



BRIEFING PAPER

Number 03339, 21 January 2016

Agriculture: historical statistics

By Yago Zayed

Inside:

1. Area of crops and grass
2. Livestock
3. Agricultural workforce
4. Productivity
5. Farm income
6. Reference tables



Contents

Summary	3
1. Area of crops and grass	4
1.1 Individual crops	5
1.2 Wheat and Barley	5
1.3 Orchards	6
2. Livestock	7
2.1 Cattle	7
2.2 Sheep	7
2.3 Pigs	8
2.4 Poultry	9
3. Agricultural workforce	10
4. Productivity	10
5. Farm income	11
6. Reference tables	13

Contributing Authors: Paul Bolton,
Carl Baker

Cover page image copyright: [Jon Bunting](#). Licenced by [CC-BY-NC 2.0](#). Image cropped and rotated.

Summary

Consistent statistics on agriculture have been collected for a longer period of time than for many other industries or subject areas. The first proper agricultural census of Great Britain was taken in 1865 and has been carried out annually in June ever since. It still collects much of the same information on crop areas and livestock numbers. Official statistics on annual crop yields were first published in 1884, livestock products at the start of the 20th century and annual data on agricultural workers from 1921.

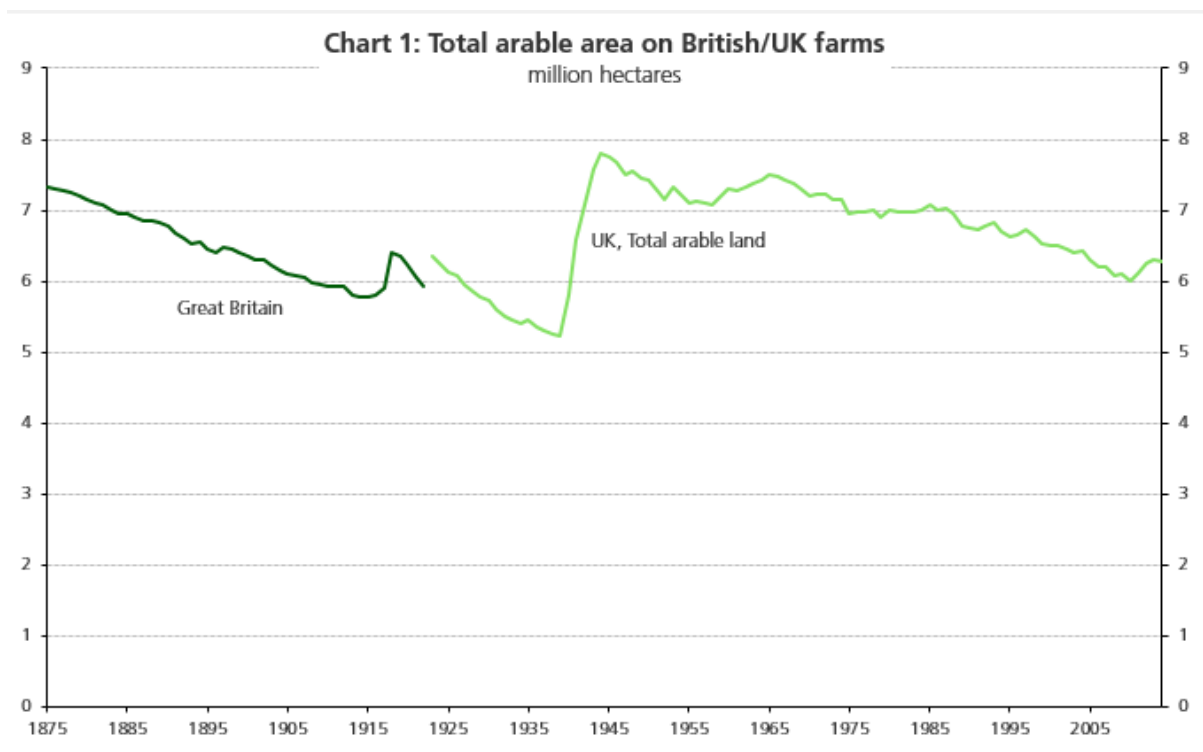
This note sets out a small number of important indicators of UK agriculture that have been published annually over this time. Together they give an indication of some of the ways that agriculture has changed in response to events over the last 100 years or more including the two world wars, the depression of the 1930s, the post-war boom and entry into the European Community. These long runs of data also give some historical context to more recent changes in agriculture including the dramatic fall in prices and farm incomes in the late 1990s, BSE and the outbreak of foot and mouth disease.

A number of series, notably farm sizes and the use of chemical fertilisers and pesticides, are not sufficiently consistent or longstanding to include in this note. Most that are included have one or more breaks in their data. This is either because of changes to data collection which were intended to reflect changes in agriculture; improvements in methods of collection; or geographical change (the partition of Ireland for example). However, in most cases the impact is small and they do not limit the use of the data.

1. Area of crops and grass

Chart 1 and **Table 1** (see appendix) show the total arable area on farms in Great Britain and then the UK since 1875. The arable area is defined as the total area of crops, bare fallow and non-permanent pasture (grass less than five years old). This data is collected in the June Agricultural Census. While earlier data is available, 1875 is used as a starting point as results from this time are considered more reliable.¹

The total arable area on farms fell at a consistent rate between 1875 and the middle of the First World War. The area of arable farming increased dramatically in the last year of the war, but then resumed its earlier trend to reach the lowest recorded level of 5.2 million hectares just before the Second World War. During the course of this war the total arable area increased by 50% to 7.8 million: going from the smallest area on record to the largest in just five years. Since this time the arable area has been more variable, particularly in the last 15 years. The underlying trend is downwards. The recent average level of just over 6 million hectares is the smallest area of arable land since before the Second World War.



In 2014, the area of permanent (over five years old) pasture in the UK was 5.8 million hectares.^{2 3} Unlike arable this area has actually increased since 1970, but the current area is still well below the level of 7.4 million hectares from the end of the 1920s.⁴ The total area on agricultural holdings in the UK in 2008 was 17.2 million hectares, or 71% of the total land area of the UK.

¹ B. R. Mitchell, *British Historical Statistics*, p182

² Excludes rough grazing

³ Defra, [Agriculture in the UK 2014](#), Table 2.1

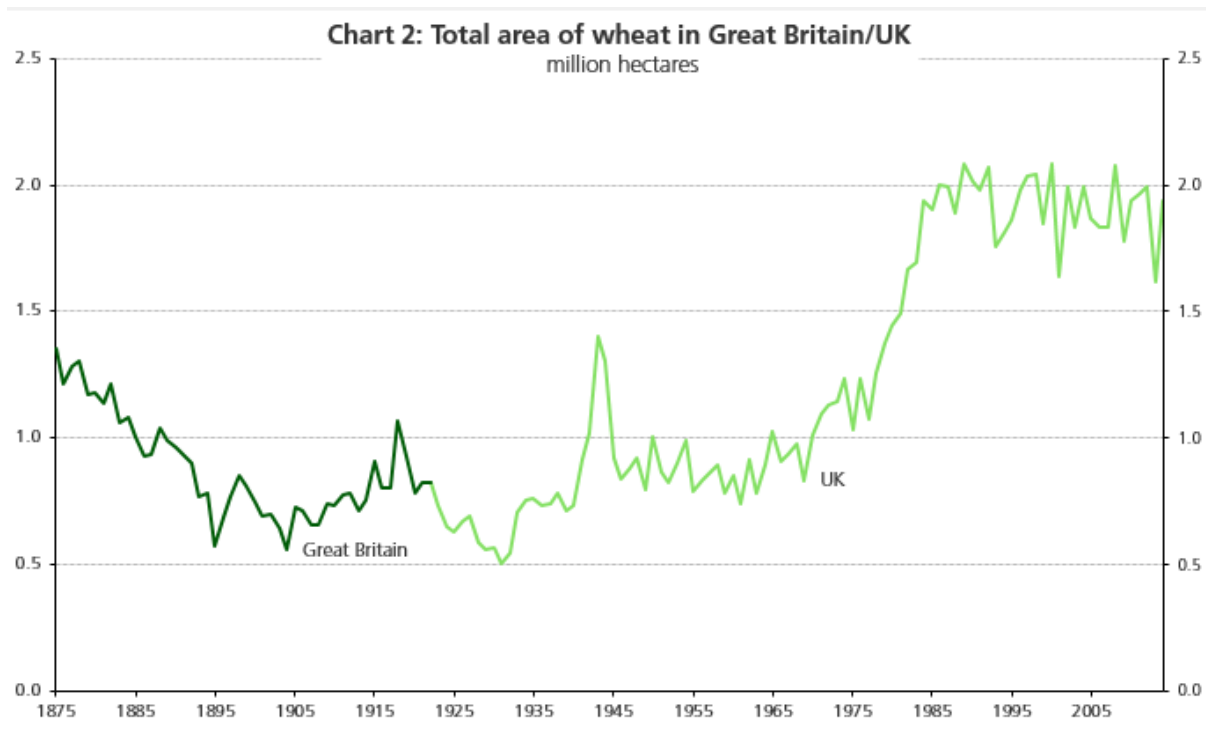
⁴ H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*, Table 3.2

1.1 Individual crops

Within the total area of crops the individual types with the most consistent and largest declines were turnips and swedes (a 90% reduction in their area in the 100 years from 1875), oats (an 87% reduction in their area in the 100 years from 1875) and fodder crops in general.⁵

1.2 Wheat and Barley

Two crops which underwent large periods of expansion in the 20th century were wheat and barley, as detailed in **Charts 2 & 3** and **Table 1**.

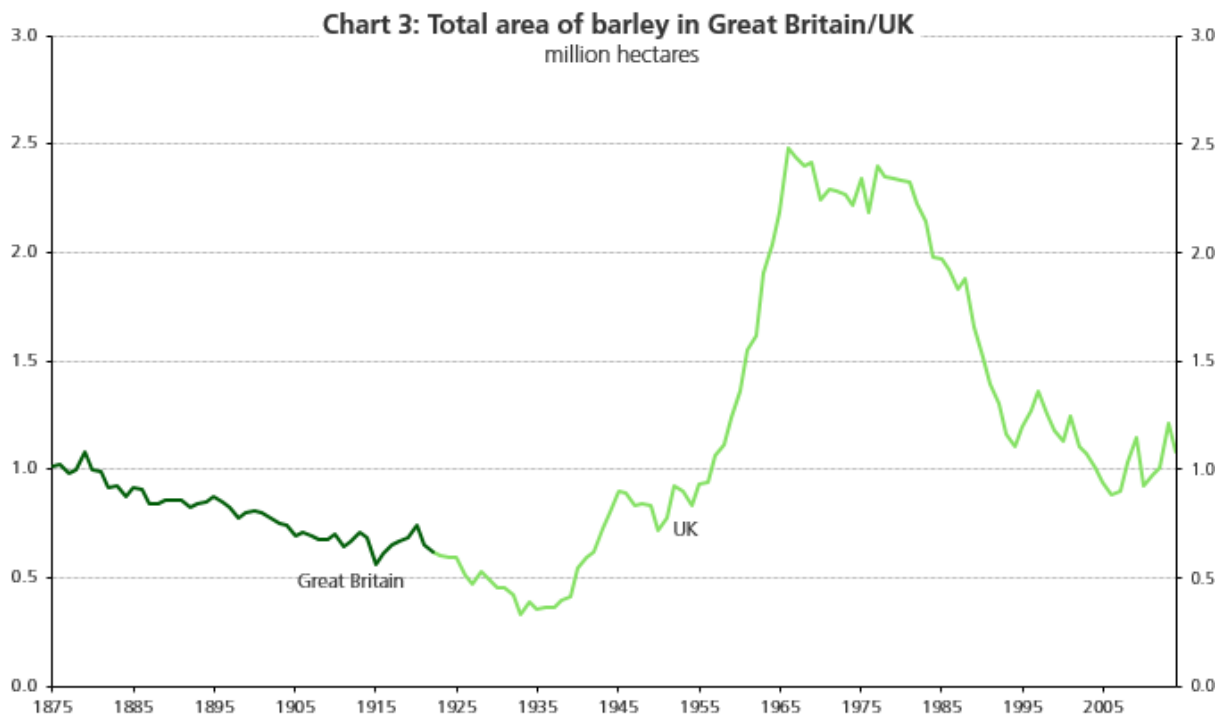


The collapse of cereal prices in the late 19th century caused the total area under wheat to decline from over 1.3 million hectares to below 700,000 hectares. Other than wartime peaks, it generally remained between 600,000 and 800,000 hectares until the mid 1960s. A period of gradual increase followed, which became a more rapid expansion to over 2 million hectares in the late 1980s. This expansion was due to the switch in production from barley to wheat (illustrated in the next chart) owing to the potential greater productivity of wheat.⁶

The collapse in cereal prices also caused a fall in the area of barley during the first half of this period. The post-Second World War expansion in the area of barley was even faster than that experienced by wheat in the 1980s. The area increased more than three-fold between 1950 and 1965 when it reached 2.5 million hectares (one third of all arable land). The effect of the switch from barley to wheat in the 1980s is very clear in **Chart 3**. At the start of the decade the area of barley was 60% greater than that of wheat; at the end it was 25% smaller.

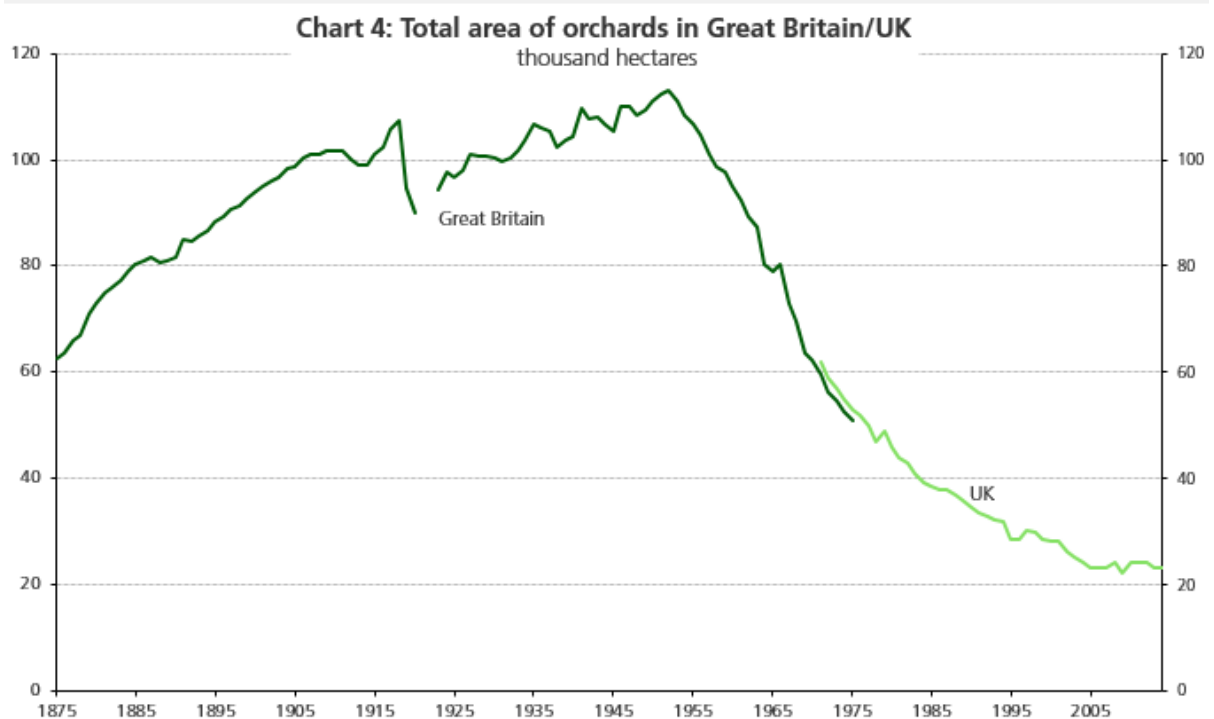
⁵ B. R. Mitchell, *British Historical Statistics*, Table III 1

⁶ H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*, pp35-36



1.3 Orchards

The decline in the number of orchards across the country has been much commented upon and is frequently seen as an indication of the industrialisation of agriculture. **Chart 4** and **Table 1** show trends in the total area of orchards. There was a general increase between 1875 and the early 1950s, interrupted by a sharp decline during the First World War. Since 1951 the decline has been very rapid. The total area covered by orchards in Great Britain was 113,000 hectares in 1951; by 1995, the UK figure was just 28,000. There has been some slowing in the rate of decline, but it reached another all-time low of 22,000 hectares in 2009.

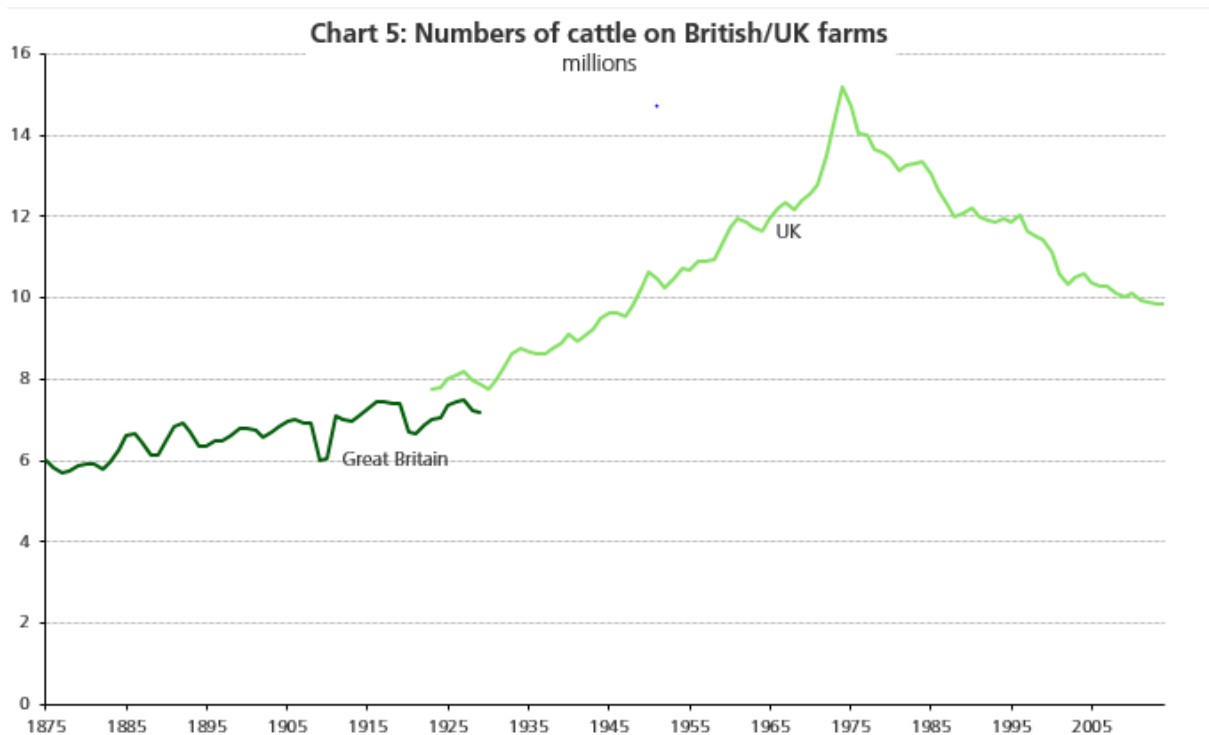


2. Livestock

Data on the number of livestock on farms is also collected in the June Agricultural Census. For the same reasons given in the previous section data is presented from 1875 onwards.

2.1 Cattle

Chart 5 and **Table 2** (appendix) show trends in the total number of cattle on farms. Despite some year-on-year variation, there was a consistent upward trend for the first 100 years shown here (1875 to 1974), over which time the total number of cattle increased from 6 million to 15.2 million. Since then, the number of cattle has fallen by almost 5 million; or 32%. More recent falls associated with BSE and foot and mouth disease have magnified the downward trend. Much of the underlying decline in numbers since the 1980s has been in the dairy herd as a result of restrictions on milk production from milk quotas.⁷



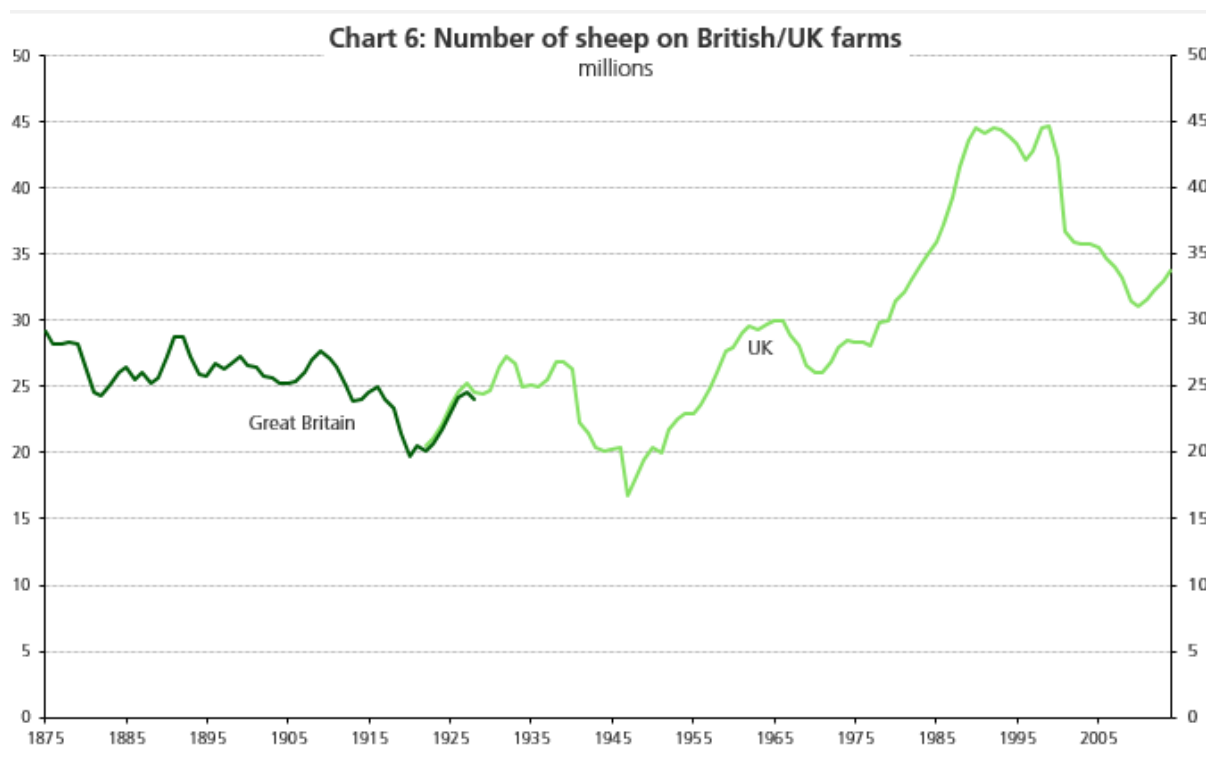
2.2 Sheep

Chart 6 and **Table 2** show trends in the total number of sheep⁸ on farms. In the period up to the early 1970s the only clear patterns were sharp falls during and just after both wars (due to an emphasis on crop production), followed by slower periods of recovery. Outside of these periods, numbers varied between 25 and 30 million. While this is a large range in absolute terms it is relatively small compared to the change since 1980 when the CAP for sheep meat was introduced and profitability improved. Numbers increased by 14.6 million, or almost 50%, to their highest recorded level of 44.5 million in 1992. The outbreak of foot and mouth disease

⁷ Defra, *Agriculture in the UK 2003*, p 25

⁸ Total number of sheep and lambs.

affected sheep numbers more than cattle; in the year to June 2001 the total number fell by 13% or 5.5 million. The numbers have yet to recover.



2.3 Pigs

Chart 7 and **Table 2** show trends in the total number of pigs on farms. The most noticeable pattern in the number of pigs, when compared to cattle and sheep, is the volatility in numbers. This reflects the ability to respond to prices more quickly and the dominance of meat in the value extracted from pigs.

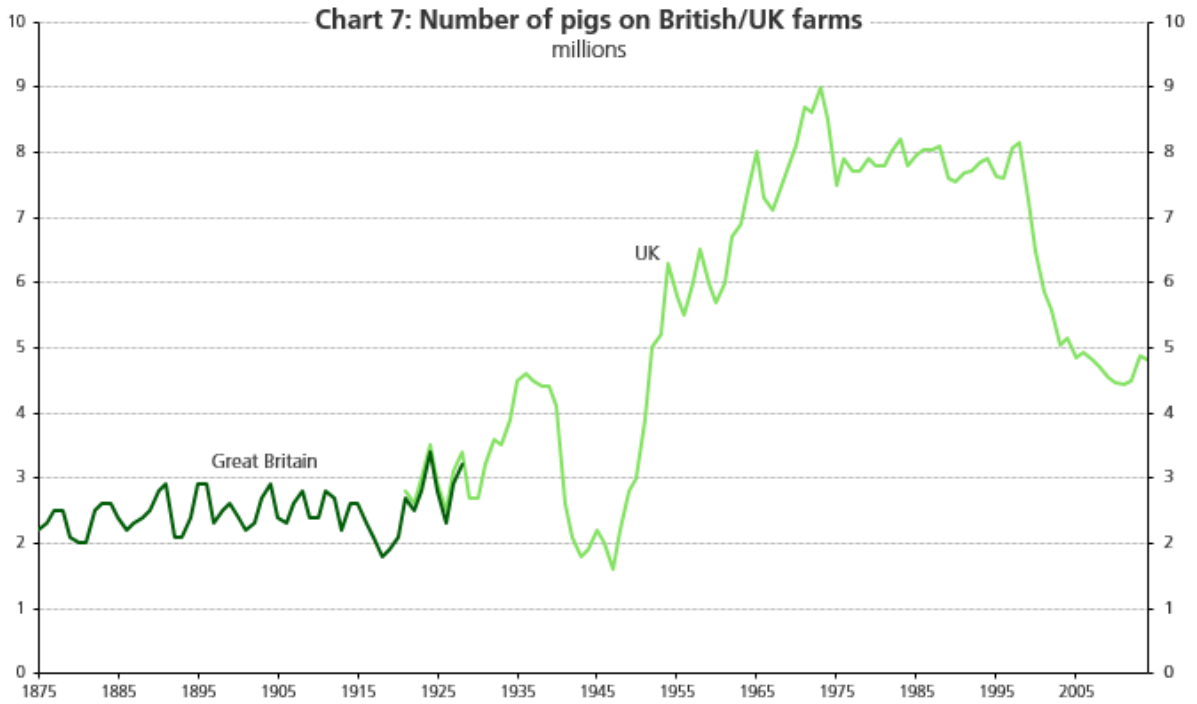
Total numbers varied between two and three million up to the First World War. Numbers expanded rapidly to 4.6 million in the mid-1930s. A dramatic fall in numbers took place during the Second World War, owing to reductions in pigs' main food supplies of cereals and imported concentrates. Numbers started to increase by the end of the 1940s: this expansion was just as rapid as the decline with a four-fold increase in the seven years to 1954. After then, the expansion in numbers continued more slowly and more erratically, peaking at 9 million in 1973. Falling profitability meant that numbers subsequently declined to around 8 million and remained around this level until the late 1980s.⁹ Falling prices at the end of the 1990s, coupled with outbreaks of swine fever in 2000 and foot and mouth in 2001 resulted in a decline of approaching 40% between 1998 and 2003 when numbers reached their lowest level for half a century. They have since fallen still further, though the 2013 figure showed a sharp increase followed by a slight decline in 2014.

Pig farming underwent major specialization and intensification from the 1970s onwards. The average size of a herd increased from 70 in 1966¹⁰ to nearly 600 in 2000.¹¹

⁹ H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*, pp73-74

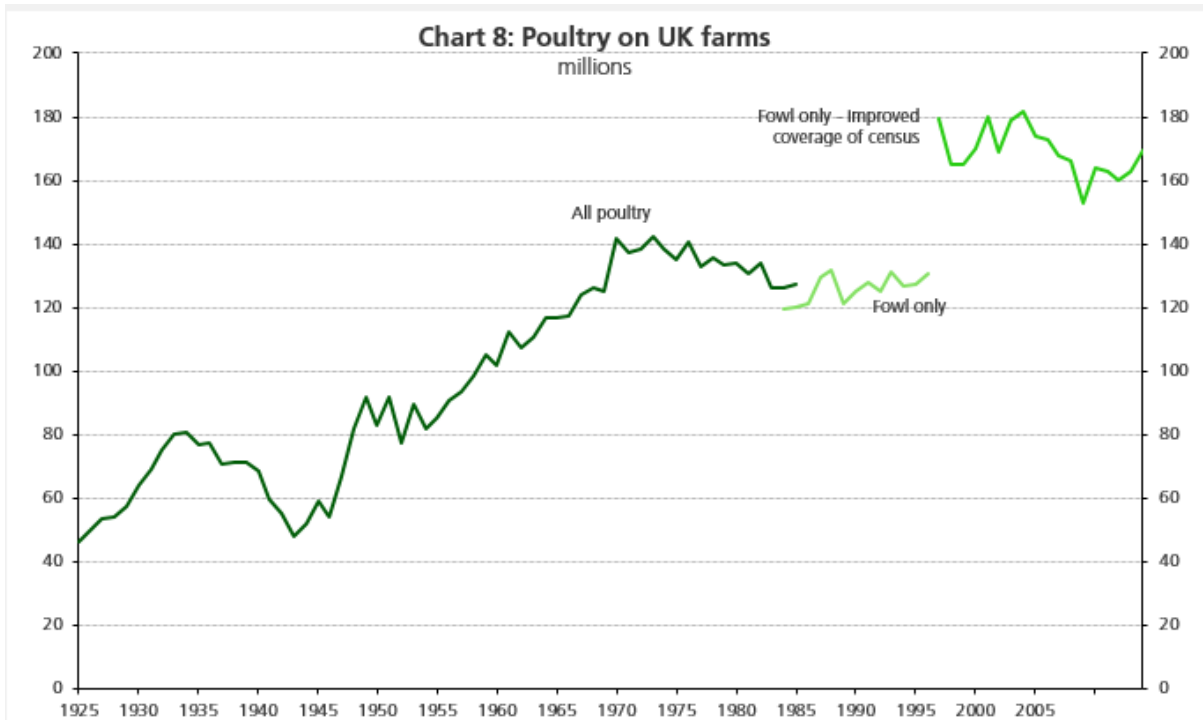
¹⁰ MAFF, *Agricultural statistics 1966/67 England and Wales*,

¹¹ Defra, *Agricultural census data –frequency distribution analysis*



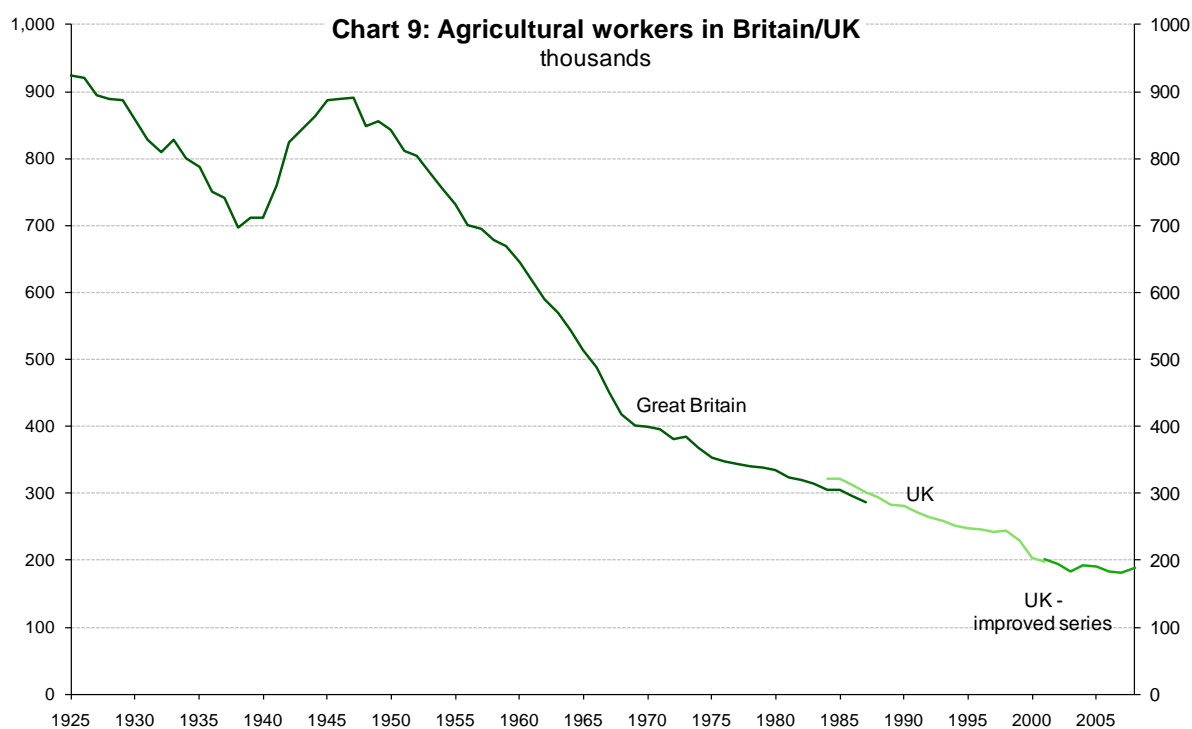
2.4 Poultry

Chart 8 and **Table 2** show trends in total poultry numbers on farms since 1925. The trend in the early part of this period is similar to that seen for pigs: expansion during the 1930s; wartime falls in numbers; and rapid postwar expansion followed by a slower rate of expansion. Numbers peaked at just over 140 million in 1973. This was followed by a slow fall in numbers. Recent breaks in series make trends since 1980 more difficult to interpret.



3. Agricultural workforce

The Agricultural Census only started collecting information on the number of hired agricultural workers in the 1920s. **Chart 9** and the appended **Table 3** show trends in the *headcount* of agricultural workers (this excludes farmers, their spouses or farm partners and directors) since 1923. There has been near continual decline in numbers during this period, a trend only interrupted by the Second World War (when numbers were swelled by the Women's Land Army and prisoners of war). The fastest period of decline was between the end of the 1940s and the early 1960s, during which time the agricultural workforce went from almost 900,000 to just over 400,000. Since then the rate of decline has been slower, but just as consistent. In 2008 the total workforce was 187,900.



Figures from before this time are available from the population Census, but only for every 10 years. Census results showed a fall from 1.7 million agricultural workers in 1851 to just under 1 million in 1921. The greatest fall in numbers was between 1861 and 1881 when there was a fall of 380,000. The number of farmers has only been recorded in more recent Agricultural Censuses. When this data is combined with figures from the population Census it can be inferred that the number of farmers has fallen, but at a much slower rate than hired workers. The total fall is estimated at around one-sixth between the middle of the 19th century and the late 1980s.¹²

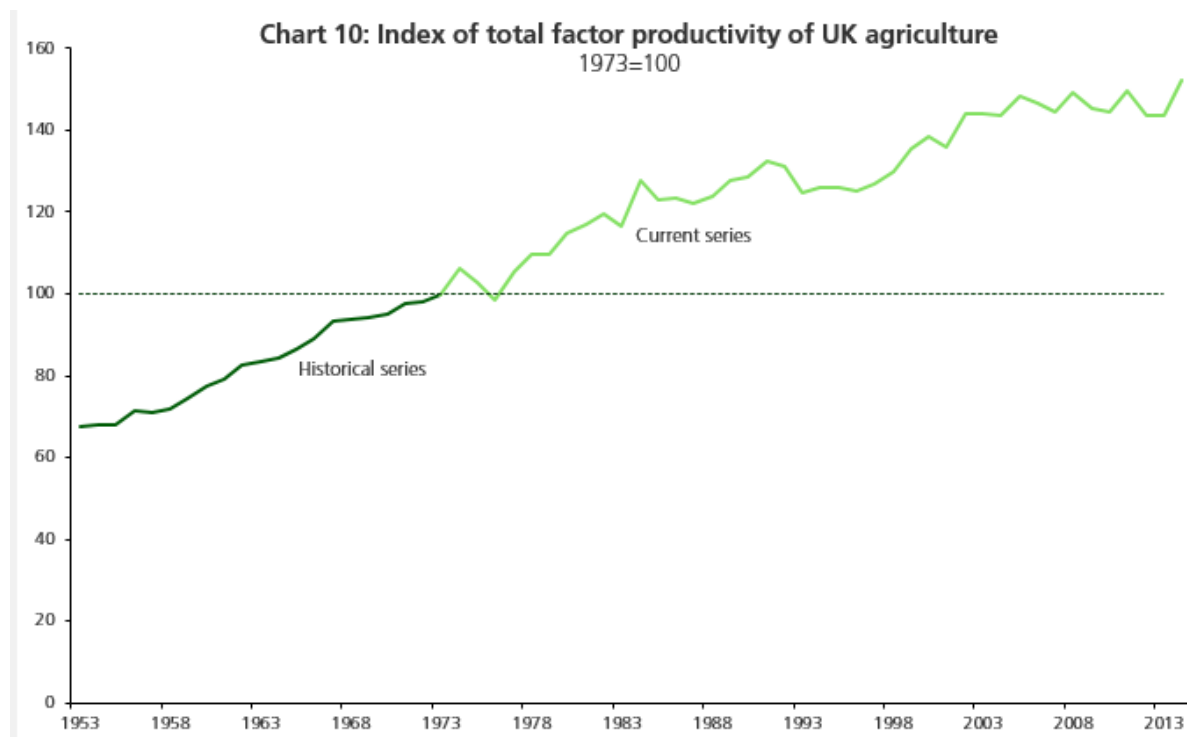
4. Productivity

Productivity of UK agriculture as a whole measures how well the industry uses the resources that are available to it to turn inputs into outputs. The statistic is based on the ratio of the volume of outputs to the volume of inputs. Productivity plays a vital part in agriculture's competitiveness and has clear impacts on farm incomes and the economic sustainability of the

¹² Marks and Britton, p15-16

industry. **Chart 10** and **Table 4** (appendix) show trends since 1953. Figures are given in an index form (1973=100).

There was a general increase in productivity from the mid -1950s to the mid -1980s. Productivity increased by nearly 50% up to 1973 and by a further 30% in the following decade. This increase in productivity is explained by producing considerably more (final output nearly doubled) from a broadly similar amount of inputs (an increase of less than 10% over 30 years). Up to the mid-1990s there was little change in the volume of inputs or outputs, and hence little change in productivity. Between 1996 and 2006 productivity increased by 19%, but this was driven by a fall of just over 18% in inputs. Output also fell over this period, but by a smaller amount, other than in 2001. Labour has been the main input that has fallen for the whole of the period shown, but since the mid-1990s there have also been relatively large reductions in fertilisers and energy.¹³

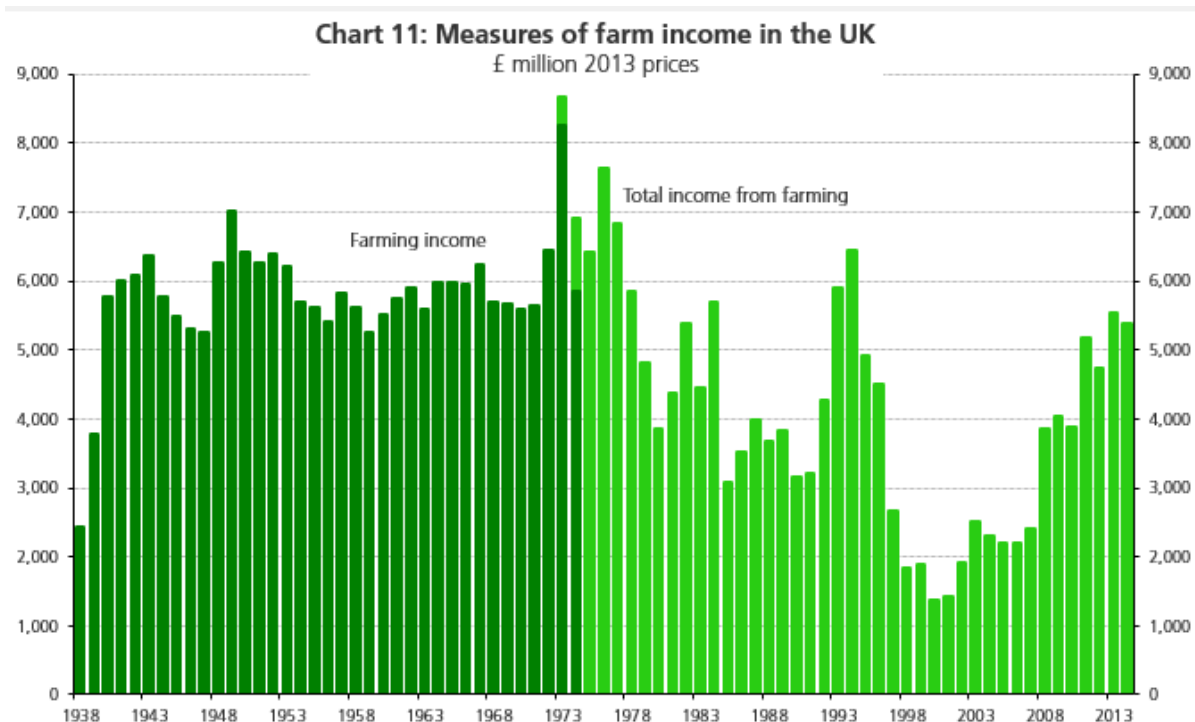


5. Farm income

Data showing two series on aggregate farm income is given in **Chart 11** and the appended **Table 5**. The earlier series is 'Farming Income' and covers the income of farmers and their spouses. The second series, 'Total Income from Farming' (TIFF), also covers non-principal partners, directors and family workers.

TIFF as shown here only goes back to 1973. It was produced for earlier years, but a major change in the way the aggregate agricultural accounts were compiled was introduced in 1998 alongside changes in the national accounting framework. At the time the new TIFF series was only calculated back to 1973. The changes also meant that the Farming Income series was dropped as it no longer formed part of the national accounts framework. For simplicity this note only includes the new TIFF series and the historical farming income data.

¹³ Defra, *Agriculture in the UK 2013*.



Farming income increased rapidly to 1943 when it reached almost £6.4 billion (in 2013 prices – as with all the figures in this section). After a post-war slump and boom it varied year-on-year but with no obvious trend and remained in the region of £5-5.6 billion up to the early 1970s. Farming income rose sharply in 1973 to £8.3 billion, partly as a result of UK entry into the European Community and the CAP.¹⁴

Since 1973 Farming income and TIFF have varied to a much greater extent. Much of the variation – in general, not just in this period - is due to changes in prices and exchange rates. The underlying trend was downwards during the rest of the 1970s and early 1980s. TIFF fell to £3.1 billion in 1985. After some years of relative stability there was a very sharp increase in income in 1993 following the decline in the exchange rate after the UK left the Exchange Rate Mechanism. The Pound strengthened in the late 1990s together with lower commodity prices and BSE caused an even more rapid decline in aggregate income. TIFF reached a low of £2.1 billion in 2000, a fall of 72% in five years. Since 2000, TIFF has recovered to a high of £5.5 billion in 2013 but dropped to almost £5.4 billion in 2014.

¹⁴ Marks and Britton, p26

6. Reference tables

Table 1: Area of total arable land and selected crops on British/UK farms

Thousand hectares at June each year

	Total arable		Orchards		Barley		Wheat	
	GB	UK	GB	UK	GB	UK	GB	UK
1875	7,326		63		1,016		1,352	
1900	6,357		94		805		747	
1910	5,936		102		700		732	
1920	6,232		90		745		779	
1930		5,728	100			457		569
1940		5,806	104			542		732
1950		7,428	111			719		1,003
1960		7,305	95			1,365		851
1970		7,199	62			2,243		1,010
1980		6,996		46		2,330		1,441
1990		6,760		34		1,518		2,014
1991		6,729		34		1,395		1,981
1992		6,778		33		1,299		2,067
1993		6,829		32		1,166		1,759
1994		6,700		32		1,108		1,811
1995		6,626		28		1,193		1,859
1996		6,663		28		1,269		1,976
1997		6,731		30		1,359		2,036
1998		6,619		30		1,253		2,045
1999		6,540		28		1,179		1,847
2000		6,495		28		1,128		2,086
2001		6,504		28		1,245		1,635
2002		6,460		26		1,101		1,996
2003		6,395		25		1,076		1,836
2004		6,423		24		1,007		1,990
2005		6,313		23		938		1,867
2006		6,197		23		881		1,836
2007		6,215		23		898		1,830
2008		6,070		24		1,032		2,080
2009		6,092		22		1,143		1,775
2010		6,015		24		921		1,939
2011		6,106		24		970		1,969
2012		6,258		24		1,002		1,992
2013		6,310		23		1,213		1,615
2014		6,278		23		1,080		1,936

Notes: Orchards - includes non-commercial orchards from 1985.

Barley - excludes 'mixed corn' from 1918 onwards.

Sources: B. R. Mitchell, *British Historical Statistics* ;
Annual Review of Agriculture , various years
 Defra, *Agriculture in the UK 2014*

Table 2 Livestock on British/UK farms

Millions at June each year

	Cattle and calves (millions)		Sheep		Pigs		Poultry (UK)		
	Great Britain	United Kingdom	Great Britain	United Kingdom	Great Britain	United Kingdom	All poultry	Fowl only	Fowl only - improved series
1875	6.0		29		2.2				
1900	6.8		27		2.4				
1910	6.0		27		2.4				
1920	6.7		20		2.1				
1930		7.8		25		2.7	64		
1940		9.1		26		4.1	68		
1950		10.6		20		3.0	83		
1960		11.7		28		5.7	102		
1970		12.6		26		8.1	142		
1980		13.4		31		7.8	134		
1990		12.2		44		7.5		125	
1991		12.0		44		7.7		128	
1992		11.9		45		7.7		125	
1993		11.9		44		7.9		131	
1994		12.0		44		7.9		127	
1995		11.9		43		7.6		127	
1996		12.0		42		7.6		130	
1997		11.6		43		8.1			179
1998		11.5		44		8.1			165
1999		11.4		45		7.3			165
2000		11.1		42		6.5			170
2001		10.6		37		5.8			180
2002		10.3		36		5.6			169
2003		10.5		36		5.0			179
2004		10.6		36		5.2			182
2005		10.4		35		4.9			174
2006		10.3		35		4.9			173
2007		10.3		34		4.8			168
2008		10.1		33		4.7			166
2009		10.0		31		4.5			153
2010		10.1		31		4.5			164
2011		9.9		32		4.4			163
2012		9.9		32		4.5			160
2013		9.8		33		4.9			163
2014		9.8		34		4.8			170

Note: Poultry - Improvements to the Census methodology were introduced in 1997 onwards to account for poultry production on unregistered units; data for earlier years are therefore not directly comparable.

Sources: B. R. Mitchell, *British Historical Statistics*

H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*
Defra, *Agriculture in the UK 2014*

Table 3: Workforce on British/UK farms

Thousands at June each year

	Great Britain	United Kingdom	
		Old series	Improved series
1923	892		
1930	857		
1940	712		
1950	843		
1960	645		
1970	400		
1980	334		
1990		281.9	
1991		271.5	
1992		263.9	
1993		258.3	
1994		251.0	
1995		248.8	
1996		245.7	
1997		242.9	
1998		245.2	
1999		229.6	
2000		204.4	
2001		197.5	201.6
2002			194.0
2003			183.6
2004			192.2
2005			190.0
2006			184.0
2007			182.1
2008			187.9

Note: Data for 1944-1950 include the Women's Land Army and prisoners of war.

Sources: H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*
Defra, *Agriculture in the UK 2008* Table 3.8

Table 4: Index of total factor productivity of UK agriculture

1973=100

	Historical series	Current series
1953	67.5	
1963	83.4	
1973	100.0	100.0
1983		116.7
1993		124.8
1994		125.9
1995		126.1
1996		125.0
1997		126.9
1998		130.1
1999		135.5
2000		138.4
2001		135.7
2002		143.9
2003		144.1
2004		143.6
2005		148.3
2006		146.5
2007		144.3
2008		149.3
2009		145.3
2010		144.5
2011		149.6
2012		143.4
2013		143.5
2014		152.2

Note: Data for 1944-1950 include the Women's Land army and prisoners of war

Source: Defra, *Agriculture in the UK 2014*

Table 5: Measures of aggregate UK farm income

£ million 2013 prices

	Farming income	Total income from farming
1938	2,441	
1940	5,781	
1950	6,425	
1960	5,502	
1970	5,599	
1980	3,149	3,852
1990		3,150
1991		3,214
1992		4,260
1993		5,900
1994		6,439
1995		4,909
1996		4,496
1997		2,658
1998		1,827
1999		1,901
2000		1,375
2001		1,421
2002		1,912
2003		2,504
2004		2,310
2005		2,201
2006		2,191
2007		2,410
2008		3,853
2009		4,024
2010		3,888
2011		5,172
2012		4,723
2013		5,530
2014		5,379

Notes: Farming income includes the income of farmers and their spouses only.
Total income from farming also includes income of non-principal partners, directors and family workers

Sources: H. F. Marks and D. K. Britton, *A hundred years of British food & farming: A statistical survey*
Defra, *Agriculture in the UK 2014*

About the Library

The House of Commons Library research service provides MPs and their staff with the impartial briefing and evidence base they need to do their work in scrutinising Government, proposing legislation, and supporting constituents.

As well as providing MPs with a confidential service we publish open briefing papers, which are available on the Parliament website.

Every effort is made to ensure that the information contained in these publically available research briefings is correct at the time of publication. Readers should be aware however that briefings are not necessarily updated or otherwise amended to reflect subsequent changes.

If you have any comments on our briefings please email papers@parliament.uk. Authors are available to discuss the content of this briefing only with Members and their staff.

If you have any general questions about the work of the House of Commons you can email hcinfo@parliament.uk.

Disclaimer

This information is provided to Members of Parliament in support of their parliamentary duties. It is a general briefing only and should not be relied on as a substitute for specific advice. The House of Commons or the author(s) shall not be liable for any errors or omissions, or for any loss or damage of any kind arising from its use, and may remove, vary or amend any information at any time without prior notice.

The House of Commons accepts no responsibility for any references or links to, or the content of, information maintained by third parties. This information is provided subject to the [conditions of the Open Parliament Licence](#).