuries? This paper uses data from the parliamentary enclosure acts to estimate inequality. Inclusive of the landless, I find gini coefficients ranged from 0.65-0.82 while the landless typically composed 40-50% of the population. Despite these regions being the most equal within England at the time, their inequality was similar to typical villages in contemporary Italy and less equal than those in Germany or Japan. This confirms that the commons, most of which were enclosed by the 19th century, were already highly unequal and this paved the way to enclosure.

Estimating wealth inequality in pre-industrial rural England is complicated by the existence of "common rights" over land. Common rights were "old-established rights exercised by the occupiers of farm lands and cottages [that] varied considerably in nature and extent from place to place" (Mingay, 2014). Such rights were concentrated in commons, which included open-fields, wastes, meadows, and pastures. Although these were not landownership rights, an economist will nevertheless consider this a form of wealth as these rights generated (implicit) incomes. Such incomes were not necessarily trivial either. One example comes from the copyholder (or tenant) who had inheritable and legally enforceable use rights over land. In one sample from 1694-1704, Gayton (2013) shows that copyholders were on average sub-letting lands at rates of 12.6 times the land rent rate paid to the owner. This suggests most of the land's share of income went to the copyholder instead of the landowner. Therefore, simply looking at landownership can potentially seriously overestimate wealth inequality.

This paper uses evidence from the allotments in 510 parliamentary enclosure acts to measure inequality in rural landownership while accounting for such rights. This is possible because enclosure was enacted by re-distributing lands with common right and turning them into privately owned lands. This was done in accordance with the value of legal rights within the commons. Although some non-legal right such as the rights of custom were often ignored, meaning we fail to account for all rights, these generally had little value (Clark, 1998). By measuring the inequality of the redistributed lands, I estimate inequality in each of these parishes among rights owners. I find that Gini coefficients generally ranged from 0.5-0.6. However, England also had many landless households at the time. In order to account for the landless, I use supplementary data of adult male population within these parishes to estimate the number of adult men who were landless. They suggest the share landless were typically 40-50% within commons. The resulting gini coefficient inclusive of the landless range from 0.65-0.82.

Since commons were generally of lower value and decreasing proportion of lands, perhaps 20% of land by 1750 (see figure 1), these estimates are not a nationally representative sample (Clark, 1998; Clark and Clark, 2001). Instead, this should be considered a lower bound estimate of rural wealth inequality. This can be inferred from the process of enclosure. Most lands were enclosed prior to parliamentary enclosure via private enclosures which required unanimous consent among all holders of rights (McCloskey, 2015). A successful private enclosure therefore required the absence of holdouts and favored relatively unequal areas with few rights holders. In contrast, the remaining lands that were enclosed by parliamentary enclosure required only a large majority, usually people owning 80% of the lands, meaning relatively equal areas could also be enclosed. Therefore, these were the relatively equal parts
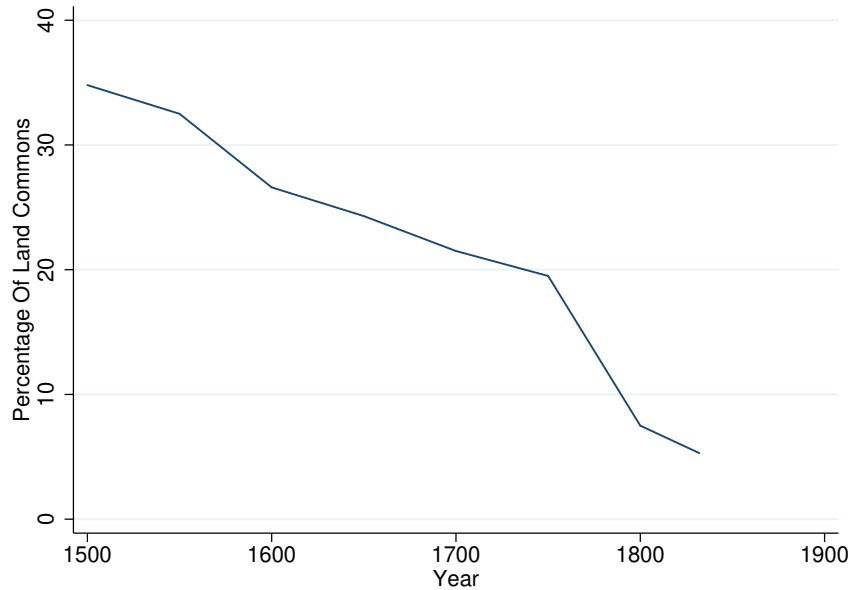
Figure 1: Estimates of the Share of Commons in England

Source: Clark and Clark (2001)

of rural England.

How do the findings from the commons, the relatively equal parts of England, compare to other contemporary societies. I find that the English commons in the 18th-19th century were similar in inequality to Italy but much more unequal than Germany or Japan (Alfani, 2015; Alfani and Di Tullio, 2019; Kumon, 2019; Alfani et al., 2020). This has two implications. First, the commons were not particularly equal from an international perspective. Second, this suggests England as a whole was more unequal than pre-industrial Italy. These are important findings because past studies had measures of wealth inequality, such as share landless, which were not comparable across societies. Therefore, we were unsure about where England should be placed in terms of wealth inequality.

I also compare land distributions in the commons across other wealth inequality measures across time. I first estimate inequality for medieval England using data from (Kanzaka, 2002). I find the gini coefficient for landholdings (with land rights similar to the commons) inclusive of the landless was 0.78. After adjusting for differences in the data, this suggests medieval England was certainly more unequal than England in the 19th century. However, England was far more unequal in 1900 until the decline after the First World War (Alvaredo et al., 2018).

Finally, the data also speaks to the process of enclosure. The evidence suggests only 30-45% of the population were required to begin the process of enclosure within these regions.

The minority were enclosing these commons, potentially against the will of the majority. I also estimate the trend in inequality of commons that got enclosed over time. As I do not observe the same parish across time, this says little about inequality trends. Instead, this shows whether enclosure was being initiated in more equal parishes. I find a slightly negative trend in inequality excluding the landless which is primarily driven from observations in Yorkshire. Therefore, there may have been some changes in the willingness of people to accept enclosure in some regions.

The findings from this paper have implications on rural inequality in England. Marx (1867) argued that enclosures created a class of workers reliant on wage incomes. Implicitly, this assumed a large number of people had valuable rights within the commons. In contrast, others like Chambers (1953) had argued that the proletariat already existed by the 18th century. More recent statistical evidence from Shaw-Taylor (2005) has demonstrated that there were 5.4 male agricultural workers to every farmer by 1851. This proletariat workforce may have already been in place in regions such as the south east by 1700 (Shaw-Taylor, 2012) or more generally for England as a whole (Lindert, 1987). Thus, the number of wage laborers were high preceding enclosure. Other literature has further shown that only limited people had access to common rights (Shaw-Taylor, 2001). I contribute to this literature in two ways. First, I show that common rights themselves were highly unequally distributed relative to wealth distributions in other societies. Thus, even the commons should not be regarded as the final bastions of equality. Second, wealth inequality estimates have tended to rely on measuring the share of landless among adult men. I extend this by measuring a feasible lower bound of the gini coefficient of land rights distributions.

Finally, it is important to distinguish this paper with a related literature on the consequences of enclosure. This paper only looks at wealth distribution preceding enclosure and has nothing to say about whether enclosure increased inequality. Land distributions may have changed as a consequence of enclosure due to the need to drain and fence (and therefore enclose) the lands which in itself was disincentivizing enclosure (Clark, 1998). Further, there were the costs of paying the commissioners of enclosure. As the costs of fencing were disproportionately higher for smaller plots, this may have led to increased inequality after the enclosure (Neeson, 1996) resulting in the loss of incomes (Humphries, 1990). However, even if there was an increase in inequality, this was from an already high level of inequality.

Data

I use secondary data from 510 parliamentary enclosure acts from Buckinghamshire, Warwichshire, Leicestershire, Nottinghamshire, Cumbria, Westmorland, and Yorkshire (Martin,

1967; Yelling, 1977; Turner, 1980; Crowther, 1983; Searle, 1993; Brown, 1995; Whyte, 2006). Enclosure involved the consolidation of scattered lands and the end to the rights of common through compensation via privately held lands. When sufficient people agreed, usually amounting to people owning 80% of the lands, an enclosure through a parliamentary act could occur. A commission, often involving professional land surveyors and valuers, was then hired to split the lands among the rights holders. The commission was often but not always composed of three people, each being appointed by the lord of the manor, the tithe owner, and the majority of the remaining landowners by value (Turner, 1977). The commisioners re-distributed common lands into privately owned land according to the value of the legal rights.[1] The redistribution often did not account for rights of custom (Humphries, 1990) although the value of such rights were small (Clark, 1998). The records resulting from this process include the acreage awarded to each person that allows us to construct inequality estimates at the point at which the act was passed.

Using the data, I calculate the gini coefficient, both inclusive and exclusive of the landless, and the share landless. I use these inequality measures as they are the most commonly used in the literature allowing for comparison. In addition, the share landless is an important measure for assessing the degree of "proletariazation" within the most equal parts of the countryside. In addition, I calculate the share of land right holders who needed to agree to begin parliamentary enclosure. I assume people holding 80% of the land value had to agree although there was some variation (Blum, 1981; McCloskey, 2015). Due to data limitations, I also assume land value and acreage are the same. While this is not an inequality measures, it sheds light on whether a precondition of parliamentary enclosure was high levels of inequality.

There are a number of shortcomings with the data. First, the data only includes acreage instead of the land values which would be ideal. This results in some measurement error as land values will be correlated with acreages but not perfectly. To partially address this, I will measure inequality within parishes, a small geographical unit, where many of the environmental aspects of land quality, such as soil type and weather, should be similar. However, some of the data was aggregated at the region level which does not allow dis-aggregation into parish level data. These two regions were Buckinghamshire and Warwickshire. As there is no way of correcting for this, I report the inequality measures at the region level.

Second, the data is from secondary sources where the acreages awarded to each individual was tabulated by bins of acreages. This means I can only measure inequality across acreage bins but I will have to assume inequality within an acreage bin does not exist. Specifically, I do this by assigning the mid-point value to every member of each bin. In the cases that

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[1] This seems to have been mostly done fairly and commissioners were not the instruments of the large proprietors (Blum, 1981).
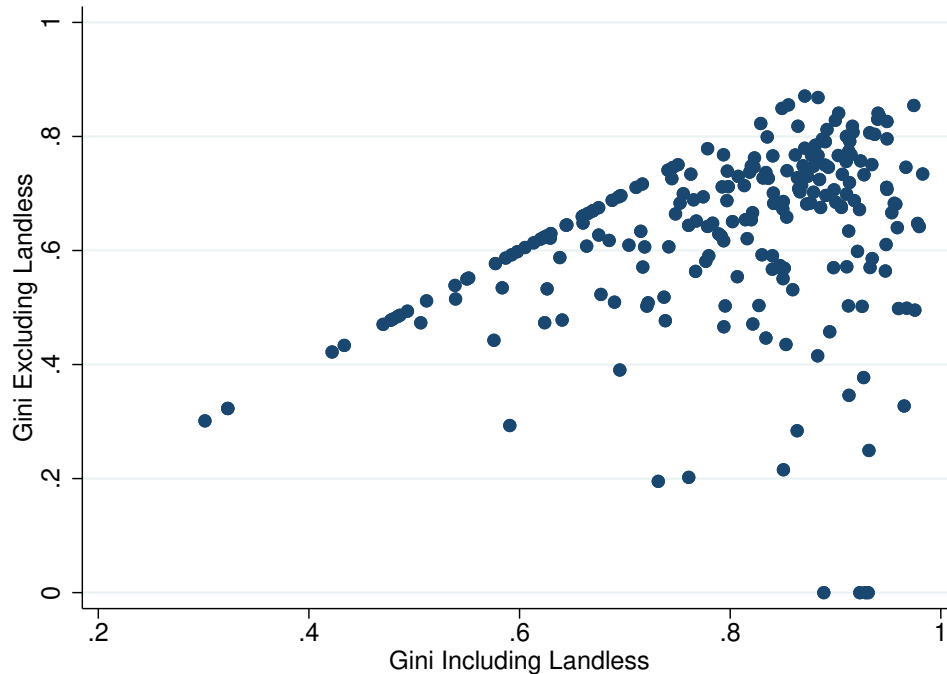
Figure 2: Comparison of Gini Measures with/without the Landless

total acreages are known for each bin, I will assign the average acreage per person to each individual. While this is a limitation, it is common to many historical inequality estimates such as that by social table (Milanovic et al., 2010). The resulting inequality estimates can be interpreted as a downwardly biased estimate.

Third, I do not observe landless individuals within a community. This can lead to a large miss-measurement in wealth inequality within the community as a whole. For instance, for Gamston in Nottinghamshire, there were only two people awarded lands, both of whom were in the top bin of landholdings. In this case, due to my assumption of within-bin equality, there appears to be perfect equality. However, this may be one of the most unequal communities if most people were landless.

To account for this issue, I use data on parish populations and the share of adult males to estimate the total number of households.[2] As the whole parish was not necessarily enclosed simultaneously, I assume the enclosed share of the parish acreage was used by the same share of households. I also show that variations of this approach produce similar results. Through this exercise, I can estimate inequality inclusive of the landless.

The importance of this correction can be confirmed in figure 2 where I plot gini coefficients

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[2]When the data is not available for the exact year, I assume the parish had similar population growth rates as for Britain as a whole using figures from Broadberry et al. (2015). I then multiply the adult male to population ratio in 1831 to the estimated population of the parish in that year.

Table 1: Inequality Among the Landed

Region	County	Period	Awards	Gini	Required Population for Enclosure	
					Number	Share
South East	Buckinghamshire+	1760-1819	81	0.76		
	Warwickshire+	1720-1822	125	0.72		
East Midlands	Leicestershire	1757-1772	9	0.55	11.22	0.40
	Nottinghamshire	1759-1868	130	0.63	8.72	0.33
Northwest	Cumbria	1805-1820	6	0.60	19.00	0.35
	Westmorland	1772-1822	8	0.49	10.75	0.45
	Yorkshire	1725-1858	151	0.60	6.74	0.38

+ indicates regions for which estimation is done at the county aggregate level.
Sources: Brown (1995), Crowther (1983), Martin (1967), Searle (1993), Turner (1980), Whyte (2006), Yelling (1977)

that include/exclude the landless. There are many parishes where there appears to have been no landless household resulting in a 45 degree line. In general, the two measures of inequality are highly correlated. However, among the parishes where the gini excluding the landless are below 0.25, the gini including the landless is significantly higher. In particular, those parishes with perfect equality without the landless turn out to be among the most unequal parishes confirming the initial concerns.

Results

Table 1 shows the inequality estimates among the landed by region in the enclosed parishes. The Gini coefficients range from 0.5-0.8 showing a large amount of variation. However, some caution is required as the south east region calculates inequality at the county level due to data limitations as explain earlier. When I calculate the gini for Nottinghamshire and Yorkshire at the aggregate regional level, I find the gini are higher at 0.72 and 0.80 respectively. This is due to aggregate level estimates also accounting for inequality across villages. Therefore, the gini for the south east are over-estimated and actual inequality was probably closer to 0.6 like most other regions. The only exception is Westmorland where inequality appears lower.

Another interesting finding is that 33-45% of the population would have been required to agree for a parliamentary enclosure to occur. This is evidence that a small minority could initiate enclosure against the will of the vast majority of rights holders. It also shows this level of inequality among rights holders was likely a precondition for the initiation of parliamentary enclosure.

Table 2: Inequality including Landless

Region	County	Period	Awards	Gini	Proportion Landless
Panel A: All Matched					
East Midlands	Leicestershire	1757-1772	9	0.78	0.48
	Nottinghamshire	1759-1868	104	0.82	0.46
Northwest	Cumbria	1805-1820	6	0.65	0.13
	Westmorland	1772-1822	5	0.70	0.42
	Yorkshire	1725-1852	105	0.78	0.40
Panel B: Cases with more than 80% of the parish enclosed					
East Midlands	Leicestershire	1765	20	0.84	0.52
	Nottinghamshire	1760-1810	29	0.84	0.54
Northwest	Yorkshire	1754-1836	33	0.87	0.58
Panel C: Cases with 100% of the parish enclosed					
East Midlands	Nottinghamshire	1767-1796	5	0.88	0.56
Northwest	Yorkshire	1754-1836	8	0.82	0.46

Sources: Brown (1995), Crowther (1983), Searle (1993), Whyte (2006), Yelling (1977)

For a subset of parishes which could be matched to population statistics, I can account for the landless as shown in figure 2. Panel A shows the results for all parishes, regardless of the share of the parish that was enclosed. I find that gini coefficients are significantly higher, by approximately 0.2 gini points, due to 40-50% of households being landless in most cases. Most gini coefficients now range from 0.7-0.8. The exception is Cumbria and this matches the findings from Shaw-Taylor (2012) whereby this region had more family farming. Compared to the study by Lindert (1987) for England and Wales in 1873, which estimated the share landless as 85% of the population, my findings are lower. However, this was for England and Wales as a whole ignoring land rights within commons. Unsurprisingly, the commons were equal relative to enclosed lands.

One concern is that Panel A includes parishes where small shares of the total area was enclosed. Could inequality have generally been lower in the rest of the parish? I address this concern by looking at parishes where more than 80% of the land was enclosed (Panel B) and where the entire parish was enclosed (Panel C). In both cases, I further limit the sample to parishes that did not have a future enclosure. Although the sample size is smaller, the results suggest such parishes were even more unequal and miss-measurement of the landless does not seem to be driving my results. Despite commons often being regarded as bastions

Table 3: Trends in Inequality of Enclosed Parishes

| | Gini | | | Gini including Landless | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
	All	Nottinghamshire	Yorkshire	All	Nottinghamshire	Yorkshire
Year	-0.001**	0.000	-0.002**	0.000	0.000	-0.000
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Region FE	Yes	No	No	Yes	No	No
Obs	304	130	151	229	104	105
Adj-R^2	0.027	-0.008	0.036	0.030	-0.007	-0.008

Sources: Brown (1995), Crowther (1983), Searle (1993), Whyte (2006), Yelling (1977)

of equality, in reality they were highly unequal by the 18th century.

One final exercise is to look at time variation in parishes that got enclosed across time. As I am not observing the same parish across time, this says little about time trends in land inequality. However, it may be informative about whether the threshold for parliamentary enclosure was changing. I regress the gini coefficient on a time trend with region fixed effects and show the results in table 3 (and graphs are available in appendix A).[3] I find there is a marginally significant negative trend in general and much of the negative trend comes from Yorkshire. In contrast, Nottinghamshire has no observable trend in gini coefficient of parishes that got enclosed. This provides some suggestive evidence that more equal areas were also getting enclosed in the later periods of parliamentary enclosure.

Discussion

How do my findings compare to that from other times and places? Within England, wealth inequality was clearly high by 1900. Estimates of wealth inequality in the UK suggest the top 10% held an astonishing 96.1% of wealth by 1900 (Alvaredo et al., 2018). Such high wealth inequality only dropped after the first world war to the 1980s, although the degree of the drop is debated (Cummins, 2019). My findings of high inequality over land rights within the most equal areas of England in the 18th-19th centuries are consistent with the later trends in wealth inequality.

What about the period preceding the 18th century? Inequality over land rights can also be estimated in England prior to the black death using data from the hundred rolls, 1279-80. The hundred rolls, also known as the second domesday book, was a survey of landholdings across the country that was never completed. Similarly to common rights,

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[3]I regress Yorkshire and Nottinghamshire separately due to the larger sample size.

landholding rights yielded incomes to peasants and are a measure of wealth inequality in medieval rural England. The data on the acreages held by each peasant for Cambridgeshire, Huntingdonshire, Oxfordshire and Warwickshire (in the midlands and the East of England) were collected and tabulated by Kanzaka (2002). I can therefore use a similar method as above to estimate wealth inequality, after accounting for the rent paid to the lord and differentials between free and unfree peasants (for details see appendix A). However, a similar issue is that 1) the land is in acreage rather than value and 2) the landless are missing from the survey. Regarding the first issue, it is not possible to disaggregate the data into smaller geographical units. However, it is likely to upwardly bias inequality relative to the parish level as shown above. For the second issue, I assume the landless made up 47% of the rural population, as estimated by Campbell (2008) for the whole of England and Wales.

When I ignore the landless, the gini coefficient for landholdings was approximately 0.59.[4] If we compare this to the earlier findings for Buckinghamshire and Warwichshire, which were also aggregated, it suggests inequality was slightly lower. Once I assume the landless were 47% of the population, the gini coefficient increases to 0.78.[5] These estimates suggest inequality was lower in medieval England once we adjust for the aggregation bias. Further, the 19th century estimates are from the most equal areas in England. Therefore, medieval England was highly unequal but slightly more equal than 19th century England. One interesting implication of these findings is that high inequality and high levels of landless households was not limited to the period preceding the industrial revolution. This also seems to have occurred in medieval England.

It is also possible to compare the findings from rural English parishes to comparable data from pre-industrial Germany, Italy, and Japan. The data for rural Germany and Italy are from tax records and measure the inequality in the value of real estate (Alfani, 2015; Alfani and Di Tullio, 2019; Alfani et al., 2020). The comparability issue is that 1) they include housing 2) they do not include the landless. Regarding the first issue, housing was generally more equally distributed than lands (Nicolini and Ramos Palencia, 2016) so the bias is downward. For the second issue, there seems to have been few people with no property but there may be a small downward bias. Therefore, the levels are generally underestimated. The data for Japan is only for land, measured in value, and is therefore more comparable to the data from England (Kumon, 2019).

I find inequality in the commons of England seem to generally be in line with Italy but more unequal than Germany and Japan. However, the English commons were more unequal

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[4]This calculation uses tabulated data, categorized by landholding class. I assume the lack of inequality within category making this a downward biased estimate.

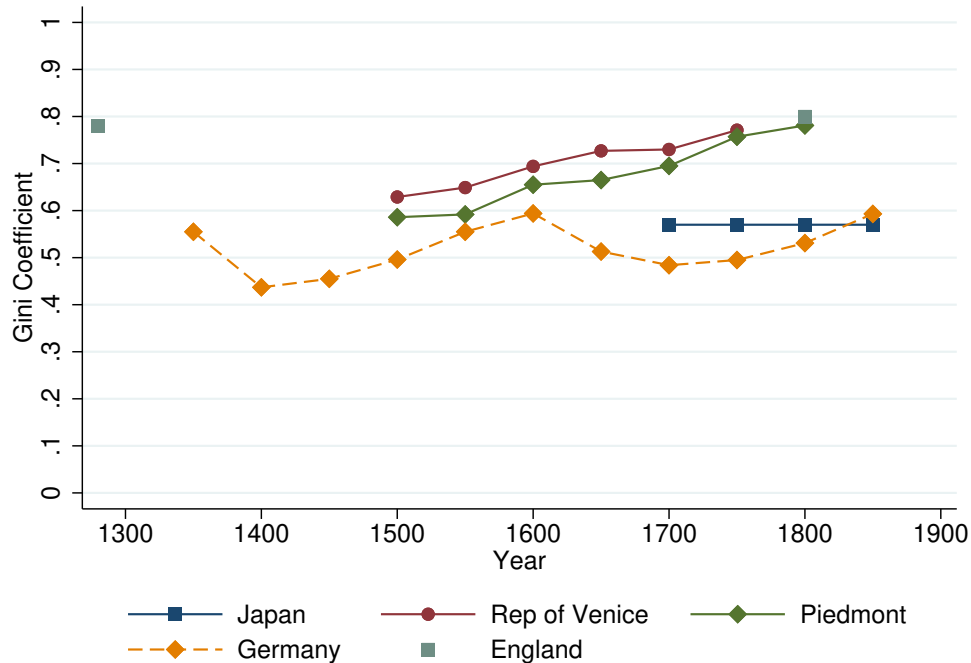[5]With a more conservative assumption of 30% landless, the Gini remains just above 0.7.

Figure 3: International Comparisons of Village Level Wealth Inequality

Sources: Alfani (2015), Bengtsson et al. (2018), Alfani and Di Tullio (2019) , Kumon (2019), Alfani et al. (2020)

than the rest of the country. Although we cannot be precise in our comparisons, due to differences in the data, it seems clear that England was among those countries with high pre-industrial rural inequality. This matches the general narrative for the rise of landless laborers (or proletariats) in England while similar narratives do not pre-dominate for other societies such as Japan or Germany.

Unfortunately, it is unclear if there was an upward trend in wealth inequality. This occurred in Italy and Germany with the exception of catastrophic shocks that temporary bought down inequality (Alfani, 2015; Alfani and Di Tullio, 2019; Alfani et al., 2020). However, the findings from England suggest that high inequality preceded the black death, much like Italy and Germany. Therefore, it is in line with the narrative that societies generally converge towards high inequality (Scheidel, 2017).

Conclusion

This paper showed that the commons themselves had unequal distributions of land rights as they were getting enclosed in the 18th-19th century. Gini coefficients ranged from 0.65-

0.82 within English regions. Further, 40-50% of the population did not own land in most of these parishes. The high level of inequality may have also enabled parliamentary enclosure to pass via an 80% majority by value of land rogjts. Only 33-45% of the population in these parishes would have been required to pass the act meaning the opposition of the large majority of people could not block parliamentary enclosure.

Despite these areas being the most equal within England, they were on average far more unequal than typical villages in contemporary Japan or Germany and had more similar land distributions to Italy. As England as a whole must have been more unequal than these commons, this implies that England was more unequal than these societies.

It remains unknown why rural wealth inequality in England was exceptionally high by 1750. Also, what were the dynamics in wealth inequality? Was it increasing like in much of the rest of Western Europe (Alfani, 2015; Alfani and Ryckbosch, 2016; Alfani and Ammannati, 2017; Scheidel, 2017; Alfani and Di Tullio, 2019; Alfani et al., 2020)? Further, are there any link between the relatively high inequality of England and its high wages or its earlier industrialization? These are questions that remain for future research.

References

Alfani, G. (2015). Economic inequality in northwestern italy: a long-term view (fourteenth to eighteenth centuries). *The Journal of Economic History*, 75(4):1058–1096.

Alfani, G. and Ammannati, F. (2017). Long-term trends in economic inequality: the case of the florentine state, c. 1300–1800. *The Economic History Review*, 70(4):1072–1102.

Alfani, G. and Di Tullio, M. (2019). *The Lion's Share: Inequality and the Rise of the Fiscal State in Preindustrial Europe.* Cambridge University Press.

Alfani, G. and Ryckbosch, W. (2016). Growing apart in early modern europe? a comparison of inequality trends in italy and the low countries, 1500–1800. *Explorations in Economic History*, 62:143–153.

Alfani, G., Schaff, F., and Gierok, V. (2020). Economic inequality in preindustrial germany, ca. 1300 – 1850. *Stone Center Working Paper Series*, (3).

Allen, R. C. (2006). English and welsh agriculture, 1300-1850: outputs, inputs, and income. *Oxford University Research Archive*.

Alvaredo, F., Atkinson, A. B., and Morelli, S. (2018). Top wealth shares in the uk over more than a century. *Journal of Public Economics*, 162:26–47.

Bengtsson, E., Missiaia, A., Olsson, M., and Svensson, P. (2018). Wealth inequality in sweden, 1750–1900. *The Economic History Review*, 71(3):772–794.

Blum, J. (1981). English parliamentary enclosure. *The Journal of Modern History*, 53(3):477–504.

Broadberry, S., Campbell, B. M., Klein, A., Overton, M., and Van Leeuwen, B. (2015). *British economic growth, 1270–1870*. Cambridge University Press.

Brown, M. E. (1995). *Aspects of parliamentary enclosure in Nottinghamshire*. PhD thesis, University of Leicester.

Campbell, B. M. (2008). Benchmarking medieval economic development: England, wales, scotland, and ireland, c. 1290 1. *The Economic History Review*, 61(4):896–945.

Chambers, J. D. (1953). Enclosure and labour supply in the industrial revolution. *The Economic History Review*, 5(3):319–343.

Clark, G. (1998). Commons sense: common property rights, efficiency, and institutional change. *The journal of economic history*, 58(1):73–102.

Clark, G. (2007). The long march of history: Farm wages, population, and economic growth, england 1209–1869 1. *The Economic History Review*, 60(1):97–135.

Clark, G. and Clark, A. (2001). Common rights to land in england, 1475–1839. *The Journal of Economic History*, 61(4):1009–1036.

Crowther, J. E. (1983). *Parliamentary enclosure in eastern Yorkshire*. PhD thesis, University of Hull.

Cummins, N. (2019). Hidden wealth.

Gayton, J. D. (2013). Tenants, Tenures, and Transfers: The Landholding Experience of Rural Customary Tenants in some Hampshire Downland Manors, 1645-1705. *D.Phil Thesis*.

Humphries, J. (1990). Enclosures, common rights, and women: The proletarianization of families in the late eighteenth and early nineteenth centuries. *The Journal of Economic History*, 50(1):17–42.

Kanzaka, J. (2002). Villein rents in thirteenth–century england: an analysis of the hundred rolls of 1279–1280. *The Economic History Review*, 55(4):593–618.

Kumon, Y. (2019). The deep roots of inequality. *Dondena Working Paper*, (135):1–63.

Lindert, P. H. (1987). Who owned victorian england? the debate over landed wealth and inequality. *Agricultural History*, 61(4):25–51.

Martin, J. (1967). The parliamentary enclosure movement and rural society in warwickshire. *Agricultural History Review*, 15(1):19–39.

Marx, K. (1867). *Das Kapital. Kritik der politischen Oekonomie*. Verlag von Otto Meisner.

McCloskey, D. N. (2015). 3. the economics of enclosure: A market analysis. In *European peasants and their markets*, pages 123–160. Princeton University Press.

Milanovic, B., Lindert, P. H., and Williamson, J. G. (2010). Pre-industrial inequality. *The economic journal*, 121(551):255–272.

Mingay, G. E. (2014). *Parliamentary Enclosure in England: an introduction to its causes, incidence and impact, 1750-1850.* Routledge.

Neeson, J. M. (1996). *Commoners: common right, enclosure and social change in England, 1700-1820.* Cambridge University Press.

Nicolini, E. A. and Ramos Palencia, F. (2016). Decomposing income inequality in a backward pre-industrial economy: Old castile (spain) in the middle of the eighteenth century. *The Economic History Review*, 69(3):747–772.

Scheidel, W. (2017). *The great leveler: Violence and the history of inequality from the stone age to the twenty-first century.* Princeton University Press.

Searle, C. E. (1993). Customary tenants and the enclosure of the cumbrian commons. *Northern History*, 29(1):126–153.

Shaw-Taylor, L. (2001). Parliamentary Enclosure and the Emergence of an English Agricultural Proletariat. *The Journal of Economic History*, 61(3):640–662.

Shaw-Taylor, L. (2005). Family farms and capitalist farms in mid nineteenth-century england. *The Agricultural History Review*, pages 158–191.

Shaw-Taylor, L. (2012). The rise of agrarian capitalism and the decline of family farming in england 1. *The Economic history review*, 65(1):26–60.

Turner, M. (1977). Enclosure commissioners and buckinghamshire parliamentary enclosure. *The Agricultural History Review*, 25(2):120–129.

Turner, M. E. (1980). *English parliamentary enclosure: its historical geography and economic history.* Dawson; Hamden, Conn.: Archon Books.

Whyte, I. (2006). Parliamentary enclosure and changes in landownership in an upland environment: Westmorland, c. 1770–1860. *Agricultural history review*, 54(2):240–256.

Yelling, J. A. (1977). *Common field and enclosure in England 1450–1850.* Macmillan International Higher Education.

Appendices

A Regional Trends in Inequality of Enclosed Parishes

(a) Nottingham Excluding Landless

(b) Yorkshire Excluding Landless

(c) Nottingham Including Landless

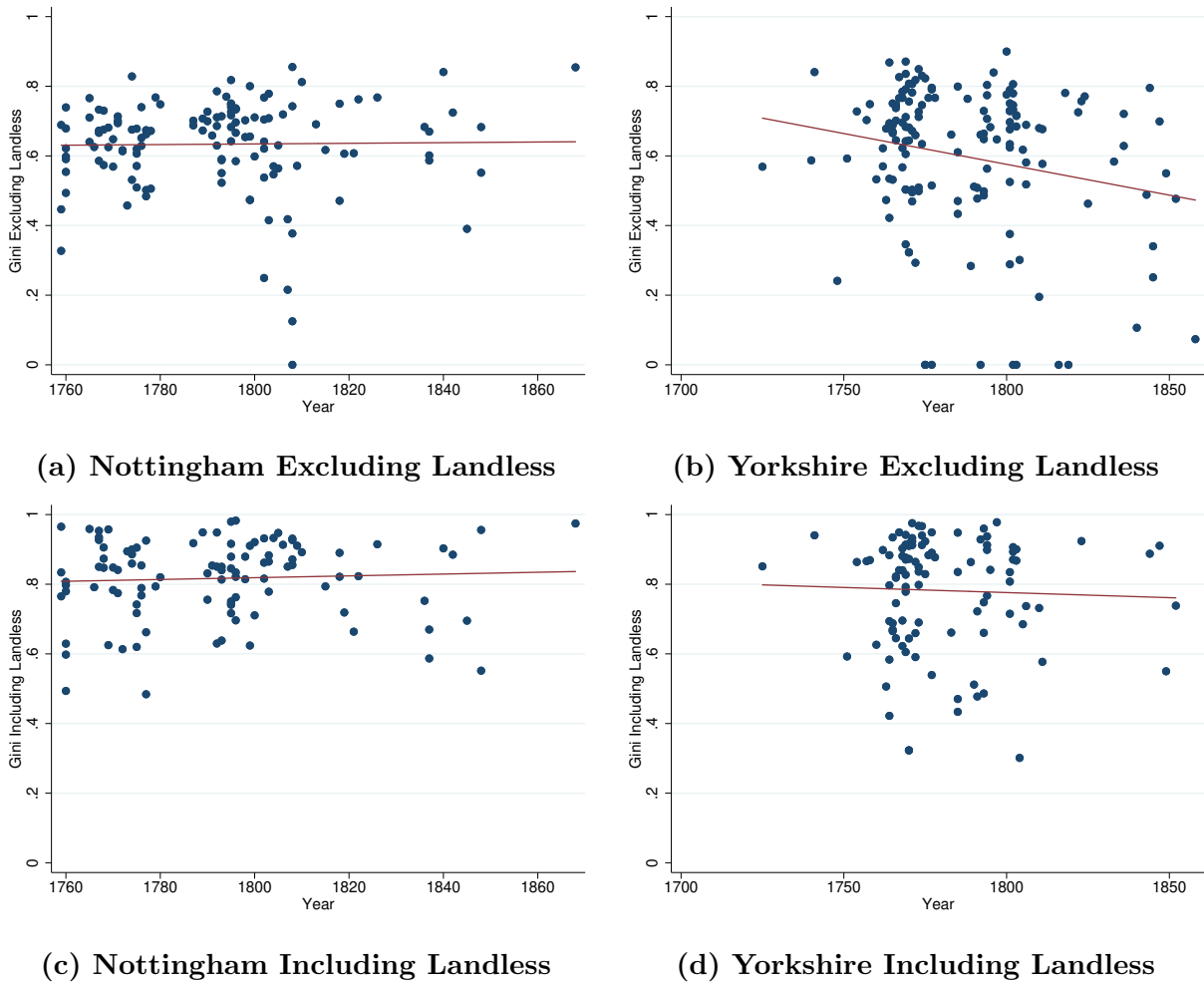**(d) Yorkshire Including Landless**

Figure A1: Inequality Levels Across Time

Inequality in Medieval England

Medieval English peasants were split into free and unfree peasants at this time. The difference was that unfree peasants had labor obligations for the lord in addition to higher rents, no access to courts, and other taxations such as the heriot, a death-duty. Therefore, free peasants received more income from holding land than unfree peasants, resulting in one type of inequality. Kanzaka (2002) lists the rent paid by each of these types of laborers, in

addition to the shares of each type by landholding class. Unfortunately there is no estimate of land income for each type of peasant.

Therefore, I estimate this by estimating total land's share of income and subtract the rents of each type of laborer. I take land's share of income as 40% of yields and labor's share as 50% of yield taken from table 14 of Allen (2006).

$$Land\ Income\ net\ of\ rent = days\ of\ work \times wage \times \frac{0.4}{0.5} - land\ rent\ per\ acre \times acres\ worked$$

I assume a laborer worked 250 days. Using average wages (1277-1282) from Clark (2007), the total wage income is 432.5 pence. This brings land's share of income, the first component on the right hand side, to 346 pence. If a farmer owned and cultivated 30 acres over one year with 250 days of work (the standard virgate in this region), the land income net of rents for the peasant is 133 pence for unfree peasants and 214 pence for free peasants. This is 4.4 pence per acre for unfree peasants and 7.1 pence per acre for free peasants. Thus, free peasants are assumed to earn 1.6 times more rent per acre.

I then estimate the implied Gini coefficient assuming differences in land incomes net of taxation by peasant class. The resulting Gini range between 0.7-0.8 depending on assumptions of the share of unrecorded landless ranging from 30% to 50%.