

Family farms and capitalist farms in mid nineteenth-century England*

by Leigh Shaw-Taylor

Abstract

The published 1851 census contains a series of tables documenting, for every British county, the distribution of farm sizes and the employment levels for adult males. Hitherto these data have largely been ignored on the grounds that they were unreliable. This paper shows that the data are in fact reliable and can be used to document the geography of farm size and employment patterns at county level. These data in turn are used to investigate the relative importance of agrarian capitalism and family farming and its geography in England. Agrarian capitalism was more important than family farming everywhere. Large-scale agrarian capitalism was dominant in the south and east of the country. A substantial family farm sector survived only in the far south-west and north of England by 1851.

The decline of family farms and the growth of large, labour-employing farms over the early modern period is one of the major themes in English agrarian history. As long ago as 1923, J. H. Clapham noted that in Britain as a whole, as late as 1831, when geographically comprehensive and reliable data become available for the first time, the number of proletarian families employed in agriculture exceeded the number of entrepreneurial families in agriculture by as little as 2.5 to 1. He went on to suggest that if agrarian historians of the early modern period had a proper understanding of the modest scale which capitalist farming had reached by this late date, then they would have an appropriate end-point against which to assess the importance of developments in their own period.¹ Clapham's admonition to early modernists of his own generation has had little or no discernible influence on the considerable body of material published on early modern developments in the intervening decades. Although Clapham may have gone too far in stressing the small scale of nineteenth-century agrarian capitalism, the importance of understanding the extent to which agrarian capitalism had developed by the nineteenth century remains both to put the scale of early modern developments in a longer

* This research has been funded by the Economic and Social Research Council as part of a wider project entitled *Male occupational change and economic growth in England 1750–1851*, RES–000–23–0131. I am grateful to Chris Briggs, Romola Davenport, Tracy Dennison, Richard Smith, Adam Tooze, Tony Wrigley, the editor of this journal and two anonymous referees for perceptive comments which have helped me to make this article clearer than it would otherwise have been. The remaining ambiguities and any errors are, of course, my own. I would also like to thank Phil Stickler for producing the maps.

¹ J. H. Clapham, 'The growth of an agrarian proletariat, 1688–1832: a statistical note', *Cambridge Historical J.*, 1 (1923), pp. 92–5.

context and to achieve a proper understanding of nineteenth-century rural society. Despite this, we do not have, at present, a clear, statistically based picture of the relative importance of agrarian capitalism or the family farm sector during the nineteenth century. Nor do we know with any precision how farm sizes varied around the country.²

Yet an abundance of material, from which such a picture can be constructed, is readily available – if largely unexploited by historians – in the published Census Report of 1851.³ These data relate both to the size of farms and to farm employment levels at national and county level. This article assesses the meaning and value of those data and presents a preliminary picture of the scale and geography of both agrarian capitalism and family farming in 1851. It is worth stressing, at the outset, that the distinction being drawn here between family farms and capitalist farms is one of labour use. Capitalist farms are farms which are predominantly dependent on wage labour. Family farms are those farms predominantly dependent on family labour. It is not being suggested that family farms were less market-orientated than capitalist farms in this period.⁴

This article has three aims. The first is to clarify the nature of the data recorded in the 1851 Census Reports and in the Agricultural Returns published from 1866 onwards. It will be argued that on the one hand the 1851 Census data provide a good guide (albeit with some caveats) to both farm size and farm employment levels, so long as the term ‘farm’, in this context, is understood to mean an agricultural holding which provided the primary employment for the occupier of the holding. In other words, the Census data do not include part-time smallholdings. On the other hand it will be argued that the Agricultural Returns may or may not provide a good guide to the size and number of ‘agricultural holdings’, of all sizes, but, in contrast to the Census data, they are of very limited use as a guide to the size and numbers of ‘farms’ (agricultural holdings which provided the occupier with their principal occupation) precisely because they also include a very large number of part-time smallholdings. The second aim of the article is to present some basic data on the size of farms and employment patterns in England in the mid-nineteenth century. Finally, the article considers the wider implications of this evidence. Although the data are available for England, Wales and Scotland, the present article

² The current state of knowledge is summarised in J. H. Porter, ‘The development of rural society’, in G. E. Mingay (ed.) *The agrarian history of England and Wales*, VI, 1750–1850 (1989), pp. 838–937. Robert Allen, in his chapter on agriculture during the industrial revolution in the recent *Cambridge economic history of Britain*, is reduced to stating that around 1800, farms averaged 100 acres in the north and 150 in the south. The southern figure is based entirely on data from the south Midlands while the northern figure derives from Ross Wordie’s work on estates in Cheshire, Staffordshire and Shropshire. As will be seen later, in Figure 2, these areas cannot be taken as representative of either the south or of the north as a whole. R. C. Allen, ‘Agriculture during the industrial revolution, 1700–1850’, in R. Floud and P. Johnson (eds), *The Cambridge economic history of modern Britain* (3 vols, 2004), I, p. 100. J. R. Wordie, ‘Social change on the Leveson-Gower estates’, *EcHR* 27

(1974), pp. 593–609.

³ Pioneering use of these data were made by J. H. Clapham: see his *An economic history of modern Britain* (2 vols, 1926–32), I, pp. 450–3; II, pp. 263–6. Some of the points made there mirror arguments made here. For a dissenting view of Clapham’s analysis, J. Saville, ‘Primitive accumulation and early industrialization in Britain’, *Socialist Register* (1969), pp. 247–71.

⁴ On the market-orientation of small farms in the nineteenth century, see Michael Winstanley, ‘Industrialization and the small farm. Family and household economy in nineteenth-century Lancashire’, *Past and Present* 152 (1996), pp. 157–97 and A. J. Gritt, ‘The “survival” of service in the English labour force: lessons from Lancashire, c. 1651–1851’, *AgHR* 50 (2002), pp. 25–50. For an alternative view see Mick Reed, ‘The peasantry of nineteenth-century England: a neglected class?’, *History Workshop J.* 18 (1984), pp. 53–76.

relates only to the English data. Having established the reliability of the Census data further use will be made of the English data in a further study on the decline of small farms and the rise of agrarian capitalism over the period 1600–1851.⁵

I

The 1851 Census Report prints a table for each county which enumerates the numbers of men and women in a large number of distinct occupational groups. From these it is possible to compare the number of farmers with the size of the farm workforce at the county level. However, much doubt exists over how well women's occupations are recorded, particularly in agriculture.⁶ What follows therefore focuses on the relatively reliably recorded male farm workers. Figure 1 shows the ratio of male agricultural workers to farmers, for every English county in 1851.⁷ The ratio for England as a whole is 5.4 which is significantly higher than Clapham's figure of 2.5 to 1 cited above. The discrepancy is in part because Clapham's data pertained to Britain as a whole and some twenty years earlier, but it may also in part be due to differences in the construction of occupational categories in 1831 and 1851 which cannot be explored here.⁸

The exclusion of the female workforce means that Figure 1 inevitably understates the size of the proletarian workforce in agriculture but this is most unlikely to affect substantially the regional patterns shown here. Everywhere south and east of a line from Norfolk to Dorset, the ratio of male farm workers to farmers exceeded seven to one. In a large block of contiguous counties covering all of northern England except Northumberland and the East Riding of Yorkshire, there were fewer than three male farm workers per farmer. Everywhere else, except Cornwall which followed a 'northern' pattern, fell between three and seven male farm workers per farmer. Male farm workers outnumbered farmers everywhere. But in south-eastern England, broadly defined, agrarian capitalism clearly operated on a substantially larger scale than in the rest of the country. The scale of operation of agrarian capitalism in northern England was much more modest. If family farms survived in large numbers anywhere in mid-nineteenth century England, Figure 1 suggests that it would have been in northern England. The broad regional differences are very similar to those mapped by Overton using the 1831 census.⁹

These data illustrate average male farm worker to farmer ratios in each county. But within any given county, some farms were relatively large and others were relatively small.¹⁰ It follows that some farms employed much labour and others employed little or none. Data

⁵ Provisionally titled, 'The development of agrarian capitalism and the decline of family farming in England, 1600–1851'.

⁶ See Edward Higgs, 'Occupational censuses and the agricultural workforce in Victorian England and Wales', *EcHR* 48 (1995), pp. 700–16.

⁷ All those described as farmers or graziers, whether male or female, have been counted as farmers. Male farm workers includes all those described as agricultural labourers, agricultural servants and shepherds.

⁸ The 1831 material may be problematic. The categories used are internally inconsistent, refer to families

not individuals and to occupiers of land rather than farmers. Space precludes further examination of these issues.

⁹ M. Overton, 'Agriculture', in J. Langton and R. J. Morris (eds) *Atlas of industrializing Britain, 1780–1914* (1986), pp. 34–53; id., *Agricultural revolution in England. The transformation of the agrarian economy, 1500–1850* (1996), pp. 178–83.

¹⁰ There were of course regional variations in farm size distributions within counties. This has been explored for Lancashire in Winstanley, 'Industrialization and the small farm' and Gritt, 'The "survival" of service'.

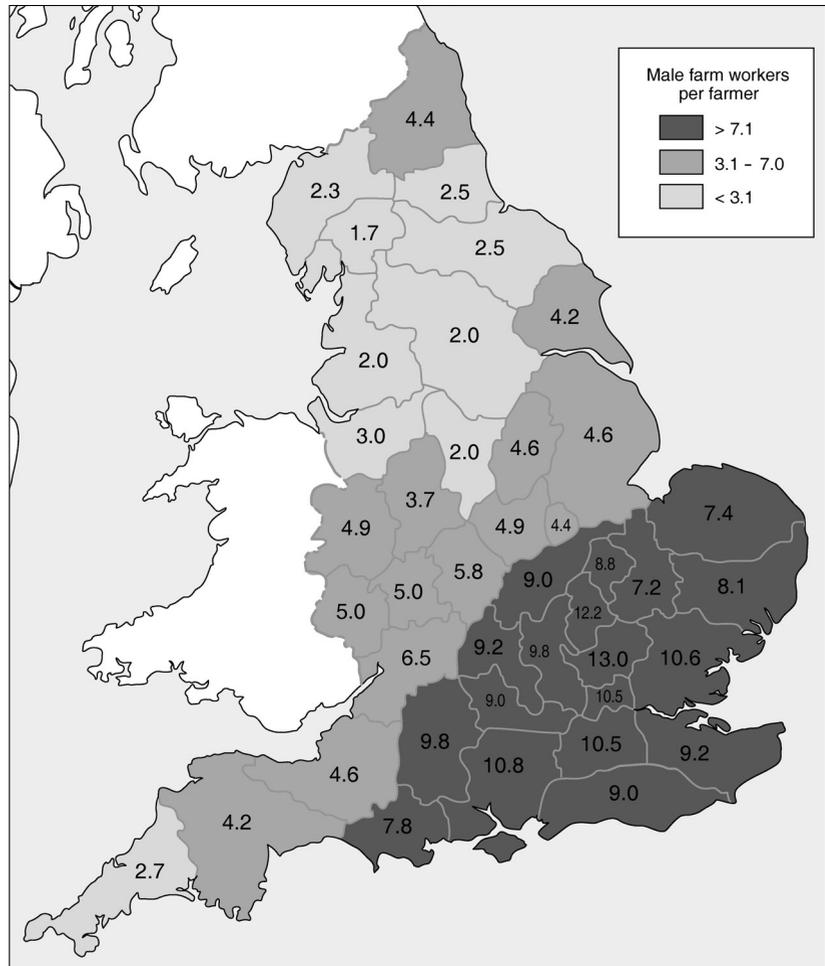


FIGURE 1. Male farm workers per farmer in 1851

Source: BPP, 1852–3, LXXXVIII (i), *Census of Great Britain, 1851, Population Tables, II*, vols 1 & 2, ‘Occupations of the people, divisions I–X’.

aggregated at county level in this way can shed only limited light on the relative importance within a county of farms with different employment characteristics. However, there are tables in the published Census Report that bring this issue into sharp focus but much doubt has been cast upon the reliability of this material. The next three sections deal with this issue at some length.

II

The occupational tables in the 1851 Census which underlie Figure 1 are familiar to historians. What is less well known is that for every English and Scottish county as well as for North and South Wales and Monmouthshire, the published 1851 Census report contains a table indicating the distribution of farm sizes and adult male employment levels on the 31 March 1851.¹¹ Dennis

¹¹ There is a further table covering the ‘Islands in the British Sea’ (Guernsey, Jersey and the Isle of Man). BPP, 1852–3, LXXXVIII (i), *Census of Great Britain, 1851, Population Tables, II*, vols 1 & 2, ‘Farmers, with the numbers of labourers employed and of acres occupied, divisions, I–X’.

TABLE 1. Farmers, with the number of labourers employed and of acres occupied in Buckinghamshire on 31 March 1851

Acres	No Men employed or not stated	1 Man	2 Men	3 Men	4 Men	5 Men	6 Men	7 Men	8 Men	9 Men
Under 5	18	5	1	1						
5-	34	6								
10-	58	23	8	2	3					
20-	27	25	17	4		1				
30-	14	24	26	8	2	2				
40-	9	19	20	10	8					1
50-	14	30	55	35	24	9		3		
75-	16	8	23	27	30	20	7	1	1	3
100-	10	2	19	45	78	51	51	31	16	6
150-	4	1	4	15	17	32	34	38	22	16
200-	3	1	1	3	11	12	14	14	29	24
250-	2		1	2	3	2	8	10	13	9
300-	1				1		2	3	9	5
350-								2	5	2
400-	1					1	1			1
500-						1				
600-										
700-										
800-										
900-										
1000-										
1200-	1									
1500-										
2000 and up										
Acres not stated		1	4	5	3		2	1		1
Total of farmers	212	145	179	157	180	131	119	103	95	68

Source: BPP, 1852-3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables*, II, vol.1, 'I Farmers, with the numbers of labourers employed and of acres occupied', p. 277.

Mills recently published a very useful general overview of the farm statistics in the Census and the holding size statistics in the later Agricultural Returns. This contains a detailed discussion of some of the problems with this body of material. However, Mills was more interested in the unpublished manuscript Census Enumerators' Books, and made no use of the published material, and shied away from any overall assessment of its utility.¹² Table 1 reproduces the

¹² D. R. Mills, 'Trouble with farms at the Census Office. An evaluation of farm statistics from the censuses of 1851-81 in England and Wales', *AgHR* 47 (1999), pp. 57-77. The account offered here differs from Mills on a number of points. Where this is so, attention is drawn to it in the text or the footnotes.

<i>10- Men</i>	<i>15- Men</i>	<i>20- Men</i>	<i>25- Men</i>	<i>30- Men</i>	<i>35- Men</i>	<i>40- Men</i>	<i>45- Men</i>	<i>50- Men</i>	<i>55- Men</i>	<i>60 Men and upwards</i>	<i>Total Number of Farms or Holdings</i>
											25
											40
											94
1											75
											76
1											68
1		1									172
2											138
13											322
42	4										229
50	15	1									178
62	23	5	3								143
41	24	4				1					91
14	15	7		1							46
12	20	9	2								47
	4	9	3	1		2	1				21
2	1	4	1	1					1		10
	1		1			1			1		4
					1	1		1			3
				3							3
		1									1
					1				1		3
											0
											0
1	1	2									21
242	108	43	10	6	3	4	1	1	3	0	1810

published table for Buckinghamshire. If taken at face value it gives an exceptionally detailed statistical account of farm sizes within the county and of adult male employment levels on farms of given size.¹³

The 1851 Census data were collected and published ‘with a view of giving a definite idea of the term “farmer,” and of laying the foundations of a further enquiry’.¹⁴ Remarkably, in the intervening century and a half no such enquiry has ever been made. This is particularly

¹³ I am very grateful to Rebecca Tyler for inputting the farm size and employment data from the published census report for every English county.

¹⁴ BPP, 1852–3, LXXXVIII, p. lxxvii.

surprising given that, as David Grigg has noted, the ‘*only* comprehensive survey of the size of farms in England and Wales was taken at the population censuses of 1851, 1861 and 1871’.¹⁵ Moreover, only in 1851 were the results actually published for every county in the country.¹⁶

The reason for this neglect is simple: historians have generally regarded the 1851 farm size data as unreliable. The central criticism that has been levied against the 1851 farm returns is that many small farmers did not supply the relevant information.¹⁷ Mark Overton, for instance, argues that ‘the data are unreliable because the question was a voluntary one and many small farmers did not bother to give an answer’.¹⁸ In fact the question was not a voluntary one, in law, and the instructions delivered to householders stated that ‘Persons who refuse to give CORRECT information, incur a *Penalty of Five Pounds*; beside the inconvenience and annoyance of appearing before two Justices of the Peace, and being convicted of having made a willful mis-statement of age or, of any other particulars’.¹⁹ Nor is it clear, as we shall see later, that ‘many’ small farmers failed to supply returns.

The view that the published Census tables omit large numbers of small farms is based on a comparison with the later Agricultural Returns. The *Agricultural Returns* were published annually by the Board of Trade and contain a wide variety of agricultural statistics, including much information on land use patterns, crop yields and livestock numbers, and, in the 1870 Returns, the number of agricultural holdings of various sizes. They were the published result of an ‘agricultural census’ which was taken annually from 1866.²⁰ This agricultural census was conducted entirely independently of the Census Office.

The nature of the disparity between the two sources of data can be seen in Table 2. Comparison is complicated by the fact that only in 1851 did the Census Office publish the farm size data for every county. In 1871 they published data for seventeen counties they described as ‘representative’.²¹ Thus a direct comparison at national level is only possible between the Census data for 1851 and the Agricultural Returns data for 1870. This is shown in the top panel of Table 2. The two distributions are radically different and the differences are starkest for the smallest farms and holdings. In 1851 only 3.4 per cent of farms were reported as being below five acres whereas in 1870 almost 25 per cent of agricultural holdings were reported in the same category. Although twenty years separates the two sets of figures it is wholly improbable that there was an explosion of smallholdings on this scale between 1851 and 1870. The 1871 Census data can be compared directly with the 1870 Agricultural Returns data if the comparison is restricted to the 17 ‘representative counties’ and this is shown in the bottom panel of Table 2.

¹⁵ D. Grigg, ‘Farm size in England and Wales, from early Victorian times to the present’, *AgHR* 35 (1987), p. 181.

¹⁶ In 1861 and 1871 only data for 17 ‘representative counties’ were published. *Contra* Grigg, the data were also collected in 1881 but none of it was published.

¹⁷ Mills suspects that omissions may have been most prominent amongst both the smallest and largest farmers. However, this supposition appears to rest only on *a priori* reasoning. Mills, ‘Farm statistics’, p. 67.

¹⁸ Overton, *Agricultural revolution*, p. 174. This view receives qualified support from Mills, ‘Farm statistics’,

pp. 59, 71.

¹⁹ BPP, 1851, XLIII, *Census of Great Britain 1851, Instructions to enumerators*, p. 6. In fact the instructions were somewhat more forbidding than the letter of the law. The pertinent act of parliament specified a fine of between £2 and £5, p. 39.

²⁰ Grigg, ‘Farm size’, p. 181.

²¹ In fact the ‘representative counties’ somewhat under-represented the counties with smaller farms in 1851. Compare columns three and five in Table 4, Mills, ‘Farm statistics’, p. 70.

TABLE 2. Distribution of farm sizes 1851 and 1871 censuses and agricultural holding sizes, 1870

	<i>Under 5 acres</i>	<i>5 to 20 acres</i>	<i>20 to 50 acres</i>	<i>50 to 100 acres</i>	<i>100 acres up</i>	<i>Total Number of Returns</i>
1851 Census: England ^a	3.4	19.1	20.4	19.2	37.8	187,022
1870 Agricultural Returns: England ^a	25.4	28.5	16.1	11.7	18.3	376,574
1871 Census: 'Representa- tive Counties' ^b	3.3	16.9	17.7	17.5	44.6	59,870
1870 Agricultural Returns: 'Representative Counties' ^b	24.9	27.2	15.6	12.0	20.2	149,711

Notes:

^a All English counties except Monmouth.

^b Cumberland, Berkshire, Derbyshire, Durham, Essex, extra Metropolitan Kent, Hampshire, Leicester, Lincolnshire, Norfolk, Nottinghamshire, Northumberland, Rutland, Suffolk, extra Metropolitan Surrey, Sussex, Westmorland.

Sources: 1851, BPP, 1852–3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables II*, vols 1 & 2, 'Farmers, with the numbers of labourers employed and of acres occupied, divisions I–X'; 1870, BPP, 1870, LXVIII, *Agricultural Returns of Great Britain 1870*, Appendix to Report, p. 20; 1871 BPP, 1873, LXXI (ii), *Census of England and Wales 1871*, Vol IV, *Appendix to report, appendix A*, p. 123.

The Agricultural Returns again show a massively higher proportion of smallholdings than does the Census.

In fact, the aims of those who organised the data collection in 1851 and 1870 were quite different in nature. It is the argument of this paper that in 1851 the Census Office wanted to shed light on the meaning of the term 'farmer' and attempted to gather data on the size of 'farms' and on employment levels on 'farms'. In 1870, however, the object of study was agricultural holdings, not 'farms.' Accordingly the tables published in 1851 were described in the Census Report as relating to 'farms' whereas the data published in the 1870 Returns were labelled as pertaining to 'holdings' although there was an unhelpful conflation of 'holdings' with 'farms' in the accompanying text.²² In 1851 the term 'farm' was used to mean an agricultural holding from which the occupier derived their primary employment and the term 'farmer' was restricted to those whose primary occupation was farming. In 1870 an 'agricultural holding' meant any agricultural holding of more than a quarter of an acre in size regardless of the principal occupation of the occupier.

That these were the respective intentions behind the data collection in 1851 and 1870 can be demonstrated easily enough by considering how those who organised the data collection wished it to be collected. The situation in 1870 was relatively straightforward. Returns were supposed to be despatched to 'all *occupiers* of more than ¼ acre of agricultural land ...'.²³ There was no attempt to distinguish 'farms' from part-time smallholdings because this was not the purpose behind either the collection or the publication of the data. If data collection proceeded as intended by its organisers, then these returns cannot furnish a guide to either the number

²² BPP, 1870, LXVIII, *Agricultural Returns of Great Britain*, 1870, pp. 20 and 4 respectively.

²³ Grigg, 'Farm size', p. 181.

or the size of farms in the census' sense of agricultural holdings providing the occupier with their principal employment. Whether or not the 1870 Returns are really a complete account of agricultural holdings of ¼ acre and above is a matter outside the scope of this article. However, without further investigation it might be unwise to assume that these returns do not themselves under-represent the smaller agricultural holdings of ¼ acre and up.

The situation in 1851 was much more complex. Every householder was issued with a household schedule to complete together with an accompanying set of instructions. Under the heading 'INSTRUCTIONS for filling up the Column headed "RANK PROFESSION, or OCCUPATION"', there were a number of notes pertaining to specific occupational groups. Amongst these was one that stated that:

The term FARMER is to be applied only to the occupier of land, who is to be returned – 'Farmer of [317] acres, employing [12] labourers;' the number of acres, and of in and out-door labourers on March 31st, being in all cases inserted. Sons or daughters employed at home or on the farm may be returned – 'Farmer's Son', 'Farmer's Daughter'.²⁴

In other words only those who described themselves as 'farmers' were requested to return the acreage of their holding and the numbers of in and out-door labourers.²⁵ There was no request for other occupiers of agricultural land to supply this information. Actual practice by householders will be considered later. The household schedules were subsequently collected by local Census Enumerators who were charged with checking the household schedules. The household schedules were then transcribed by the Census Enumerators into the Census Enumerators' Books which were ultimately sent on to the Census Office in London.²⁶

But which occupiers of land were and were not supposed to describe themselves as farmers? In particular how were those who mixed farming with another occupation supposed to have described themselves? The instructions for those with multiple occupations were admirably clear and succinct: 'A person following MORE THAN ONE DISTINCT TRADE may insert his occupations in the order of their importance'.²⁷ In other words only those whose primary occupation was farming should have recorded their occupation simply as 'farmer'. Those for whom it was a secondary occupation should have listed their primary occupation first.

This does not, however, mean that those occupiers of land for whom farming was a secondary activity would necessarily have interpreted the instructions to mean that they should not supply an acreage return. The instructions are somewhat ambiguous on this point and, *a priori*, it seems likely that some interpreted it one way and some the other. But it should have been

²⁴ BPP, 1851, XLIII, p. 6.

²⁵ In fact all employers were requested to report the number of men they employed. The account given here both of the questions asked and as to whom they were directed differs from that given by Mills which suggests that householders who were occupiers of land were asked to supply this information and that they were asked to return the numbers of women and children. Mills, 'Farm statistics', p. 59. Mills' account conflates

firstly, the instructions to enumerators with the instructions to householders and secondly, actual practice with the instructions of the Census Office.

²⁶ A fuller description of the process may be found in D. R. Mills and K. Schurer (eds), 'The enumeration process', in Mills and Schurer (eds), *Local communities in the Victorian census enumerators' books* (1996), pp. 16–26.

²⁷ BPP, 1851, XLIII, p. 6.

very clear to all those who returned their primary occupation as farmers that they should complete the farm return. The extent to which 'farmers' actually complied is another matter which will be addressed shortly.

The intention of the Census Office was thus to collect data on the size of farms and employment levels of those for whom farming was either their only or their most important occupation. In the Agricultural Returns from 1866 onwards, the intention was to gather data on all of those who occupied agricultural land of one quarter of an acre and upward. This inevitably included a large number of individuals who were not 'farmers' in the sense that farming was not their principal economic activity.

A comparison of the numbers of individuals describing themselves as 'farmers' or 'graziers' in the 1871 census with the numbers of those reporting agricultural holdings in 1870 is instructive in this regard. The data are shown in Table 3. In England as a whole in 1871 there were some 208,980 individuals described as farmers in the occupational tables of the census.²⁸ Yet there were 376,574 agricultural holdings enumerated in the Agricultural Returns in 1870. It is therefore likely that the Agricultural Returns include something of the order of 160,000 holdings held by individuals whose primary occupation was not farming. In the Census sense of the term such individuals were not therefore farmers. Table 3 makes it clear that the differences between the two sources were consistent for every county for which data are available. The numbers of farmers and graziers in the occupational tables bears a rough correspondence to the number of farm returns in 1871. But in every single case the number of 'agricultural holdings', as published in the Agricultural Returns, greatly exceeded the numbers of farmers and graziers. This is hardly surprising, because the 1870 Returns were not, and were never meant to be, returns of farms but of agricultural holdings.

III

We can now turn to the question of who did not supply acreage returns for the 1851 Census. According to the data for Buckinghamshire published in the 1851 census report, there were 1,996 individuals whose only or principal occupation was farmer while the published farm size table for the same county in 1851 derives from 1,789 returns.²⁹ On the evidence of the data in the published table, one might conclude that 90 per cent of farmers did in fact complete the return. Regrettably, things are not so simple. Table 4 shows the number of farmers reported in the occupational tables and the number of farm acreage returns for every county published in the 1851 census. Again, when taken at face value, the figures might be taken to suggest that, in England as a whole, 92 per cent of all farmers completed an acreage return. However, in the counties of Leicestershire, Lincolnshire, Nottinghamshire, Rutland and Westmorland the number of returns slightly exceeded the number of farmers. This suggests that the farm size tables must include some individuals who were not in fact 'farmers' in the strict Census sense of the term.

²⁸ 190,405 male and 18,575 female farmers and graziers. BPP, 1873, LXXI (ii), *Census of England and Wales, 1871, Population abstracts*, III.

²⁹ According to the census report, there were 1839 male farmers and 157 female farmers in the county.

TABLE 3. The number of farmers and farm returns in 1871 and the number of agricultural holdings in 1870

<i>County</i>	<i>Number of farmers and graziers: 1871 Census</i>	<i>Number of farm Returns: 1871 Census</i>	<i>Number of agricultural holdings: 1870 agricultural Returns</i>
Berkshire	1963	1604	3927
Cumberland	5410	2708	7473
Derbyshire	6178	5435	12,736
Durham	4274	3457	6157
Essex	3925	3574	9381
Hampshire	3549	2749	8434
Kent	5019	3977	10,319
Leicestershire	3757	3033	8044
Lincolnshire	11,788	10,093	24,518
Norfolk	6473	5748	16,995
Northumberland	3336	2654	5497
Nottinghamshire	4292	3603	8265
Rutland	596	538	1369
Suffolk	5077	4670	9328
Surrey	1738	1243	5153
Sussex	4156	3532	8492
Westmorland	2564	2144	3623
Representative Counties	74,095	60,762	149,711
England	208,980	N/A	376,574

Sources: Farmers and graziers, BPP, 1873, LXXI (ii), *Census of England and Wales 1871, Population abstracts*, III, 'Tables of the ages, civil conditions, occupations, and birth-places of the people', Tables 15 and 16, Division I to IX; Farm returns, 1871 BPP, 1873, LXXI (ii), *Census of England and Wales 1871*, IV, *Appendix to report, appendix A*, Tables 110–27; Agricultural holdings, BPP, 1870, LXVIII, *Agricultural returns of Great Britain 1870*, Appendix to report, p. 20.

In fact a footnote to the farm size table make it quite clear that the farm returns were sometimes completed by individuals whose primary occupation was not farming and, worse still, that the Census Office included at least some of these individuals in the published tables. The footnote reads as follows:

The number of Farmers appearing in this series of Tables will not agree with the number returned in the Occupation Tables for the same localities, the difference being caused partly by the omission of all such Farmers as made no return respecting either the acreage of their farms or number of men employed, and partly by the fact that in the Occupation Tables, either persons who had *formerly* been farmers but who at the time of the Census had retired from business or become inmates of institutions, were referred to their former occupation. On the other hand, a certain number of persons who, besides being engaged in farming, carried on some other business, are here included among "Farmers" while in the tables of Occupations they are referred to that other business as their chief pursuit. The

TABLE 4. The number of farmers and the number of farm returns in each English county in 1851

<i>County</i>	<i>Number of farmers</i>	<i>Number of farm returns</i>	<i>Ratio of returns to farmers</i>
Bedfordshire	1508	1449	0.96
Berkshire	2164	1839	0.85
Buckinghamshire	1996	1810	0.91
Cambridgeshire	3618	3291	0.91
Cheshire	7239	6663	0.92
Cornwall	8042	7217	0.90
Cumberland	5262	4961	0.94
Derbyshire	5744	4789	0.83
Devon	11,637	10,427	0.90
Dorset	2564	2331	0.91
Durham	4064	3425	0.84
Essex	4411	4116	0.93
Gloucestershire	4232	3586	0.85
Hampshire	3337	3080	0.92
Hereford	2894	2534	0.88
Hertfordshire	1839	1743	0.95
Huntingdon	1026	953	0.93
Kent	5028	4690	0.93
Lancashire	17,789	15,450	0.87
Leicestershire	3493	3744	1.07
Lincolnshire	10,973	11,017	1.00
Middlesex	840	814	0.97
Norfolk	6957	6532	0.94
Northampton	2922	2820	0.97
Northumberland	3275	2821	0.86
Nottinghamshire	4313	4393	1.02
Oxfordshire	2437	2234	0.92
Rutland	659	726	1.10
Shropshire	5396	4935	0.91
Somerset	8438	7190	0.85
Staffordshire	6508	6026	0.93
Suffolk	5637	5092	0.90
Surrey	1932	1888	0.98
Sussex	4189	3872	0.92
Warwick	3964	3416	0.86
Westmoreland	2549	2634	1.03
Wiltshire	3362	3080	0.92
Worcestershire	3187	2844	0.89
Yorkshire E.R.	4547	4134	0.91
Yorkshire N.R.	7453	6807	0.91
Yorkshire W.R.	18,292	17,385	0.95
England	205,717	188,758	0.92

Sources: Farmers, BPP, 1852–3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables II*, vols 1 and 2, ‘Occupations of the people, divisions I–X’; Farm returns, BPP, 1852–3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables II*, vols 1 and 2, ‘Farmers, with the numbers of labourers employed and of acres occupied, divisions I–X’.

secondary occupations of Farmers will be found in a general Table, for which, and for further explanations of this Return, see Report.³⁰

Having attempted to collect the farm returns only from those whose primary business was farming in accordance with the original purpose of collecting the data (to shed light on the meaning of the term 'farmer'), it is unfortunate that other individuals who erroneously completed the farm return were not then excluded by the Census Office clerks when compiling the farm size table, as would have been consistent with the research goal. It follows that the level of non-reporting by farmers proper cannot be deduced by comparing the number of farmers in the published occupational tables with the number of farmers reporting acreages in the published farm size tables. Whether the number of non-farmers reported and farmers omitted from these tables is large enough to undermine seriously the representativeness of the data as to the size and employment levels of 'farms' cannot be determined from the published data alone.

It would be possible to assess the scale of the problem by returning to the manuscript Census Enumerators' Books (henceforth CEBs). However, the scale of the primary documentation renders this a forbiddingly monumental task at a national level.³¹ Fortunately, the CEBs for Buckinghamshire have been made fully machine-readable by the Buckinghamshire Family History Society.³² For administrative convenience the county level data published in the 1851 Census data refer not to the historic counties but to newly defined 'registration counties' which covered somewhat different areas. The Society's database covers both the historic county of Buckinghamshire and the 1851 Registration county. The analysis which follows is for those areas which comprised the registration county so as to allow direct comparison with the published census tables.

Table 5 provides a summary of all those within the registration county of Buckinghamshire for whom the CEBs record acreage information. Ninety per cent of those who straightforwardly described themselves as 'farmers' returned an acreage figure and they accounted for 90 per cent of those who reported an acreage.³³ Acreage reporting was at lower but still high levels for dairymen and graziers and those who mixed farming with another occupation. Either the respondents or the enumerators differed as to whether a return was required. One quarter of bailiffs returned an acreage but the majority did not. Levels of reporting amongst other occupational groups was statistically insignificant.

Farmers reported an average of 160 acres. Farmers who followed a secondary occupation reported an average of 108 acres whilst those who reported farming as a secondary occupation averaged a more modest 81 acres.³⁴ These patterns suggest that, in general, respondents

³⁰ BPP, 1852-3, LXXXVIII, Farmers. This footnote, or one almost identical, appears in the first pertinent table in each division.

³¹ There would be approximately 16 million nominal records for England as a whole.

³² I am deeply grateful to the Buckinghamshire Family History Society for making the full database available to me and to Dr David Thorpe for making this possible.

³³ The rates of compliance were 91 per cent for male farmers and 88 per cent for female farmers.

³⁴ Though this is not of course small. This suggests that the reporting of 'farms' by those with a distinct primary occupation was restricted to those whose agricultural holdings were sufficiently large that they had no doubt that they should be considered farmers.

TABLE 5. Characteristics of those providing acreage returns in Buckinghamshire in 1851

<i>Occupation</i>	<i>Number reporting acreage</i>	<i>Percentage of occupational group reporting acreage</i>	<i>Percentage of those who reported acreage</i>	<i>Average acreage reported</i>	<i>Total acreage reported by occupational group</i>	<i>Percentage of the total acreage reported</i>
Farmer	1646	90	90.0	160	264,119	93.6
Farmer with secondary occupation	24	56	1.3	108	2600	0.9
Dairyman	8	38	0.4	52	417	0.2
Grazier	25	69	1.4	94	2349	0.8
Bailiff	26	25	1.4	261	6779	2.4
Farming as secondary occupation	50	56	2.7	81	4035	1.4
Agricultural Labourer	6	0	0.3	2.8	17	0.0
Others	43	0	2.4	46	1961	0.7
Total	1828	1	100.0	154	282,277	100.0

Source: computed from Buckinghamshire Family History Society, database of 1851 Census enumerators' books.

had indeed listed their occupations in order of importance as requested by the Census Office. Bailiffs reported the largest average acreages at 260 acres, as might be expected since it was presumably only on the largest farms that a professional manager would be installed. Broadly speaking, those who were farmers and listed no other occupation farmed on a somewhat larger scale (160 acres on average) than respondents as a whole (154 acres) but the difference is small owing to the sheer preponderance of farmers amongst respondents. If the patterns in Buckinghamshire were typical of those elsewhere, then the published farm size data may understate the average size of 'farms' as reported by 'farmers' but only to a very small degree.

Since 1828 individuals reporting acreages are recorded in the CEBs and 1789 acreage figures were reported in the published tables, only 39 of the CEB acreage returns were omitted from the published table. If we were to take the best possible scenario we could assume that all of the 1670 individuals who returned their principal occupation as farmer were included together with all of the dairymen and graziers and individuals who farmed as a secondary occupation. If that were so then the 39 omitted individuals were drawn from the ranks of the 26 bailiffs, 6 agricultural labourers and 43 'others.' But that would leave 36 individuals, who had not chosen to describe themselves as farmers, included in the published tables. In reality may be more than 36 such individuals in the published tables since it is possible that some farmers were omitted. At worst the omissions may have been entirely random if the census clerks simply overlooked some of the acreage returns, in which case the published table might

include approaching 100 individuals who did not describe themselves as farmers.³⁵ Either way the inclusion of relatively small numbers of individuals who did not regard themselves as farmers must impart a small downward bias to the acreage figures.

This still leaves the critical question as to whether those farmers who did supply acreage returns were representative of those who did not. In particular were smaller farmers under-represented amongst those farmers completing acreage returns? If so, the published tables would systematically under-represent the importance of small farmers.

The registration county of Buckinghamshire database covered a total of 329 distinct enumeration districts. Individuals who gave their occupation as 'farmer' were resident in 300 of these districts and in 223 of these all 1203 of those who described themselves as 'farmer' completed an acreage return. In the remaining 77 districts containing farmers, 393 of 567 self-described farmers made a return. Thus in three-quarters of districts 100 per cent of those describing themselves as farmers made a return compared with 69 per cent of those in the remaining quarter of districts. Thirteen enumeration districts contained half the non-returning farmers. Perhaps the worst case was at Marsh Gibbon where only one return was collected from 22 farmers. The fact that the farm size data were complete in most districts but dramatically defective in others may point towards differences in the assiduousness with which individual enumerators made sure the acreage returns had been completed. The average farm size returned in the 'complete' districts was 167 acres compared with 143 acres in the 'defective' districts. This might reflect real differences in the size of farms but it seems very unlikely that farm size genuinely varied between the two sets of districts. There is no obvious reason why would the assiduousness of enumerators have varied with the *average* size farm size of enumeration districts. If these suppositions are correct, then any differences in apparent average farm sizes arise from the practice of enumerators rather than from reality on the ground.

The relative frequency distributions for both districts are shown in Figure 2. The two distributions are not dissimilar but farms of over 200 acres appear to be under-enumerated in the defective districts. If there was any systematic bias in which farms did and did not return acreages, it was the larger farms rather than the smaller farms which were most likely not to report acreages. It may be that the less assiduous enumerators were least likely to make a fuss where men of relatively high social standing were concerned. If there are biases in the farm-size data collected the bias is modest and downward. In other words the average farm size in the county was probably somewhat higher than the CEB data suggest.

There are thus two modest sources of downward bias in farm size in the data, one introduced by relatively small numbers of non-farmers reporting and one by larger farmers being perhaps slightly less likely to supply a return than smaller farmers. Whether such a pattern was mirrored in other counties is, of course, another matter. But if it were, then the published farm

³⁵ An attempt to take this exercise further by reconstructing the published table from the CEBs revealed a large number of minor errors by the census clerks. Many farms were clearly placed one cell out in the table. Such errors would have been hard to avoid in the pre-computer era. Fortunately the summary statistics derived from the reconstructed table were virtually identical to those in the published table suggesting the clerks' errors were entirely random. However, these errors made it impossible to use a comparison of the published and CEB derived tables to assess who the clerks had omitted from the published tables.

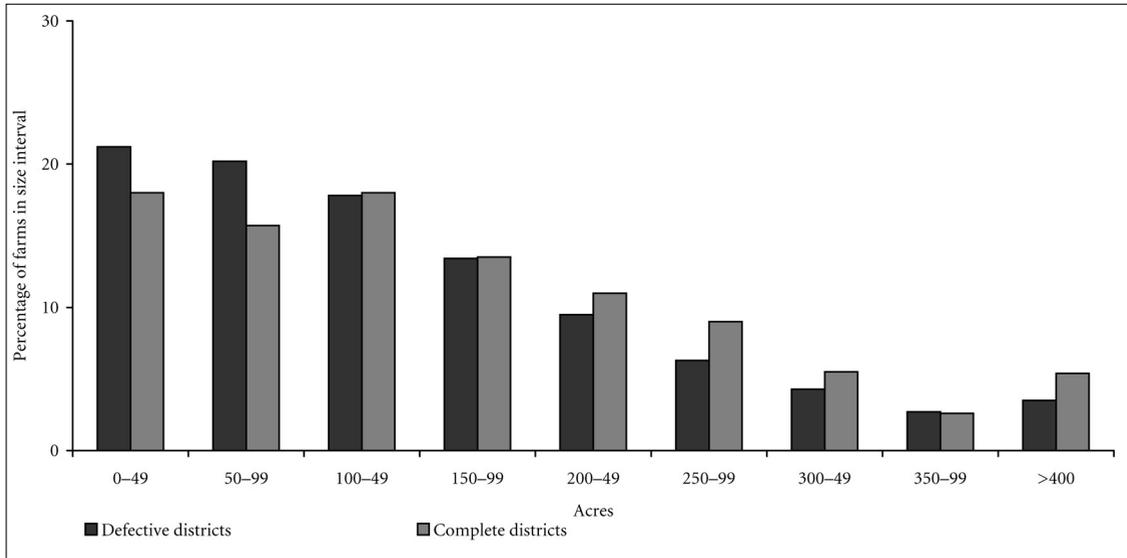


FIGURE 2: Distribution of farm sizes in Buckinghamshire in 1851

Source: Buckinghamshire Family History Society, Database of 1851 Census Enumerators' Books Database.

size tables would tend to somewhat understate rather than overstate the size of farms. The view that small farms were under-represented in the 1851 farm size tables, which is in any case based on a misunderstanding of the nature of the data in the later Agricultural Returns, finds no support here.

Before completing the discussion of who did and did not complete farm acreage returns in 1851, two further issues need to be addressed. Mills has suggested that one possible reason for farmers not returning an acreage was that they had retired.³⁶ Such cases clearly existed since 13 per cent of non-returning farmers were 70 or above compared with only 7 per cent of returning farmers. The proportions aged between 60 and 69 were very similar at 17 per cent and 14 per cent. However, the great majority of both returning and non-returning farmers were aged between 20 and 60. Being retired was not therefore the main reason for not completing a return. Mills also points out that farmers temporarily between tenancies may have simply described themselves as a farmer but naturally failed to return an acreage return.³⁷ Again, there is no doubt this happened, but it cannot have accounted for a high proportion of the ten per cent of those described as farmers in Buckinghamshire in 1851, who did not provide an acreage figure. Straightforward failure to comply must have been the reason in the great majority of cases.

Without examining the CEBs for other parts of the country, it is not possible to tell whether the rate of ten per cent failing to return an acreage figure was typical of England as a whole. However, in the only published survey of a comparably large area, Sheppard reports the same

³⁶ Mills, 'Farm statistics', pp. 64-5.

³⁷ *Ibid.*

rate for the East Riding of Yorkshire, a region with markedly different social and economic characteristics from Buckinghamshire.³⁸ Mills concludes his review of the secondary literature on the non-reporting of acreages by suggesting that Sheppard's figure of 10 per cent for the East Riding may be representative of the whole country.³⁹ Furthermore the evidence of Table 4 is consistent with the view that patterns of non-reporting (and 'unwanted' reporting by non-farmers) did not vary very greatly around the country.

IV

We can now consider the completeness of the CEBs respecting the employment of indoor and outdoor labourers on farms. By 'indoor labourers' the Census Office meant farm servants resident on the farm and by outdoor labourers it meant day labourers not living in their employers' household.⁴⁰ At the time, the Census Office expressed the view that indoor labourers had sometimes been omitted from farmers' labour returns.⁴¹ This issue has received some attention from historians and will be returned to below. In the instructions issued to householders, farmers were asked simply to supply the number of indoor and outdoor labourers employed. Nothing was said as to whether this figure was supposed to include women and children. More detailed instructions, which stated that where women or boys were employed, their numbers should be recorded separately, were supplied to the enumerators, but not to householders.⁴² Few farmers enumerated the employment of women or boys in 1851 and the manuscript returns generally refer either to men or to labourers. When the data were published, the Census Office, though expressing reservations about the under-enumeration of male farm servants, were happy to label the tables as pertaining to men without further comment.⁴³ There is no evidence that those reported as 'labourers' in the returns subsumed significant numbers of women, though it would be surprising if this never occurred. Although the published tables referred to the employment of men, it seems likely that some of those returned as 'labourers' would in fact have been boys, especially amongst those employed as farm servants.⁴⁴ Nevertheless, there seems no reason to depart from the Census Office view that these figures refer essentially to adult male employment.⁴⁵

It is unfortunate that the Census Office did not ask farmers to state explicitly if they employed no labour. Only a handful of individuals in Buckinghamshire supplied such nil returns. Where a farmer, especially one who supplied an acreage return, did not report the

³⁸ J. A. Sheppard, 'East Yorkshire's agricultural labour force in the mid-nineteenth century', *AgHR* 9 (1961), p. 44.

³⁹ Mills, 'Farm statistics', p. 69.

⁴⁰ It has recently been shown that the 1851 census mis-categorised many farm servants as day labourers. N. Goose, 'Farm service in Southern England in the mid-nineteenth century', *Local Population Stud.* 72 (2004), pp. 77–82. This is an important issue but not one that affects the issues under discussion in the present paper.

⁴¹ BPP, 1852–3, LXXXVIII (i), *Census of Great Britain, 1851, Population Tables, II (i), Report*, p. lxxviii.

⁴² BPP, 1851, XLIII, *Instructions*, pp. 6, 38.

⁴³ BPP, 1852–3, LXXXVIII, Farmers.

⁴⁴ The Census instructions to enumerators gave no indication as to the age which divided boys from labourers. It is possible that the distinction seemed obvious to contemporaries.

⁴⁵ It should be remembered that the Census Office was in a position to enquire of enumerators how the returns had been compiled and we are not.

employment of labour, it is not clear whether he or she employed no labour or simply failed to report employment figures. Whilst it is reasonable to assume, in the vast majority of cases, that any farmer must have had land, it does not follow that any farmer must have been employing labour on census day (31 March in 1851).⁴⁶ In consequence it is inherently more difficult to assess the extent to which farmers provided answers as to the numbers of labourers they employed than it is to assess the extent of the non-reporting of acreage.

Whether intentionally or not, the authorities covered up this problem when they came to publish the data. In each of the published tables, as in Table 1 above, the numbers of individuals filling out farm returns, who reported either zero employment or made no statement, were rolled together under the heading 'No men employed or not stated.' Having failed to collect the data in a form which distinguished clearly between the two, there was little alternative to this procedure. Fortunately, there are reasons for supposing that amongst those who supplied an acreage figure but no figure for male employment, the great majority genuinely employed no men. Consider Table 1. Two hundred and twelve individuals supplied an acreage return, but reported no men employed on census day. Whilst overall then some twelve percent of individuals supplying an acreage return reported no employment that day, the figure for reported farms under twenty acres is 69 per cent. This is, of course, entirely plausible. Fifteen per cent of farms of between 20 and 100 acres reported no employment. The figure falls to 2 per cent of farms over 100 acres. It is most unlikely that farms in this size category were run without recourse to hired labour. But it must be remembered that these are individual farms reporting the situation on a single day. It is possible that a small number of farms were effectively shut for business on census day for one reason or another.

According to the published data for Buckinghamshire, reproduced as Table 1 above, there were 21 individuals who reported employing men but reported no acreage figure. It is not plausible that such individuals had no land. These 21 individuals form about one per cent of all the farm returns for the registration county. As the questions were put to farmers, no more emphasis was placed on reporting acreage than on reporting men employed. Of those who supplied any of the requisite farm information, only one per cent supplied the labour figure without the acreage figure. It is possible that a similar proportion reported acreage but omitted to report the number of men employed. Such a low level of omissions of employed men would have very little impact on the statistical relationship between farm size and employment levels. However, it is as well to recognise that there may well be some under-reporting of employment in the tables.

More seriously, it has sometimes been suggested that while outdoor labourers were fairly fully reported, the reporting of agricultural servants varied.⁴⁷ This possibility was first mooted by the Census Office itself.⁴⁸ One historian has gone much further and suggested that where servants and day labourers were not enumerated separately, the returns refer to day labour only.⁴⁹ *A priori* this seems unlikely. The instructions to householders clearly stated that farmers

⁴⁶ Some 'farmers', of course, must have been retired or temporarily out of place.

⁴⁷ The secondary literature is reviewed in Mills, 'Farm statistics', pp. 63–4.

⁴⁸ BPP, 1852–53, LXXXVIII, *Report*, p. lxxviii.

⁴⁹ Sheppard, 'East Yorkshire's agricultural labour force', p. 45.

were to return the numbers of 'in and out-door labourers' employed on census day. Farmers, in general, were a highly literate group, and the evidence is that 90 per cent of them supplied the requested acreage information and the great majority of those either supplied employment figures or were not in fact employing anyone.⁵⁰ Why should we suppose that farmers systematically excluded farm servants when they had generally complied well with the other instructions and had been explicitly instructed to include farm servants?

Mills cites an example of a male farm servant in North Cumberland who was resident on a farm that reported employing no men.⁵¹ No doubt many more examples could be found. But it is a far cry from finding occasional imperfections in the CEBs to attributing widespread failings to the CEBs which would have a major statistical impact on the published tables. If such problems were widespread, then one would expect to see significant numbers of farm households where the number of farm servants exceeded the numbers of men reported as being employed on that day. That the CEBs record only 27 such households in Buckinghamshire suggests that this was not a widespread problem.⁵²

A key reason why some historians have suspected that the problem was widespread is because the levels of reported employment seem low compared with the total number of farm labourers and servants in the same districts reported in the occupational tables. Sheppard for instance took the rough coincidence of agricultural labourers in the occupational tables with the numbers of men reported as employed on farms in the East Riding of Yorkshire as evidence that the servants were massively under-enumerated. But this is to assume employment levels approaching 100 per cent for agricultural labourers on the 31 March. Nonetheless, it is the case that the numbers of men reported in employment in the farm returns tables fall well short of the total farm work force.⁵³ If one inflates the farm return employment figures to allow for ten per cent of farmers not reporting then that still leaves only around 60 per cent of male labourers, agricultural servants and shepherds accounted for on the farm size and employment tables. While this may be evidence of considerable under-reporting it may equally be evidence of considerable seasonal unemployment or of both.⁵⁴

Table 6 summarises the extent of employment reporting in the Buckinghamshire CEBs by those who completed acreage returns. Eighty-six per cent of farmers who completed an acreage return reported employing one or more adult males on census day. Reporting of labourers was at considerably lower levels for other groups. Given that the average farm size reported by farmers with a secondary occupation was 108 acres (Table 5) it is very puzzling that only 4 per cent of such individuals reported employing an adult male on census day. This is scarcely credible.

⁵⁰ R. S. Schofield, 'The dimensions of illiteracy, 1750–1850', *Explorations in Economic History* X (1973), pp. 437–54.

⁵¹ Mills, 'Farm statistics', pp. 61–2. However, the individual concerned was 19 years of age and may have been considered a boy rather than a man.

⁵² The figure falls to twenty households if one excludes servants under twenty, who may have been considered boys rather than men.

⁵³ There is a discussion of these issues in P. M. Tillott,

'Sources of inaccuracy in the 1851 and 1861 censuses', in E. A. Wrigley (ed.) *Nineteenth-century society. Essays in the use of quantitative methods for the study of social data* (1972), pp. 82–133.

⁵⁴ The issue is complex and cannot be explored further here. However I hope elsewhere to explore the potential of this evidence for assessing seasonal unemployment, its regional variation and its relationship to poor relief expenditure.

TABLE 6. Employment characteristics of those providing acreage returns in Buckinghamshire in 1851

<i>Occupation</i>	<i>Number reporting acreage</i>	<i>Number reporting employment of adult males</i>	<i>Percentage reporting employment of men</i>	<i>Average number of men employed (when reported)</i>	<i>Number reporting employment of boys</i>	<i>Number reporting employment of women</i>
Farmer	1,646	1,408	85.5	7.1	200	0
Farmer with secondary occupation	24	1	4.1	1.0	0	0
Dairyman	8	4	50.0	2.0	0	0
Grazier	25	16	64.0	3.0	1	0
Bailiff	26	16	62.0	6.9	3	0
Farming as secondary occupation	50	4	8.0	3.5	0	0
Agricultural Labourer	6	0	0	–	1	0
Others	43	13	30.2	4.4	0	0
Total	1828	1462	80.0		205	0

Source: Computed from Buckinghamshire Family History Society, database of 1851 Census enumerators' books.

The same applies to those who listed farming as their secondary occupation. Despite an average farm size of 81 acres, only 8 per cent reported the employment of an adult male. No explanation for these much lower levels of reported employment by dual-occupied farmers can be offered here.⁵⁵ If, as seems likely, this reflects defective reporting rather than reality, then this too will have led to some understatement of the levels of farm employment in the published tables.

The explicit reporting of boys and women employed on farms in the CEBs was at radically lower levels than the reporting of men, as can be seen from the last two columns of Table 6. Only 200 farmers reported the employment of boys and not one reported the employment of a woman. It seems unlikely that only 200 farmers employed boys and utterly implausible that not one employed a woman. For this the Census Office was largely to blame. In the instructions issued to householders there was no request to supply figures for the employment of women and boys. Additional instructions were issued to each enumerator 'For his guidance in completing and correcting the column headed "Rank Profession, or Occupation"'.⁵⁶ Here it was noted that 'when *boys* or women are employed, their numbers should be separately given'. Since householders were not asked to supply this information it is hardly surprising that they rarely did so. How enumerators were expected to correct information which householders had not been requested to provide in the first place is never explained. Presumably only the most

⁵⁵ However, it is not correct to state that these individuals were simply omitted from the farm size tables as

Mills does, Mills, 'Farm statistics', p. 67.

⁵⁶ BPP, 1851, XLIII, *Instructions*, pp. 36, 38.

TABLE 7. Farmers employing boys in 92 Buckinghamshire enumeration districts recording any boys in 1851

<i>Employment characteristics</i>	<i>Number of farmers</i>	<i>Average acreage of farm</i>	<i>Average number of men</i>	<i>Average number of boys</i>
Employing men only	416	159	6.27	0
Employing men and boys	193	184	5.5	2.47
Employing boys only	7	21.6	0	1.29
Employing no-one	80	38.5	0	0
All	696	151	5.3	0.69

Source: Computed from Buckinghamshire Family History Society, database of 1851 Census enumerators' books.

assiduous of enumerators tried to extract information that had not been requested in the first place. And none of them appear to have been zealous enough to extract information on the employment of women.⁵⁷

In Buckinghamshire the employment of boys was recorded in only 92 of the 329 enumeration districts. These may represent areas where the recording of the employment of boys was closer to reality. The basic patterns in these districts for farms where the occupier was returned as 'farmer' are shown in Table 7. Average farm size in these districts was 151 acres, marginally smaller than the 160 acres in the county as a whole (Table 5). How many of the farms in these 92 enumeration districts reporting the employment of men but not boys, nevertheless were employing boys cannot be ascertained. On those farms which reported the employment of boys there was approximately one boy to every two men. However, these farms employed fewer men, on average, than the, on average, somewhat smaller farms which did not report the employment of boys. So to some degree boys may have been substituted for men on the larger farms. Across all the farms in these districts there were 0.69 boys per farm. No doubt real employment levels were somewhere between that level and the 2.47 per farm, which was the average on farms that did report the employment of boys.

Most of the 486 boys who were reported in the CEBs disappeared somewhere in the subsequent processing of the data. The footnote to the printed table records that the employment figures in the table were exclusive of 12 women and boys, whose employment had been reported. Such exclusions were reported in the footnotes to every table, but the numbers are clearly utterly unreliable. By 1871 the Census Office had rephrased the questions put to householders.⁵⁸ Farmers were now asked to record the employment of women and children. Reporting increased around 30-fold but the details were never published.⁵⁹ Instead the overall numbers of women and boys remained confined to the footnotes to the published tables. Whereas the footnotes to the tables for the 17 'representative counties' in 1871 referred to a total of 74,686 women and boys employed on farms, the 1851 tables for the same counties had

⁵⁷ It may be possible to locate enumeration districts elsewhere in the country where female employment was well recorded. If so these could shed much light on the agricultural employment of women at this time of year.

⁵⁸ BPP, 1873, LXXI (ii), *Census of England and Wales, 1871, Population abstracts, III, Report, Appendix B*, p. 168.

⁵⁹ Comparing BPP, 1873, LXXI (ii), *Census of England and Wales, 1871, Population abstracts, III, Appendix A*, Tables 110–127 with BPP, 1852–3, LXXXVIII, Farmers.

referred to a mere 2394 women and boys.⁶⁰ The reporting of women and boys in 1871 may or may not be complete. But the absence of women and boys from the farm size and employment tables in 1851 is further evidence that these tables significantly under-estimate farm employment on census day.

V

Although far from perfect, it appears that the 1851 farm returns are a reasonable guide to both farm acreage and farm employment levels (on census day) at county level. There is probably a small downward bias in the farm acreages. The level of downward bias in the employment levels of adult males on census day may be rather larger. It needs to be remembered that at peak times male employment may have been as much as 50 per cent higher than the levels registered in the farm size and employment tables.⁶¹ The data that are presented in the rest of the paper should be regarded as lower bound figures for both acreages and employment. With these caveats in mind we can now turn to some of the patterns revealed at county level.

Figure 3 shows average farm size for each county in 1851. Average acreages have been calculated on the assumption that all farms in a given size interval fell exactly at the mid-point of the interval and that farms above 2,000 acres averaged 2500 acres. For Buckinghamshire this generates an average farm size of 162 acres. In fact the average of those returning acreage information in the CEBs was 154 so the estimate is about five per cent higher than the CEB figure. It is rather closer to the average acreage of 160 acres reported by those whose only reported livelihood was farming, and a little below the 167 acres reported by the same group in the three-quarters of Buckinghamshire enumeration districts where acreage reporting was comprehensive. Alternative procedures of estimation could be used to generate slightly lower acreage patterns. However, I have not attempted to do so since there is almost certainly a modest though unquantifiable downward bias in the raw data.⁶²

Figure 3 exhibits very strong regional variation. With the exceptions of Cornwall and Northumberland the country can be neatly divided into regions of large, medium and small average farm size. The terms 'large', 'medium' and 'small' farms are used here simply to refer to relative farm sizes in 1851. In the extensive literature on the growth of 'large' farms in England historians have differed as to the appropriate definitions of small and large farms in an absolute sense. This is too large an issue to explore here.⁶³

In most of the country average farm size was above one hundred acres. Average farm sizes

⁶⁰ It is a great pity that women and boys were lumped together in this way. And what, one wonders, happened to girls? Whether or not the data collected in 1871 and alluded to in the published footnotes were of similar quality to that published for adult men remains a moot point. Investigation of CEBs from 1871 could be very instructive on female and child employment patterns.

⁶¹ As suggested earlier, not much more than 60 per cent of the male farm workforce can be accounted for in

the farm size and employment tables.

⁶² Those readers who would have preferred lower estimates of average acreage could adopt the simple expedient of reducing all the acreage figures by five per cent. Any such changes would affect Figure 2 but would make no difference to Figures 3 to 8.

⁶³ Although this is discussed in a second article, alluded to earlier, on the decline of family farms and the development of agrarian capitalism over the period 1600 to 1851.

Northumberland stands out as quite distinct from any other northern county. It had the largest average farm size in England at 251 acres, which was approaching twice the size of any other northern county. Returning to the CEBs for Northumberland would determine whether this was a characteristic primarily of the Cheviot hills or of the county as a whole. Investigation of the census farm size data for areas north of the border would also determine whether Northumberland was really an outlier in northern England, or the southern part of a regional block of larger farms stretching northward across the border.⁶⁵ The rest of the country falls into an area of intermediate or medium size farms. This takes the shape of a great arc from Cumberland in the north, looping right around the Pennine counties as far as Shropshire and then south and west down to Devon.⁶⁶ Within this zone, and it can hardly be called a region, average farm sizes ranged from a low of 102 acres in Somerset and Nottinghamshire to a high of 143 acres in the East Riding of Yorkshire.

The problems with the data discussed above, upon which this map is based, mean that no great precision should be attributed to the absolute numbers presented here. However, it is unlikely that the figures are adrift by more than around ten per cent, though this is, of course, no more than an educated guess. Errors of this magnitude would not undermine the basic patterns revealed by this map. If the patterns of non-reporting in Buckinghamshire were typical, then these are likely to be under-estimates of average farm size rather than over-estimates.

The size of farms has long been of interest to agrarian historians and this is the first time it has been possible to produce county by county figures for average farm acreage. However, a comparison of Figure 3 with Figure 1 makes it clear that average farm acreage does not provide a straightforward guide to the scale of employment on farms. Figure 1 shows that Norfolk's farmers, on average, employed half as many labourers again as did farmers in Northumberland and three times as many as farmers in Cumberland. But Figure 3 shows that the average size of farm in Norfolk was less than half that in Northumberland and almost the same as that in Cumberland. The reason for the mismatch, of course, is that for reasons connected with soil quality and the relative importance of pastoral and arable husbandry, farming in Norfolk was considerably more intensive than in either Northumberland or Cumberland.

VI

When Clapham urged historians studying the development of agrarian capitalism to recognise that even in 1831, the ratio of families labouring in agriculture to farming families for Britain as a whole was as low as 2.5 to 1, he went on to note that it therefore followed that 'agricultural "capitalism" has never closely resembled the industrial variety'.⁶⁷ Clapham's point was that the

⁶⁵ Mark Overton's mapping of the 1831 census material indicate that Northumberland was part of a larger area of capitalist farms stretching north across the border into Scotland: Overton, 'Agriculture', in Langton and Morris, *Atlas*, p. 45. Whether these farms were also characterised by similarly high acreages remains to be seen. This map and all those that follow could easily, and usefully, be extended to Wales and Scotland. I hope to

do this in the future. However, the project of which the work underlying this paper forms a larger part is restricted to England.

⁶⁶ These counties do not quite form a contiguous area since Warwickshire has been consigned to the south-east.

⁶⁷ Clapham, 'Growth of an agrarian proletariat', pp. 92-3.

scale of agrarian capitalism was small. He was correct in this, though one may quibble with his exact figures. They are lower than those used here, and illustrated in Figure 1, which average 5.5 to 1 for England as a whole.

Following R. C. Allen, I have categorised all farms in terms of their labour use as either family farms with little dependence on wage labour, transitional farms which required some wage labour, and capitalist farms on which hired labour supplied the bulk of labour.⁶⁸ In the discussion which follows I have ignored female labour whether family labour or waged because figures for farm employment of female labour on census day are not available.

Farms which employed no one (family members aside) on 31 March 1851 had only a limited dependence on hired labour, though many of them would no doubt have hired some labour at busier times of year.⁶⁹ Such farms can fairly safely be described as family farms. But farms which employed an adult male on 31 March, a relatively quiet time of the agricultural year, must in general have had a quite significant dependence on wage labour.⁷⁰ They will not therefore be described as family farms here.

Farmers were asked to describe co-resident relatives living at home and working on the farm as 'farmers' relatives'. On average there was just under one male farm relative to every two farmers. It follows that on at least half of all farms there were no co-resident farm relatives. If we suppose for the moment that farmers' co-resident relatives were equally distributed between small and large farms, then half or more of all farms with only one employed man had only one male family member at work on census day. In such cases male family and male wage labour were balanced on census day. At busy times of year, the majority of farm labour is likely to have been supplied by wage labour. On something under fifty per cent of farms employing one farm labourer on census day there must have been twice as much male family labour as male wage labour and sometimes more. At busy times of year the balance in some cases would have moved the other way. Farms employing one man on census night were clearly dependent on the use of wage labour, but whether or not wage labour supplied a majority of labour over the year will have varied considerably. Accordingly, all such farms have therefore been categorised as transitional here.

On average, farms employing two men on census night will have had one and a half male family members available and were thus using more waged labour than family labour. At periods of peak labour demand they will have moved decisively in the direction of wage labour. Such farms could be characterised either as transitional or as small capitalist farms. Since they used more male wage labour than male family labour they have been classified here as small capitalist farms.

Farms with between three and five workers employed on census night have been categorised

⁶⁸ See the discussion in R. C. Allen, *Enclosure and the yeoman. The agricultural development of the South Midlands, 1450–1850* (1992), pp. 56–8.

⁶⁹ The census farm size and employment table data imply that perhaps one-third of the agricultural workforce was unemployed on census day. If so, employment may have been 50 per cent higher in peak periods. This unemployment figure may of course be inflated by some

under-reporting of employment. If that is so then the data presented in this paper understate the level of farm employment on census day and exaggerate the extent of unemployment.

⁷⁰ On the seasonality of labour demand in pastoral and arable areas, see A. Kussmaul, *A general view of the rural economy of England, 1538–1840* (1990), pp. 14–45.

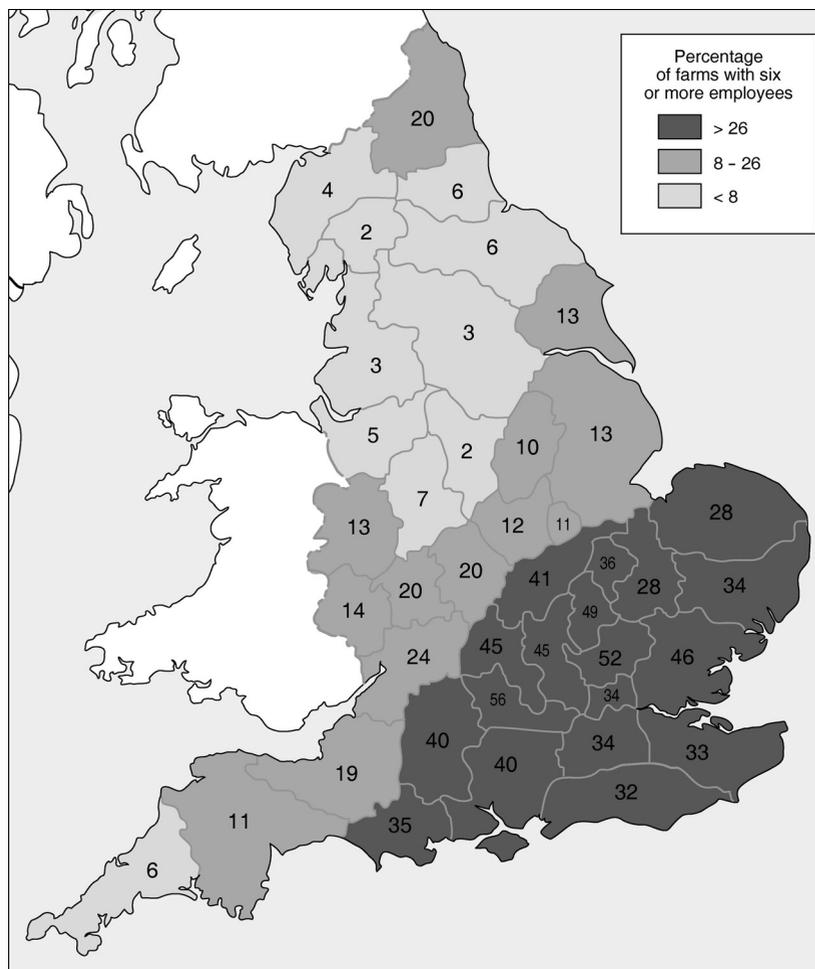


FIGURE 5. Percentage of farms employing six or more adult males on 31st March 1851 in 1851

Source: BPP, 1852-3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables, II, vols 1 & 2, 'Farmers, with the numbers of labourers employed and of acres occupied, divisions I-X'*.

Dorset and Huntingdonshire. In this region, more than 80 per cent of farmers were employing at least one man on the 31 March. At the other end of the spectrum in a group of contiguous counties centred on the Pennines but somewhat different from the Pennine zone of Figure 3, a majority of farms reported no adult male employment on the 31 March. The rest of the country formed an intermediate zone ranging from a low of 25 per cent in Norfolk to a high of 50 per cent in Cheshire.

Farms employing no one on 31 March are clearly prime contenders for being considered family farms. Such farms were evidently a majority in the Pennine region but nowhere else and formed a fairly small minority of farms in the south-east. But what was the geographical distribution of capitalist farms? There is unlikely to be any controversy in suggesting that farms employing six or more adult males on 31 March should be considered capitalist. The relative importance of such farms is shown in Figure 5.

Such decisively capitalist farms were typically around one-third of the total in south-eastern England varying from a low of 28 in Norfolk to a high of 52 per cent in Hertfordshire. In the Pennine region farms employing on this scale were relatively unusual, varying between two per

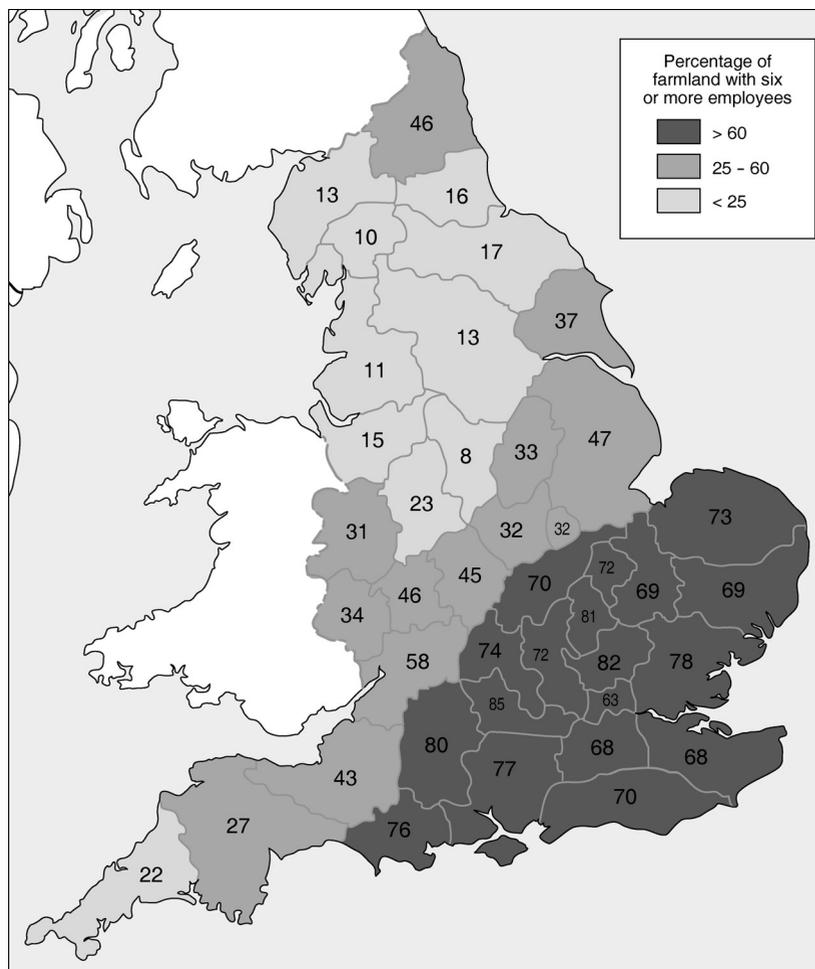


FIGURE 7. Percentage of farmland employing six or more adult males on 31st March 1851

Source: BPP, 1852-3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables, II, vols 1 & 2, 'Farmers, with the numbers of labourers employed and of acres occupied, divisions I-X'*.

Figure 7 shows the proportion of farmland in farms employing six or more men on census day and mirrors the geography of Figure 4 exactly. But the extent of the dominance of large capitalist farms in the south-east is now fully apparent. South and east of a line from Norfolk to Dorset, over sixty per cent of all farmland lay in large capitalist farms ranging from a low of 63 per cent in Middlesex to a high of 85 per cent in Berkshire. In the Pennine region such farms were far less important, typically accounting for 10 to 15 per cent of all farmland, though in Staffordshire they reached 23 per cent of all land. Elsewhere in the country the figures ranged from a low of 22 per cent in Cornwall to a high of 58 per cent in Gloucestershire.

Figure 8 shows the proportion of farm acreage in farms employing three or more men, that is in the medium and large capitalist farms combined. South-eastern England now appears as a rather larger zone in which medium and large scale capitalist farms accounted for more than three-quarters of all farmland.

Figure 9 shows the proportion of farm acreage in all classes of capitalist farm whether small, medium or large. South and east of a line from Dorset to Norfolk, with the marginal exception of Cambridgeshire, over 90 per cent of farm land was in farms employing two or more men

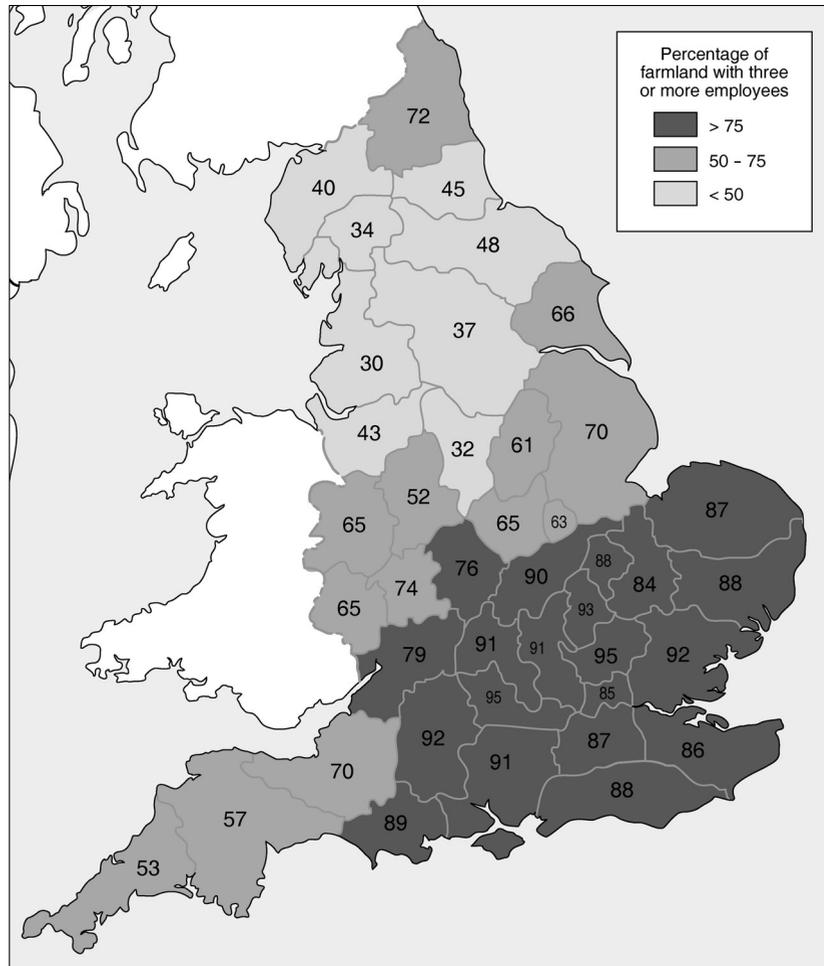


FIGURE 8. Percentage of farmland employing three or more adult males on 31st March 1851.

Source: BPP, 1852–3, LXXXVIII (i), *Census of Great Britain 1851, Population Tables, II*, vols 1 & 2, ‘Farmers, with the numbers of labourers employed and of acres occupied, divisions I–X’.

on census day. But capitalist farms also dominated the landscape in a contiguous belt of land further north and west in which over three-quarters of farm land lay in farms employing two or more men on census day. Capitalist farms occupied a minority of the land only in the counties of Lancashire and Westmorland, though their dominance was marginal in the rest of the Pennine zone. Here perhaps the high price of agricultural labour, driven up by competition from the industrial sector, may have played a role in keeping family farms competitive.⁷¹

It is necessary to revisit the simplifying assumption put forward earlier that the number of farm relatives did not vary significantly with farm size. In fact the ratio of male farm relatives to farmers varied regionally from a low of 0.3 in Norfolk to a high of 0.7 in Cumbria with a general tendency to be higher in northern England and the south-west. For England as a whole the ratio was 0.46. There is thus a very rough association between areas where family farms were important and areas where the number of farmers’ relatives were high. This may suggest be because there was more family labour on small farms than large ones. However, neither

⁷¹ This argument has been advanced by Gritt in respect of Lancashire: ‘The “survival” of service’, p. 49.

essentially to farms and not to agricultural holdings as whole. These data are a good guide to average farm sizes at county level. If there is a bias it is small and the figures probably understate the size of farms somewhat. But by 'farm' one must understand agricultural holdings which provided the primary source of income for the holder. The vast majority of smallholdings therefore are not covered by the 1851 census data. In contrast, the data in the later Agricultural Returns cover holdings of all kinds in excess of $\frac{1}{4}$ acre, not just farms. They thus include perhaps 170,000 part-time smallholdings as well as around 200,000 farms. It follows that the Agricultural Returns cannot provide a guide to the distribution of farm sizes. It is not that this distinction has not been recognised before but it has not been given its proper weight.⁷² How complete an account of agricultural holdings of over a quarter of an acre the Agricultural Returns provide is beyond the scope of this paper.

None of this is to deny that there were very large numbers of individuals who, although not full-time farmers and a minority of the rural population, nevertheless occupied agricultural land. On this the evidence of the Agricultural Returns is irrefutable. Mick Reed is probably right to suggest that most such people were rural tradesmen.⁷³ But he goes further and suggests that we should not be 'too hasty in categorising some forms of income as "secondary"'.⁷⁴ However the census evidence suggests that the vast majority of such individuals farmed as a secondary not a primary occupation – that is precisely why they were not enumerated as farmers and did not generally see fit to supply an acreage return in the Census.

The employment levels recorded in the 1851 farm size and employment tables may suffer from a more significant level of under-recording. To the extent that this is so, they may significantly under-estimate farm employment levels on the 31 March 1851. Nevertheless, the regional contrasts that are illustrated so strikingly on Figures 3 to 9 are real. To paraphrase E. P. Thompson, social historians are prone to count small farms and economic historians to weigh them.⁷⁵ That is to say that social historians tend to count the actual number of small farms, as illustrated in Figures 3 and 4 while economic historians tend to focus on the amount of land in those farms as in Figures 5 to 9. In consequence social historians have placed much more emphasis on the survival of small farms into the nineteenth century. However, as it turns out the family farm was a very unimportant feature of both the social and economic landscape in south-eastern England by the mid-nineteenth century. By contrast in the Pennine region small family farms continued to outnumber capitalist farms in the mid-nineteenth century and were far from insignificant in an economic sense.

Before concluding attention may be drawn briefly to some surprising features of these maps. While the patterns in the maps produced here bear a striking, perhaps shocking, resemblance to the underlying geology, they do not relate at all straightforwardly to a number of other geographical patterns with which agricultural historians are familiar.⁷⁶ They are entirely unrelated

⁷² See for instance, Mills, 'Farm statistics', p. 71, who makes this point but does not seem to take it fully on board. Both Grigg and Reed were fully aware of the distinction, Grigg, 'Farm size', p. 182; Reed, 'Peasantry', p. 57.

⁷³ *Ibid.*, pp. 57–8.

⁷⁴ *Ibid.*, p. 58

⁷⁵ E. P. Thompson, 'The grid of inheritance: a comment', in J. Goody, J. Thirsk and E. P. Thompson (eds), *Family and inheritance. Rural society in Western Europe, 1200–1800* (1976), p. 329.

⁷⁶ K. C. Dunham, *Geological map of the British Isles, based on the work of the Geological Survey* (fifth edn, 1969).

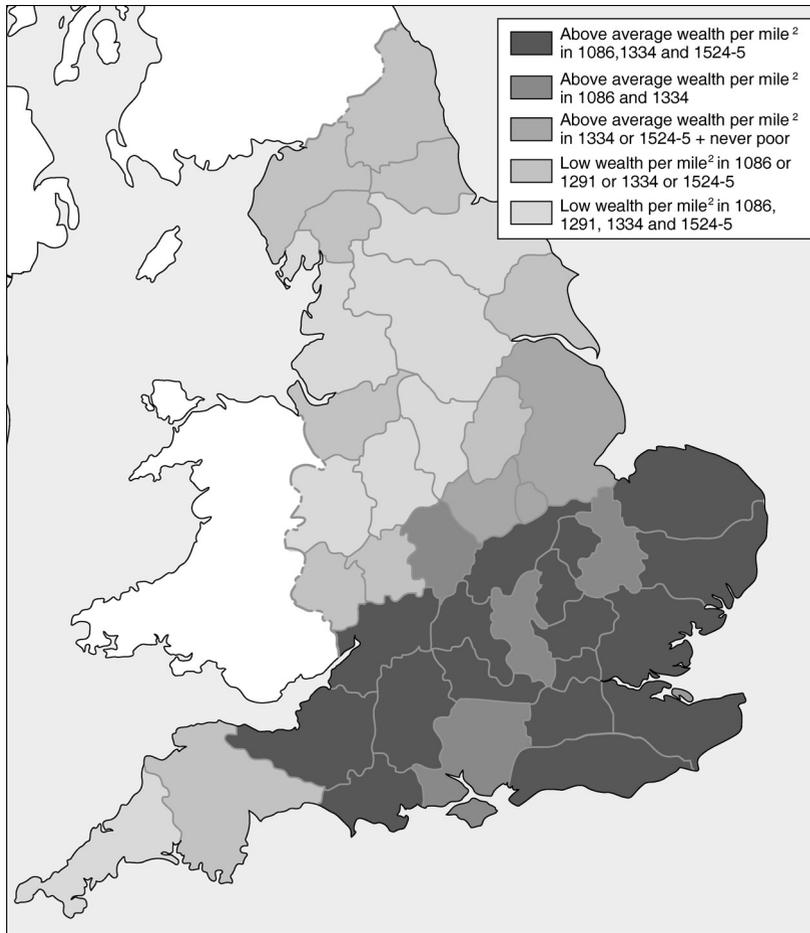


FIGURE 10. The regional distribution of wealth, 1086 to 1524–5.

Source: Derived from the maps of rich and poor areas in 1086, 1334 and 1524–6 in B. M. S. Campbell, 'North–South dichotomies, 1066–1550' in A. R. H. Baker and M. Billinge, *Geographies of England. The North–South divide, material and imagined* (2004), pp. 152, 163.

to the geography of parliamentary or indeed earlier enclosure.⁷⁷ They bear little resemblance to what we know of agricultural regions.⁷⁸ Nor do they relate in any simple way to the geography of arable and pastoral regions.⁷⁹ Although most of the south-eastern zone identified here as intensively capitalist was predominantly grain growing, there is no straightforward match between the degree of proletarianisation and the geography of grain growing and pastoral farming identified by James Caird in 1852.⁸⁰ On the one hand, Caird identified Northumberland, Durham, most of the North Riding, the East Riding and Lincolnshire as arable but these counties fall outside the large-scale capitalist zone identified here. On the other hand Caird identified Northamptonshire, Oxfordshire and Buckinghamshire as primarily lying within the pastoral area but these counties appear here as intensively capitalist.

⁷⁷ For comparison see the maps in Overton, *Agricultural revolution*, pp. 152–3; and M. E. Turner, *English Parliamentary enclosure. Its historical geography and economic history* (1980), p. 35.

⁷⁸ See J. Thirsk, *England's agricultural regions and agrarian history, 1500–1750* (1987), pp. 24, 28, 31, 39.

⁷⁹ For a somewhat different view, see Overton, *Agricultural revolution*, p. 180.

⁸⁰ Caird's map is conveniently reproduced in H. C. Prince, 'The changing rural landscape', in Mingay (ed.) *Agrarian history* VI, p. 75.

However, when the maps produced here are compared with the relative distribution of wealth and poverty across the medieval and early modern periods, as shown in Figure 10, rather more straightforward similarities are apparent.⁸¹ Those areas where family farming thrived in the mid-nineteenth century correspond closely to those which were poor between the eleventh and the sixteenth centuries. Those areas where large-scale capitalist farming predominated in the nineteenth century were the areas which were consistently the most prosperous between the eleventh and sixteenth centuries. To some degree both sets of patterns reflect the quality of the agricultural land.⁸² The areas which were poor before 1600 and where family farms remained significant in the mid-nineteenth century are notable for the general absence of good soils and the general prevalence of poor and medium quality soils. The south-east, where agrarian capitalism was most intense in the mid-nineteenth century and which was consistently the most prosperous part of the country from the eleventh through to the nineteenth century, had very extensive areas of good soils but it also contained large tracts of medium quality and poor soils. Although soil quality was clearly a major determinant of regional wealth levels in the medieval and early modern periods, other factors were also important, not least the proximity to London and to European markets and the distance from border warfare.⁸³

Whatever the influence of soil types, wealthy areas are likely to have been the most commercialised. It is likely that it was in the most commercialised areas that capitalist agriculture took root earliest and developed furthest.⁸⁴ Perhaps the major determinant of the mid-nineteenth century geography of agrarian capitalism was how long that process had been underway. At present this is no more than a highly speculative hypothesis. But it is one which is eminently testable if appropriate data can be acquired.

⁸¹ See the maps of rich and poor areas in 1086, 1334 and 1524–6 in B. M. S. Campbell, 'North-South dichotomies, 1066–1550', in A. R. H. Baker and M. Billinge (eds), *Geographies of England. The North-South divide, material and imagined* (2004), pp. 152, 163.

⁸² See the map of land quality in Overton, *Agricultural revolution*, p. 59.

⁸³ See Campbell, 'North-South dichotomies' for an

incisive analysis of the regional differences and their causes between the eleventh and sixteenth centuries.

⁸⁴ On the critical causal role of commercialisation in the early development of agrarian capitalism, see R. H. Tawney, *The agrarian problem in the sixteenth century* (1912); J. Whittle, *The development of agrarian capitalism. Land and labour in Norfolk, 1440–1580* (2000).