

Profitable ploughing of the uplands?

The food production campaign in the First World War

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Abstract

This paper considers the financial effects of the government's direction of agriculture in the pastoral uplands of England during the Great War through a study of the West Ward in Westmorland. The paper aims to identify which farmers gained most from an agricultural production policy which enforced a shift to arable cultivation in areas unsuited to it. It considers wartime production at the county, parish and individual farm level and describes a wide variety of individual outcomes resulting from variations in topography, climate, landholding, farm size, labour structure and the extent of wartime intervention. A more general pattern is superimposed on the micro level and the paper shows that it was the most marginal farmers at the highest elevations who were least disrupted by wartime direction and who saw the greatest increases in net cash returns.

It is frequently argued that farmers did well out of the Great War. As the gap between revenues and costs widened, farmers prospered despite the overall shift from livestock production (with higher margins) to arable. Market prices encouraged this shift before the 'plough-up policy' became the basis of government policy, but the main extension of the arable area occurred after government, through the County War Agricultural Executive Committees (CWAECs) took control of production at the local level in January 1917.¹

The aim of the Food Production Policy was to increase the number of calories available for human consumption. On this basis it must be judged a success. Estimates of the increase have been revised: Middleton calculated that in 1918 an additional 4.05 billion calories were produced from British agriculture as compared with 1913.² Peter Dewey has revised this total down and his calculations show that 'the efforts of the Food Production Department barely sufficed to bring output back to the pre-war level in 1918'.³ Dewey goes on to ascribe much of the success of the

¹ See T.H. Middleton, *Food production in war* (1923), also E. Whetham, *The Agrarian History of England and Wales*, VIII, 1914–1939 (1978) and P. Dewey, *British agriculture in the First World War* (1989). The county committees were established as County War Agricultural Committees, but acquired the additional 'executive' when their powers were increased in January 1917.

² Middleton, *Food production in war*, p. 322.

³ P. Dewey, 'Farm labour in wartime. The relationship between agricultural labour supply and food production in Great Britain during 1914–18, with international comparisons' (Unpublished PhD thesis, University of Reading, 1978), p. 55.

policy to the increased milling ratio and dilution of flour. From the government's viewpoint it did not matter whether the nation was fed through increased agricultural production or food economies. The key thing was that Britain did not starve and was largely able to meet the increased consumption demands of wartime by a mix of imported and home-produced food. On the other hand, there was also a great deal of grumbling amongst contemporaries that wartime conditions allowed farmers to make excessive profits. These complaints were the subject of a post-war enquiry and have been examined further by Dewey who finds that returns on capital, particularly in the first part of the war, were historically very high. He cites with approval contemporary opinion which held that 'it was impossible to lose money in farming just then'.⁴

If, in this respect, the war was a happy period for farming, the question remains whether the rewards were equally distributed between farming types and even between farms. Dewey has attempted to measure agricultural output both in terms of volume and value for the 'national farm' and shows that whilst the volume of agricultural production overall had begun to decline by 1918, the differential rise in prices of outputs and inputs had raised returns to the farming community.⁵ He also finds that the increased returns from agriculture were not evenly shared. Dewey suggests that cereal farmers profited most early on in the war with the advantage moving back to livestock farmers later on.⁶ But the rigid distinction implied here between two groups of farmers is misleading. At the start of the twentieth century most farming was mixed, and most farmers believed livestock to be an essential part of the rotational cycle of production although local climate, topography and markets demanded adjustment between the interdependent parts. This was seen in the broad division that existed between the arable south and east and the pastoral north and west of Britain.

The enquiry 'into the financial results of the occupation of rural land' of 1919 tried to assess the return to the farmer for his patriotic endeavours. It asked to be sent accounts for individual farms for the war years, but the response was 'disappointing', for it received information from only 45 farms occupied by tenants or owner occupiers, much of it piecemeal and not directly comparable.⁷ Due to the limited response, detailed analysis by farm type was not possible, but the report also makes the important point that anyway 'most farms are mixed farms; all the farmers' eggs are not in one basket'.⁸ Overall the report shows that although wartime farming was remunerative, farming returned lower profits than were available elsewhere.

[S]o long as men prefer life on a farm to life in an office or shop ... so long will the average profit be less in the business of farming. Life on the land has its amenities and attractions which reconcile many men to the acceptance of lower remuneration for their services.⁹

Dewey's estimates for the 'national farm' show that net income rose very fast during the war: the index of 100 for the farming net income of 1909–13 rose to 399 by 1918.¹⁰ Dewey's analysis

⁴ P. Dewey, 'British farming profits and government policy during the First World War', *EcHR* 37 (1984), pp. 373–90.

⁵ Dewey, *British agriculture in the First World War*, and his 'Farm labour in wartime'.

⁶ Dewey, 'British farming profits'.

⁷ BPP, 1919, VIII, *Report of the Committee appointed*

by the Agricultural Wages Board to enquire into the financial results of the occupation of rural land and the cost of living of rural workers (hereafter *Enquiry into financial results*), p. 2.

⁸ *Ibid.*, p. 55.

⁹ *Ibid.*, p. 37.

¹⁰ Dewey, 'British farming profits', p. 376.

considers (but then excludes from discussion) the opportunity costs of capital and labour. He highlights three elements of cost which were critical in determining profits: wages, rents and feedstuffs. He identifies the stasis of rents as the main reason for the rise in net income: 'its virtual stasis more or less guaranteed a high level of net income during the war'¹¹ and he suggests the fall in the feed bill was almost exactly made up for by the 1918 rise in wages following establishment of the Agricultural Wages Board.

Dewey also examines the effect of the change of government policy in January 1917. He suggests that up to this point, farmers were making 'windfall profits' from the continuation of pre-war patterns of production. Afterwards gross income rose more slowly than product prices, a result of government direction of farming which dictated an unfavourable mix of products and prevented farmers from maximising their profits.¹² The few sets of accounts that survive record a wide range of profitability between farms and show that the average calculated for the 'national farm' is of no relevance at the local level.¹³ However, some generalisations are possible and desirable.

This paper will consider the experience of pastoral upland farmers during the Great War. It is based on a study of the West Ward of the old county of Westmorland, drawing data from the 1910 Valuation Survey, correspondence files of the West Ward District sub-committee of the Westmorland County War Agricultural Executive Committee and government agricultural statistics to look below the level of the national farm at the experiences of an upland farming area, whose experience would have been duplicated across the livestock farming areas of the north and west of Britain. Farming in the county was firmly located at the livestock end of the farming continuum, where at the highest elevations arable cultivation was limited to a few acres of fodder crops and to the production of hay. Livestock constituted the main – if irregular – business transactions of the farm, although small amounts of regular income came from dairy and poultry sales. The paper aims to identify the farmers who gained most financially from agricultural production over the course of the Great War in upland areas, ill-suited to the extension of arable acreage as prescribed by the food production campaign.

Few farmers kept accounts for tax purposes, being taxed on multiples of rent,¹⁴ and the few 'account' books that survive in the Cumbria Archives which list sales and purchases are clearly not a complete record of transactions and therefore not a means of calculating profit. We do not have access to regular asset valuations, other than those from 'displenishing sales' which are not constructed on a going concern basis.¹⁵ Without a clear statement of opening and closing capital balances, calculation of accounting profit is impossible and we cannot evaluate the extent to which capital was used up to boost wartime production. However for the West Ward we do know what was growing in farmers' fields over the course of the war. We also have a record of livestock numbers and of market prices and this is sufficient to say something about the 'profitability' of upland farming as a whole and the way it varied in different locations over time.

¹¹ Ibid.

¹² Ibid., p. 379.

¹³ *Enquiry into financial results*, p. 11.

¹⁴ Cumbria Record Office Kendal (hereafter CRO (K)), WD BS/3, loose papers, government circular on

taxation, June 1916.

¹⁵ Displenishing sales are 'the sale of farm stock and utensils at the expiry of a lease' (*Oxford English Dictionary* on line).

Accounting profit incorporates non-cash elements of income and expenditure and incorporates changes in capital over the accounting period, but most farmers were not trained in such sophisticated accounting techniques. Despite pleas from agricultural writers, it was cash movements and bank balances which most farmers relied upon to assess their profitability.¹⁶ Accountants may be able to ascribe a current cost to items of self-supply, barter and the provision of board and lodging for labour, but the farmer would not necessarily recognise changes in the value of these costs in his assessment of profit. So in the absence of complete cost and revenue records and asset valuations which would allow a 'true and fair' construction of accounting profit, 'financial gain' will be considered from the farmers' viewpoint, i.e. cash receipts and payments. The most successful were those who achieved the greatest increase in bank and cash balances as a result of wartime production.

This discussion will exclude consideration of opportunity cost, the theoretical income that could have been earned from alternative uses of farmers' capital and labour, because in reality, for farmers, there was no immediate practical alternative readily available in wartime. The focus of analysis will therefore be cash transactions. The long term impact of wartime production on the capital value of the farm is also considered.

Section I looks at agricultural production in Westmorland and compares the county with the national picture derived from agricultural statistics. The next section focuses on the West Ward in north-east Westmorland and contrasts three parishes, Brougham, Lowther and Patterdale, to illustrate the gradation of farming type from mixed 'upland' farming through to stock rearing on the high moorland. Section III narrows the focus further to examine the impact of wartime agriculture and government intervention on a sample of individuals from each of the three parishes. Section IV then considers the differential cash flows that accrued to farmers from mixed 'lowland upland' farms and to stock rearing farmers of the high moorland. The general financial effects of wartime agriculture are ascertained but always nuanced by the particular.

I

The formation of a Food Production Department from January 1917 replaced local encouragement of arable cultivation with a hierarchical system of control reaching from Whitehall down to district sub-committees who could determine cultivation at the level of the individual field.¹⁷ The Food Production Policy hinged around the ploughing up of grassland that had been laid down since about 1875. Lord Ernle, President of the Board of Agriculture, described the policy as 'the improvement and extension of arable cultivation, with spade as well as plough; decentralisation; and drastic powers of compulsion which could only be justifiable or tolerable in a war emergency'.¹⁸ The purpose was to increase production of cereals and potatoes, and provide increased food for human and animal consumption so saving vital shipping space. Control of

¹⁶ Writers such as C.S. Orwin published material giving instruction in bookkeeping (his *Farm Accounts*, 1914 and later editions) and the report of the *Enquiry into financial results* called for 'the collection on an extensive scale of accounts of the cost of agricultural production' to enable a more definitive view of agricultural

profitability to be ascertained (p.38).

¹⁷ Lord Ernle, *The land and its people* (1925), p.25 provides a clear description of the hierarchy of committees and the functioning of the Food Production Department.

¹⁸ *Ibid.*, p.107.

livestock was indirect: farmers were expected to comply with cultivation orders and to adjust their livestock numbers accordingly.

The ploughing up policy boosted the area under cultivation in England and Wales by 5.8 per cent in 1917 with a further increase of 21.3 per cent in 1918. Land for expanding arable production came from the categories of permanent and temporary grassland employed by the agricultural statistics. The first fell by 8.95 per cent and the second 19.3 per cent between 1916 and 1918.¹⁹ Meanwhile the production of white crops and potatoes rose by 56.0 per cent and 58.5 per cent respectively.²⁰ Loss of grazing and a reduction in the production of hay impacted on livestock numbers but the effects were delayed for whilst overall numbers were maintained, slaughter weights and milk productivity per cow declined.²¹ Total numbers of cattle peaked in 1917 at 6.23 million declining slightly to 6.2 million in 1918, but the significant decline was not evident until 1920 when only 5.55 million were recorded in the annual statistics.²² Farmers preferred to maintain their cattle herds over sheep flocks, which were more easily replaced, and total sheep numbers declined from 1916 continuously down to 1920.²³

The statistics show the overall effect of a food production policy from 1917 but they mask wide regional variations in the extent to which tillage was increased. In percentage terms Westmorland achieved the highest increase for an English county at 65.4 per cent and was one of the few counties to achieve Ernle's goal of 'back to the '70s'.²⁴ However, although percentage increases in the area covered by corn and potato crops were impressive, the absolute increases were small. White crop acreages increased by just over 100 per cent between 1915 and 1918, an increase of 14,500 acres compared with an overall acreage under crops and grass in the county of nearly a quarter of a million acres. The maximum potato acreage – in 1918 – was only 1,953 acres.²⁵ Rises in production as early as 1916 partly reflect the active influence of the County War Agricultural Committee, formed in October 1915, who encouraged additional arable cultivation from the outset.²⁶

In Westmorland the boundary between rough grazing and permanent grass can be difficult to determine and the statistics must be treated with caution. Overall, between 1916 and 1918, permanent grassland fell by about 15,000 acres or 7 per cent and temporary grassland by 2500 acres or 17 per cent: both slightly below the national average.²⁷ Temporary grassland was rapidly reinstated after the war in Westmorland²⁸ and this abandonment of the plough policy reflected the inherent problems of arable cultivation in upland Britain. It is evident in the post-war pronouncements of the Westmorland CWAEC that the Executive concurred with the views of farmers. The chair of the Executive Committee wrote to farmers

it is easy to be wise after the event, there is no doubt that a policy of requiring potatoes in

¹⁹ *A century of agricultural statistics, Great Britain, 1866–1966* (1968), Tables 44–5.

²⁰ Details of production by value and volume over the course of the war are given in Dewey, *British agriculture in the First World War*, pp. 244–8.

²¹ BPP, 1920, L, 'Agricultural Statistics, England and Wales, 1919, Part I', pp. 83–4.

²² *Century of agricultural statistics*, Table 63.

²³ *Ibid.*, Table 65.

²⁴ J. Venn, *Foundations of agricultural economics* (1923), p. 158.

²⁵ Figures taken from the published *Agricultural statistics*, *passim*.

²⁶ CRO (K), WD BS/3, correspondence, Nov. 1915.

²⁷ Figures taken from the published *Agricultural Statistics*, *passim*.

²⁸ *Ibid.*

place of a large portion of the area under corn would have been sounder ... the Government's wish is to obtain [for 1919] a still larger area under corn ... in Westmorland it would at the moment seem tactless to talk about any increase.²⁹

Westmorland farmers were involved both in rearing and fattening cattle and in the dairy industry. Total cattle numbers were remarkably consistent over the duration of the war, fluctuating at around 75,000 head, the sharp rise that shows in national statistics between 1914 and 1916 being absent.³⁰ As elsewhere, cattle numbers declined between 1917 and 1918 as pricing policy errors encouraged the early slaughter of animals. The county followed the national trend between 1919 and 1920 showing the same 10.5 per cent fall in numbers.³¹

Nationally, sheep flocks were a casualty of the food production policy. Sheep numbers, which had slowly recovered from the low point of 1913, fell again by 25.4 per cent between 1916 and 1920.³² In Westmorland sheep were a vital element in the upland farming economy and yet numbers fell to a level 9.75 per cent below the earlier nadir of 1913 in 1920. However, much of the decline was due to the harsh winter of 1919 and from 1920 numbers recovered rapidly.³³ It was lowland flocks that were hardest hit by wartime agricultural policy, those of upland farms being maintained at higher levels.³⁴

In so far as the 'plough policy' was aimed at the cultivation of land laid down to grass since 1875, Westmorland was one of the few counties to exceed targets set.³⁵ In addition farmers also managed to maintain their flocks and herds at levels above the national average allowing for the possibility of an increase in agricultural productivity and profitability. The ability of Westmorland to maintain livestock levels will be examined in a later section. Even within a county though, statistics disguise the effects of variations in soil, topography and climate and the next section will look at the experience of farmers in areas of differing characteristics.

II

The West Ward Rural District is a rural area lying between Kendal and Penrith and extending from Patterdale in the West towards Appleby in the east (Figure 1). The land rises gradually from the fertile soils of the upper Eden valley in the north towards the high moorland of the south and west and the area provides representative examples of upland farms, from the mixed farming on the more fertile loams of Brougham parish through the tenanted farms of the Earl of Lonsdale in Lowther parish to the farms in the fell parish of Patterdale.³⁶

²⁹ CRO (K), WD BS/3, correspondence for West Ward of the CWAEC, Nov.-Dec. 1918, letter from Chair of Executive Committee, 29 Nov. 1918.

³⁰ Figures taken from the published *Agricultural statistics, passim*.

³¹ *Ibid.*

³² *Century of agricultural statistics*, Table 65.

³³ Figures taken from the published *Agricultural statistics, passim*.

³⁴ BPP, 1920, L, pt I, p. 14.

³⁵ Venn, *Agricultural economics*, pp. 157-8.

³⁶ Much of the following discussion is based on a collation of the parish level returns to the annual agricultural census for the three study parishes contained in TNA, MAF 68. As this data can be quickly located and to reduce the number of superfluous references, specific citations are not normally given.

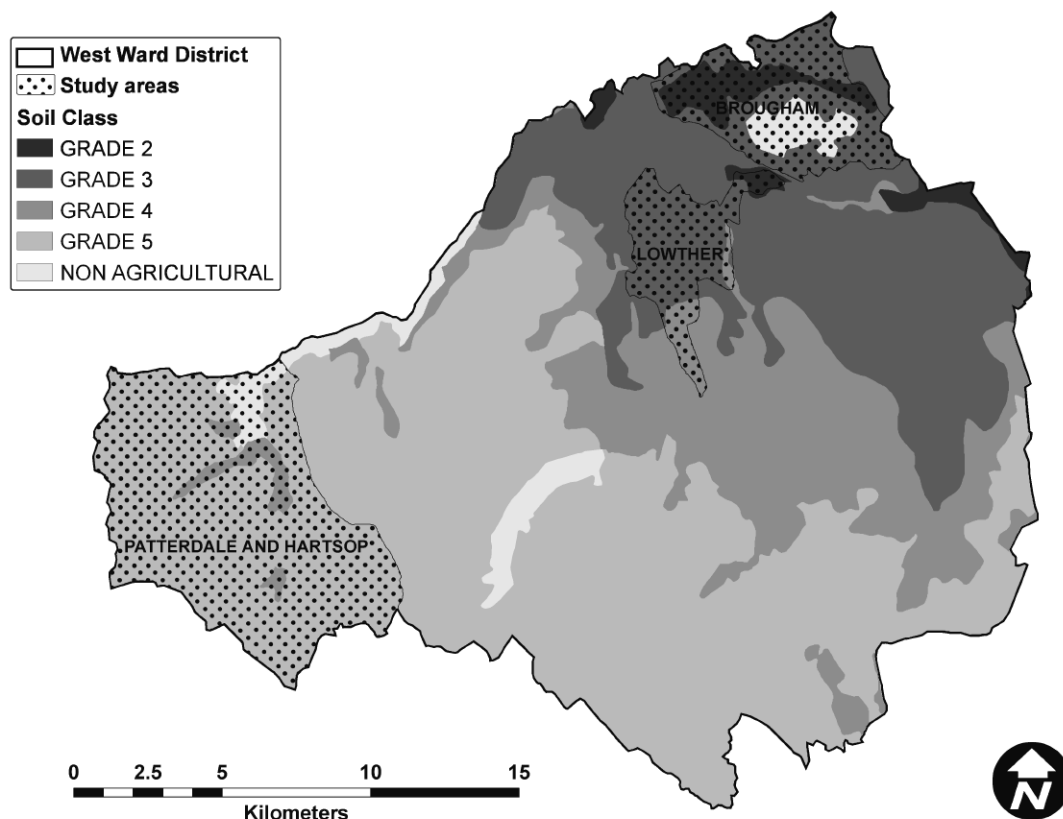


FIGURE 1. The West Ward of Westmorland with soil classification

Source: Soil Survey of England and Wales

With fertile soils and a relatively mild climate, Brougham supported large mixed farms with dairy farming an important adjunct to cattle rearing and fattening. At higher elevations were the smaller transitional farms of Lowther parish. Here stock rearing was of increasing importance, connecting farms with the moorland parishes such as Patterdale which supplied the pure bred draft ewes for the production of cross breed sheep. The harsh climate and short growing season of the high moorland restricted farming to stock rearing, and limited cultivation of fodder crops meant heavy reliance on rough grazing, particularly commons. Many farmers were dependent on secondary occupations in tourism and mining.

As we move from Brougham to Patterdale, national trends are less clearly reflected in local experience. Since the wartime shift to arable cultivation became more difficult to implement with increasing elevation and poorer soils, livestock production remained dominant and arable production was almost entirely for fodder. The percentage increase in arable production may have been impressive in upland parishes but in absolute terms amounted to little. The County War Agricultural Executive, through the unstinting efforts of the District sub-committee, achieved the targets set by Whitehall to return white crop and potato acreages to 1874 levels

but the correspondence files make it quite clear that the energy expended to achieve this was extraordinary.³⁷

(i) *Brougham*

The parish of Brougham contained the largest holdings in the West Ward. Many of the farms were tenanted and formed part of the estate of Lord Hothfield of Appleby. This area of mixed farming had a higher proportion of arable land than elsewhere in Westmorland but arable was still subsidiary to breeding and fattening stock and dairy production.³⁸

Agricultural land use in Brougham parish before the war was almost equally split between arable, including temporary leys, and permanent grassland. With large farms, experience in cereal cultivation and available equipment, Brougham was the parish in the West Ward most suited to arable production and the efforts of the CWAEC resulted in an early extension of the ploughed area, although white crop and potato acreages did not peak until 1918. In this respect Brougham mirrored the national picture. Post-war, government price guarantees encouraged maintenance of the cultivated acreage and both arable crops and temporary grassland covered a larger area than pre-war.³⁹ Brougham showed no sign at this stage of the agricultural depression and retraction of arable which was to come with the repeal of the Corn Production Act.

Although Brougham's climate favoured the production of white crops, the almost exclusive cultivation of oats reflects the marginal physical environment. Wheat and Barley reached a maximum extension of only 33 and 38 acres respectively, both in 1919. Livestock continued to be the mainstay of the agricultural economy with the emphasis on the rearing and fattening of cattle. Pre-war figures show the ratio of dairy to other cattle to be 1:2. Total numbers of cattle fluctuated around a downward trend over the course of the war and by 1918 numbers stood nearly 20 per cent below those for 1913 (Figure 2). However the ratio of dairy to other cattle was largely maintained. Government requisition of hay and fodder crops and shortages of other feed would have made fattening of livestock increasingly difficult, but the timing of the fall in numbers coincides with government price control policy. Other cattle numbers were elevated in June 1917 prior to the heavy nationwide slaughter in the autumn of 1917.⁴⁰ At this point we can see national policy impacting directly on decisions taken at the local level.

Farms in Brougham also reared sheep largely from quality Scottish breeds rather than those from the surrounding uplands. Store sheep were also fattened but with the shortage of rough grazing and common land, cattle were more important. This is reflected in the earlier decline in numbers of sheep, the parish following the national trend from 1916 onwards (Figure 3). Sheep flocks were sacrificed ahead of cattle herds which, as we noticed before, represented a greater investment and were more difficult to rebuild.

³⁷ CRO (K), WD BS/3, file Aug. 1916 – Feb. 1917. Calculations show that a 44% increase in acreage would be required to raise white crop cultivation to the 20,303 acres grown in 1874 and a 34% increase for Potatoes. Actual production in 1918 was substantially above target: 29,567 acres for White Crops and 1953 acres for Potatoes.

³⁸ T. Darley, 'The agrarian economy of Westmorland'

(Unpublished MA Dissertation, University of Leicester, 1964), p. 92.

³⁹ The agricultural statistics show the split between arable and permanent grassland to be 54:46 in 1913, and 61:39 in 1920. TNA, MAF 68/2601 (1913) and 68/2994 (1920).

⁴⁰ Middleton, *Food production in war*, p. 317.

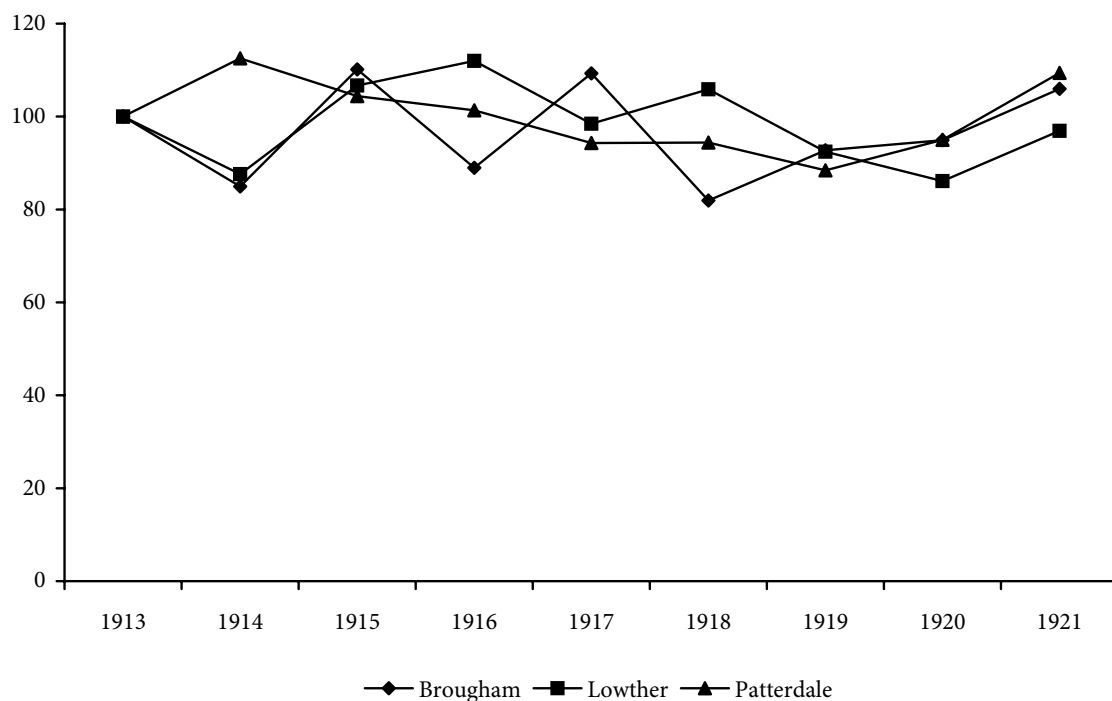


FIGURE 2. Index of cattle numbers in the study parishes (where 1913 equals 100)

Source: TNA, MAF 68, parish statistics for Westmorland, 1914–18

(ii) *Lowther*

The centre of the estates of the Earl of Lonsdale, Lowther parish lies south of Brougham on higher land with slightly inferior soils. Farms here, smaller than those in Brougham parish, were mixed and as the land increased in elevation, breeding crosses from draft upland ewes gradually replaced livestock fattening and dairy production in importance. Lambs were sold in the autumn, reducing the need for winter fodder. With only a couple of exceptions, the farms here were owned by the Earl of Lonsdale, and managed through his agent Mr Little. They were generally well run and tenancies did not change frequently.⁴¹

The parish was dominated by Home Farm on the Lowther Estate which covered 3134 acres, nearly 75 per cent of the parish. The District War Agricultural Committee survey of 1917 shows that only 94 acres of Home Farm was in arable cultivation and only 100 acres was required to grow white crops for 1918. On the remaining farms in the survey, the extent of arable cultivation reached 40 per cent or 463 acres, of which just under half was devoted to oats, the remainder growing fodder crops.⁴² The arable acreage proportion reflected the more undulating terrain, higher elevation and poorer soils of Lowther parish.

The influence of the Earl of Lonsdale is strongly suggested in a complaint from Thomas

⁴¹ Darley, 'Agrarian economy of Westmorland', pp. 115–9.

⁴² CRO (K), WD BS/3, 1917 survey of production by farm.

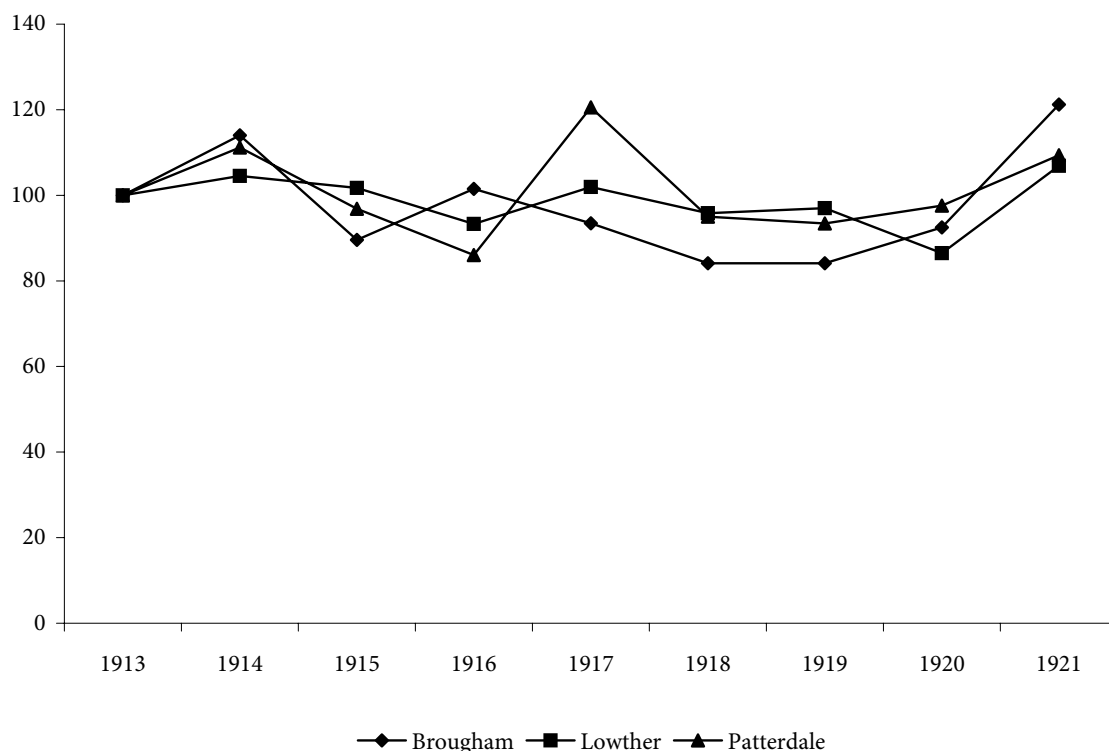


FIGURE 3. Index of sheep numbers in the study parishes (where 1913 equals 100)

Source: TNA, MAF 68, parish statistics for Westmorland, 1914–18

Lowthian at Winder Hall to the Secretary of the CWAEC in which he protested at being required to plough 47½ acres above 830 feet in altitude. He would 'have to sell my breeding grey faced ewes and reduce my dairy cows' and he pointed to land at Askham Hall owned by Lonsdale

the greater part of which used to be ploughed but last summer was stocked with white heifers served by a Black Bull to breed fancy blue-grey cattle ... you might ask the Chairman who the tenant is ... I do not know if you know that seven members of the sub-committee consist of the Lowther Estate Agent and Lowther tenants.⁴³

The ratio of other cattle to dairy cattle of 4:1 in Lowther reflected the reduced importance of dairying compared with the lower lying parish of Brougham which was also closer to the Penrith market. In Lowther, dairy cattle decreased slightly in number down to 1917, against the national trend (Figure 2). The impact of price policy in triggering the slaughter of other cattle in the autumn of 1917 (reflected in the statistics for 1918) was more limited in Lowther. The complaint from Winder Hall would suggest that the Earl of Lonsdale was able to continue his

⁴³ CRO (K), WD BS/3, File, Feb.-Mar. 1918, 23 Feb. 1918.

breeding activities largely unaffected by wartime strictures. His financial resources would have made him less susceptible to market price changes.

Sheep numbers followed a similar trend to those in Brougham parish (Figure 3). However sheep were more important to the Lowther economy and so the trends here were less pronounced. The fall in total numbers in 1916 reflected a poor lambing season in the previous year followed by an infestation of maggot fly, with a consequent decline in the number of breeding ewes of 10 per cent. The winter of 1915/16 was also harsh, and numbers of sheep did not recover until 1917. At the end of the war sheep numbers in Lowther stood just 3 per cent below pre-war levels. Again the influence of the Lowther estate was important in allowing the maintenance of flocks particularly as none of the entries in the 1910 valuation field book recorded rights of common attached to holdings.⁴⁴

The plough policy was harder to implement in the marginal lands of the upper Eden valley but growth of fodder crops and the pasture that remained allowed the maintenance of livestock numbers. A unique feature of Lowther parish was the controlling influence of a large landowner. Unfortunately the division of livestock numbers between Home Farm and the other holdings is not available but it seems probable that the plough policy was not pursued as strongly here as in other less suitable parishes, such as Patterdale.

(iii) Patterdale

This large parish of 16,737 acres consists mainly of high moorland. With a harsh climate, the growing season is short and cultivation restricted to a limited terrain along the river banks and the shores of Ullswater. In 1900 there were no dominant landowners and farms were generally small although most also had extensive grazing rights on unenclosed common and moorland. Stock rearing was the basis of farming; the limited arable cultivation concentrated on producing roots for livestock fodder. Cattle, chiefly hardy shorthorns and sheep, in particular hefted Herdwicks, were bred for sale outside the parish as stores. Holdings along the river valleys were able to fatten some new season lambs.

Sheep numbers in 1913 mirrored the national low point from which recovery was underway early in the war. As in Lowther, but to a greater extent here, there was a decline in numbers in 1916 which fell 7.5 per cent below those for 1913 (Figure 3). This reflected disease and a shortage of winter keep in the harsh winter of 1915/16. Farming revenues also came from wool sales, but after control of wool prices from 1916, these revenues were restricted until the high price rises which followed decontrol in 1919.⁴⁵ The hard winter of 1919 prolonged the decline in sheep numbers, but the long term reliance of the economy on sheep is shown by the rebuilding of flocks which reach a level of nearly 15 per cent over 1913 by 1923. Livestock numbers were affected not only by agricultural policy and prices but also by variations in the weather which, in an upland parish, can cause the birth and death rates to fluctuate significantly.⁴⁶

In Patterdale breeding cattle outnumbered dairy cows by four to one in the pre-war period. The local tourist trade provided an outlet for dairy produce despite the area's isolation, but

⁴⁴ TNA, IR 58/19203.

⁴⁵ BPP 1920, L, pt III, Prices, p. 87.

⁴⁶ The agricultural census returns show that the birth

rate per breeding ewe varied between 0.7 and 0.95 per ewe between 1912 and 1925.

dairy cattle fell slightly in importance over the course of the war. Cattle numbers were maintained early in the war but then declined from 1916. This decline continued as the sheep population was rebuilt post-war. The effects of price policy are seen more clearly here than in Lowther. Overall however, Patterdale largely maintained its flocks. The ability to do so when external supplies of feedstuffs were scarce and little fodder was grown locally was due to the availability of additional sources of grazing on allotments and commons which placed the Patterdale farmer at an advantage over those in parishes such as Brougham where compliance with the plough policy resulted in significant losses of grazing resources not readily replaced.

The arable acreage extended to a maximum of 196 acres – in 1918 – and by 1923 it had shrunk to only 30 acres. The District sub-committee papers make clear how difficult implementation of the plough policy was in this parish. In response to a survey by the District Committee early in 1917, the parish correspondent wrote that ‘a further 55 to 60 acres could be put under the plough but none of the farmers are likely to plough more land.’⁴⁷ Patterdale suffered from the same environmental restrictions as other upland parishes in the West Ward. The effort expended to enforce the maximum possible arable acreage was queried by a farmer from Hardendale Shap. ‘Some of the land you specify is 1100 to 1200 feet above sea level. I really question the utility of it being ploughed out.’⁴⁸ Another farmer wrote how ‘I have lived all of my life near hills and never yet saw ripe corn cut here ... what is the use of ploughing if the corn never gets ripe.’⁴⁹ Patterdale Parish Council asked the Committee to come and inspect the farms as ‘there seems to be a lot of dissatisfaction amongst farmers as to the amount of ploughing required of them.’⁵⁰ But the Committee, under pressure to meet targets for white crops, showed little sympathy or concern about the final outcome of the cultivation policy. They were urged on by the secretary of the CWAEC, Edmund Yates, who wrote ‘it is not now a question of farming on ordinary lines.’⁵¹ The sub-committee were forced to pressure owners to take action against reluctant tenants. Mrs Hodgson, owner of a farm near Shap, was instructed to give notice to her tenant, who was unable to plough.⁵²

High moorland parishes were patently not suitable for the plough policy. The documentation shows that enormous efforts were expended in pushing farmers to grow crops to and beyond the limits of cultivation – effort that was largely unproductive. A more flexible approach would have made a great difference to the individual farmers in the parish and released committee members’ energies for other tasks.

An index of livestock numbers for each parish allows comparison of trends over the course of the war (Figure 3). The divergences between the parish indexes show the variation in the implementation of national policy. Unsurprisingly, in moving from the lower more fertile land like the Eden Valley to the high moorland, the extent of the plough campaign was increasingly

⁴⁷ CRO (K), WD BS/3, file Aug. 1916-Jan.1917, letter 6 Jan. 1917.

⁴⁸ CRO (K), WD BS/3, file Dec. 1917, letter 18 Jan. 1917.

⁴⁹ CRO (K), WD BS/3, file Sept. 1917, letter 12 Sept. 1917.

⁵⁰ CRO (K), WD BS/3, file Dec. 1917, letter 18 Dec. 1918.

⁵¹ CRO (K), WD BS/3, file May 1917, letter 31 July 1917.

⁵² CRO (K), WD BS/3, file Feb.-Mar. 1918, letter 11 Mar. 1918.

limited. Brougham parish fails to maintain livestock numbers and sheep and cattle numbers fell sharply after 1917 whilst numbers in Patterdale are less affected. Superimposed on this trend we can see the influence of a powerful landowner at Lowther able to limit any unwelcome impact of national policy and maintain livestock numbers at inflated levels. Vagaries of climate, outside the control of the committees, also resulted in deviations from plan. The hard spring of 1916 reduced the numbers of sheep, particularly at the highest elevations, but for Brougham, with its warmer climate and different breeds wintered in more protected surroundings, the main decline was the result of government pricing policy late in 1917.

III

Even at the parish level general trends disguise the experience of the individual farmers. Using the 1901 Census, the 1910 Valuation Survey and the CWAEC records and surveys, this section looks at a sample of farms from the three parishes and examines the impact of tenure, farm size, labour structure and direction on agricultural activity over the course of the war. Section IV then goes on to assess the financial implications of change.

(i) *Brougham*

Julian Bower, a tenanted farm of 647 acres held on a tenancy from Lord Hothfield of Appleby Castle, was one of the largest farms in the parish. The census for 1901 shows the occupier as Robert Fawcett, then aged 66 years, whose occupation is given as farmer and auctioneer. The large household comprised eleven farm servants, one of whom was his granddaughter Ada, whose occupation is shown as domestic servant. The farm servants included three horsemen, two cattlemen and a shepherd in addition to general and domestic servants and the farm was managed by a foreman, John Brown, living with his wife and daughter in Julian Bower Cottage.⁵³

The 1910 Valuation Survey for Brougham was completed in 1913 and describes the farm as a 'useful mixed farm, mostly arable', with good pasture on the lower land. The large farmhouse was in good order: with nine bedrooms and two staircases it would have provided ample accommodation for living in servants. The outbuildings were extensive and included byres for over 60 cattle and stabling for at least 10 horses. The Valuation Survey map shows that the land lay within a ring fence and although divided by the Eden Valley Branch line, it was all easily accessible with arable and pasture surrounding the farmhouse and meadow land lying along the River Eden which formed the eastern boundary. The Field Book lists the crops growing in each field. In 1913 the 245 acres of arable crops accounted for 38 per cent of the acreage of which 12.2 per cent was listed as white crops. Meadow amounted to 4 per cent, temporary pasture to 35 per cent and permanent pasture and waste to 23 per cent.⁵⁴ The survey suggests a farm typical of this part of the Eden Valley 'renowned for the breeding and rearing of cattle' – dominated by the shorthorn – and also the fattening of sheep from Scotland rather than the poorer breeds from the surrounding uplands.⁵⁵

⁵³ TNA, RG 13/4906/6/4/15.

⁵⁵ Darley, 'Agrarian economy of Westmorland',

⁵⁴ TNA, IR 58/18808, hereditment 11 (Julian Bower); pp.91–4.
CRO (K), 1910 Valuation Maps, VI.15 and VIII.4.

Three surveys carried out by the War Agricultural Executive Committee in March, June and the autumn of 1917 illustrate the effect of wartime direction on farms of this type in the Upper Eden Valley. By the autumn of 1917, the 1913 split of the farm between 368 acres of Pasture and 245 acres of arable had been reversed and the farm now comprised 241 acres of pasture and 372 acres of arable (37.7 per cent and 58.2 per cent respectively). The 30 acres of oats had increased to 129 acres and most of this provided fodder for livestock.⁵⁶ Although livestock numbers are not recorded, with no access to common grazing and the restricted availability of purchased feedstuffs, the home-produced oats not requisitioned would have been essential to the continuation of livestock rearing and fattening. The target of a further 70 acres of land for plough up in 1918 is ambitious, for it included field 412, 'Little Slate', 23½ acres on Slate Hill including an old quarry, rising to an elevation of 619 feet.

Based on a yield of 4.77 quarters per acre and sale prices for the 1917 harvest as at May 1918, the additional area of oats would have had a value, if sold off the farm, of £1,145.⁵⁷ This is equivalent to the sale of 408 sheep or 52 two-year-old shorthorns at average prices for 1917.⁵⁸ In January 1917 Fawcett retired and the inventory for the displensing sale listed 126 cattle and 750 sheep plus 26 horses.⁵⁹ It is likely that Julian Bower had shared in Brougham's reduction in livestock numbers between 1913 and 1917, a fall of 9 per cent and 3 per cent for cattle and sheep respectively. For Julian Bower this fall of 12 cattle and 23 sheep would have had a value well below that of the increased oats production.⁶⁰ Increased arable production at wartime prices was very profitable and whilst livestock numbers were maintained windfall gains accrued. However, livestock numbers continue to fall after 1917 and such gains were short-lived.

(ii) *Lowther*

Here, two contrasting farms will be examined. Low Moor – a 218-acre tenanted farm part of the Lowther Estate and the 67-acre freehold of 'yeoman farmer' John Kendal at Melkinthorpe.

The 1891 census records Joseph Sargeant aged 77 and his son as being the farmers of Low Moor. In 1901 his son's wife Isabella was head of the household, having lost her husband and father-in-law in the intervening period. She is described as 'farmer', living with her seven children, two of whom worked on the farm. The eldest, also Joseph, is named as the farmer in the District sub-committee files during the war. They employed one male farm servant.⁶¹ Despite their annual tenancy, the Sargeant family had occupied Low Moor since at least 1891 with sons succeeding their fathers.

The 1910 Valuation Survey describes the farm as 'good strong arable, meadow and pasture partly sheltered by adjoining plantations'. Like other farms in Lowther parish there are fewer references to arable equipment or machinery sheds than in Brougham parish, the emphasis in

⁵⁶ CRO (K), WD/BS 3, surveys for Mar. 1917, June 1917 and a summary compiled in the autumn of 1917 which gives targets for additional plough up and white crop in 1918.

⁵⁷ BPP, 1918, XXIV, 'Agricultural Statistics', pt III, p. 61. Oats fetched 48s. 6d. per quarter if sold after May 1918. Yields come from the county statistics for Westmorland. BPP, 1918, XXIV, pt III, Table 13.

⁵⁸ BPP, 1920, L, pt III, p. 83.

⁵⁹ *Cumberland and Westmorland Herald* (hereafter CWH) 20 Jan. 1917, p. 1.

⁶⁰ A 9% reduction in cattle and a 3% in sheep numbers on this basis would be equivalent to about £328 of revenue based on average prices.

⁶¹ TNA, RG 12/4327/29/1 (1891); RG 13/4906/24/1 (1901).

Lowther being on cattle and sheep.⁶² The Field Books split the land into pasture (67.5 per cent), meadow (12 per cent) and arable (20.5 per cent). By the summer of 1917 the early effects of the plough policy may be seen. Arable acreage has nearly doubled to 39.7 per cent and pasture now occupies only 45.8 per cent of the land. But the detailed survey also shows that out of the additional 60 acres ploughed in 1917, 26 acres had been converted to arable between 1913 and the end of 1915.⁶³ Whilst higher prices may have encouraged the Sargeant family to plough up lea during 1915, it is not without significance that this farm belonged to the Lowther estate.⁶⁴ Early on, the Earl of Lonsdale was active in encouraging the war effort – he formed his own battalion of the Border Regiment, the Lonsdale Pals, through a controversial recruitment drive using a poster 'Are you a man or a mouse' – and publicly gave over 100 acres of his own land over to ploughing to match a gift of Lord Derby.⁶⁵ He continued to encourage his tenants to plough suitable land but also looked after his own interests: 'before taking steps [to increase ploughing] you should refer to your tenancy agreement and you will find as a rule land laid down in recent years ... which may properly be broken up'.⁶⁶ In particular Lonsdale's Home Farm continued to be run on pre-war lines. We see in Lowther the impact of landownership and personality at the most local level of agricultural activity.

The village of Melkinthorpe was home to the Kendal family. Their holding had been in the family for several generations. John Kendal is described in the 1901 census as 'yeoman' farmer.⁶⁷ The Valuation Survey found that he owned this 67-acre holding. It also found that the buildings were of poorer quality than those of the Lowther estate farms: they included a disused cottage, possibly reflecting a larger household earlier in the nineteenth century. The Field Books reveal a pattern of small scattered fields, several of less than one acre, split equally between arable and pasture (25 acres each) with 14 acres of meadow.⁶⁸ The 1917 surveys show that seven acres of lea was ploughed in 1916 and a further seven in 1917, increasing the arable to 35 acres or 52 per cent of the holding. The district committee noted that Kendal 'should plough more lea' in 1917 and a ploughing order for an extra 1.5 acres, with a requirement to grow 17 acres of white crops (which would be oats) was issued.⁶⁹ The small additional acreage required for 1918 suggests that the limit of practical cultivation had been reached on this farm, possibly due to shortage of labour. In November 1918 John's son Richard was one of a quota of 15 soldiers released early for agricultural work.⁷⁰ In making the allocation of plough up orders, allowance was not made for the smaller, less convenient and less capitalised farms like the Kendal's whose arable portion formed more than the average for the parish.⁷¹

⁶² TNA, IR 58/19203, hereditment 4 (Low Moor Lowther).

⁶³ CRO (K), WD/BS 3, Cropping survey, autumn 1917.

⁶⁴ The term 'lea' is used to refer to 'land that has remained untilled for some time; land laid down for pasture' (*Oxford English Dictionary* on line)

⁶⁵ D. Sutherland, *The Yellow Earl* (1965), p. 187.

⁶⁶ CRO (K), WD/BS 5, letter from the Earl of Lonsdale to tenants, 15 Jan. 1917.

⁶⁷ TNA, RG 13/4906/28/10/62.

⁶⁸ TNA, IR 58/19203, Melkinthorpe, Hereditment 89.

⁶⁹ CRO (K), WD BS/3, 1917 survey and ploughing orders, 1918.

⁷⁰ CRO (K), WD BS/3, papers, 28 Nov. 1918.

⁷¹ The arable percentage of agricultural land for Lowther parish was 40 per cent excluding Lonsdale's Home Farm which had 100 acres of arable out of over 3,100 acres.

(iii) Patterdale

Farming here was a marginal activity. Low profitability is reflected in the generally poor state of repair of buildings and low rents of less than £1 per annum per acre, falling to as little as 4s. where rough grazing was included. However, livestock farming, when combined with a secondary occupation, allowed farmers a living.⁷²

Crook-a-Beck Farm, a freehold, lying along and within a bend in Goldrill Beck, comprised 49 acres of low-lying meadow and pasture with common grazing on Place Fell. Robert Pears was 41 at the time of the 1901 Census and his occupations were listed as farmer and carrier.⁷³ The holding was farmed by the extended Pears family. Robert applied for an exemption for his nephew James whom he described as shepherd in May 1916. An exemption was granted until 1 September 1916 when the 'fly' season would be over.⁷⁴ The 1910 Field Books noticed a hogg house, a milk house and a hen house as well as a wool loft amongst the outbuildings. Pigs, eggs and dairy produce would have found a local sale to the tourist trade which supplemented the less regular income from livestock sales and wool. The Valuation Survey makes no mention of arable land but the 1917 District survey shows one acre of oats in 1916 which was increased to two acres with a further two acres of potatoes for 1917. Hay was cut on 30 acres of pasture. The white crop target was not increased for 1918, the total for the whole parish being only 65 acres.⁷⁵

Farming at Crook-a-Beck would have been little affected by wartime direction. However the switch of four acres to arable on a farm without equipment or expertise would have been awkward and a likely source of irritation. The rights of common on Place Fell coupled with the low-lying pasture would have allowed the livestock numbers to continue largely unchanged and Robert Pears would have benefited from higher prices for store lambs and draft hill ewes sold away to lowland farms for the production of half breeds. Wool prices did not rise to the same extent as those of livestock, being fixed between 1916 and 1918 at 60 per cent above those for 1914, well below the rise in agricultural prices generally. Freed from restriction in 1919, wool prices rose sharply, but some wartime wool production may have been stored.⁷⁶ Crook-a-Beck farm was vulnerable to the impact of war on the tourist trade. Early on however this was not affected, at least at peak holiday periods. The Penrith press reported a great influx of Whitsuntide visitors in 1915; 'at Patterdale the hostels were filled to overflowing'.⁷⁷

The discretion of the District Committee in directing cultivation is glimpsed in the case of Sykeside Farm – 18 acres of pasture and meadow lying to the north of Crook-a-Beck, close to Brothers Water. Tenanted by Charlie Dixon – who as 'Lakeland Shepherd' was 'a favourite picture postcard with visitors' – and his sister Grace, they kept sheep and a few cows.⁷⁸ With no experience or equipment they were unable to plough up any part of their four fields. The sub-committee did not issue any ploughing orders, nor instruct the owner to find a new tenant.

⁷² TNA, IR 58/46525.

⁷³ TNA, RG 13/4906/95/5/27.

⁷⁴ CWH, p.1, 27 May 1916, report of West Ward Tribunal.

⁷⁵ TNA, IR 58/46525 Patterdale, hereditment 58,

Crook-a-Beck; CRO (K), WD BS/3, 1917 survey, Patterdale.

⁷⁶ BPP, 1920, L, pt III, prices, pp.75, 87.

⁷⁷ CWH, 29 May 1915, p.1.

⁷⁸ E. Little, *Chronicles of Patterdale* (1961), p.21.

The Dixons continued to farm at Sykeside throughout the war and would have benefited from increased prices for their produce without suffering significant additional outgoings.

This review of individual farms highlights just how different farmers' experiences could be within a small area. An examination of trends at the parish level highlights the effect of topography, soil and climate on the daily practice of farming during the Great War. Superimposed on the general pattern are micro level variations in tenure, capital investment, individual ability, labour structure and the extent of external direction which individualised the wartime experience. This resulted in a varied financial return and any assessment of profitability must look through the average experience and consider the impact of the full range of contributing factors.

IV

The introduction showed that lack of asset valuation data makes any consideration of conventional accounting profitability of little value. This section will take the farmers' view and assess financial gain on the basis of cash receipts and cash payments. It will be shown that whilst an increase in cash and bank balances was probably the general experience, there was very considerable variation between individuals farming in close proximity.

(i) Revenues

Livestock sales provided the most significant, if irregular, cash injections into farming businesses. West Ward farms produced both store and fat cattle which were sold locally at Penrith and also at the major cattle market at Carlisle. Sales of store cattle out of Penrith occurred in October and to a lesser extent in April.⁷⁹ For the hill and mountain farmers, winter restrictions on feed compelled them to sell young stock each autumn whatever the price. Those able to over-winter stock at lower altitude had more freedom of manoeuvre. Although the volumes of sales through livestock markets need to be treated with caution because of the element of double counting when store stock are resold as fat, and because not all sales passed through livestock markets, we can link the trends at Penrith with the parish statistics for the West Ward. The number of fat cattle sold declined by 50 per cent over the course of the war, reflecting the decline in root crops and grassland in parishes such as Brougham and the shortage of feedstuffs from 1917/18 onwards. The sharp fall in the number of other cattle in Brougham between 1917 and 1918 was also reflected in the higher volume of store cattle sold at the autumn markets in 1917, a response to both shortage of winter feed and to the higher slaughter prices set that autumn.⁸⁰

A bewildering range of prices for livestock is given in the weekly reports of markets and 'displeasing sales' in the local press. The range reflected local knowledge of variations in quality and the skill of the farmer selling stock. But, a general review of profitability requires use of a more general index. The enquiry into the financial results of the occupation of rural land provides an index of the average prices of farm products between June 1913 and October 1918.

⁷⁹ BPP, 1914, XLVIII, 'Agricultural Statistics 1913,' pp. 254-5.

⁸⁰ BPP, 1918, LIII, 'Agricultural Statistics,' pt III, p. 87.

This shows that the prices of fat cattle rose at a rate approaching twice that of store cattle⁸¹ reflecting a rise in the cost of feeding stuffs in the region of 195 per cent between 1913 and 1918.⁸² However the index for fat stock is based on weight and that for store stock is given per head,⁸³ and because of reduced slaughter weights, the difference in cash return between fat and store cattle would be lower than the index suggests.⁸⁴

Farmers in Patterdale, forced to accept the market price and sell off store cattle in the autumn, would have received relatively less in revenues than farmers at lower altitudes, but would have suffered less from high wartime feedstuff prices and shortages. Cattle reared on summer grazing and particularly on common land were cheap to produce, and required relatively little labour input and hence cash outlay. The ability of Patterdale farmers to increase cattle numbers up until 1916 would have provided farmers with 'windfall' cash receipts only marginally reduced by increased outgoings.

The figures for Penrith show that sales of store sheep were concentrated almost exclusively into the months of September and October before winter necessitated additional purchased feedstuffs. Fat sheep sales occurred throughout the year, but the peak period was from November through to March, gradually relieving farmers of the need to provide winter fodder.

For stock rearers in upland parishes, the sale of store sheep was dictated by climate, not market price. These farmers benefited from the high prices of the early war years which rose by more than 50 per cent per head in the period to 1916.⁸⁵ After the introduction of the Food Production Policy, price rises were limited to only 9 per cent over the last two years of the war and, in addition, the wool price was fixed from mid-1916, limiting extra profits from wool sales.⁸⁶ The Penrith Farmers Association protested when the wool clip price was fixed and suggested that 'injustice and hardship' was being inflicted upon producers of wool. The chief concern however was for 'feeders' of sheep who 'gave an enhanced price for stores in the autumn and spring of 1915 and 1916 taking into consideration the advanced price of wool at that time'.⁸⁷

Although farmers in Patterdale had little choice but to sell on their store sheep and draft ewes, revenues continued to rise albeit at a reduced rate. Numbers were maintained at high levels throughout the war: sheep often providing the only economic use for much upland grazing. The sales recorded at Penrith also reflect local vagaries of climate: low sales in 1916 resulted from the need to maintain herd numbers for 1917 after the outbreak of disease coupled with a harsh winter.⁸⁸ For farmers with hefted flocks of sheep this was critical.⁸⁹ By contrast, fat sheep sales volumes declined by 26 per cent between 1917 and 1918 along with a reduction in the rate

⁸¹ BPP, 1919, VIII, p. 46 gives price rises for 1913/14 to 1916/17 and 1916/17 to 1917/18 as follows: fat cattle, 72% and 19%; store cattle, 44% and 8%, Fat Sheep, 53% and 21%.

⁸² BPP, 1920, L, pt II, p. 45.

⁸³ BPP, 1919, VIII, p. 46.

⁸⁴ Between 1908 and 1924 cattle slaughter weights declined by 6.5% and sheep by 10%. Wartime reductions were largely due to shortages of feed but the overall trend also reflects changed market preference for lighter, leaner meat joints. E. Whetham, *Beef Cattle and*

Sheep, 1910-1940 (University of Cambridge Department of Land Economy, Occ. Paper 5, 1976), p. 26.

⁸⁵ BPP, 1920, L, pt III, p. 83.

⁸⁶ BPP, 1920, L, pt III, p. 87.

⁸⁷ CWH, 8 July 1916, p. 2.

⁸⁸ BPP, 1918, LIII, 'Agricultural Statistics', pt III, p. 89.

⁸⁹ 'Hefted' flocks of sheep were those that were included with a tenancy, the same number being returned to the landlord on its cessation. Such flocks were territorial and 'knew' their section of the fell.

of increase in fat sheep prices.⁹⁰ As with cattle, fattening sheep was less profitable than early in the war and farmers short of feed sacrificed sheep flocks first.

In summary, farmers with common grazing rights continued with the rearing of sheep and lambs and reaped the profits. Common and high moorland whose altitude put it outside the reach of the plough policy was an invaluable and low cost resource for farmers rearing stock. With no practical alternative use, the commons continued to support hardy livestock breeds and because many grazing rights were unstinted, farmers may have been tempted to increase the numbers carried to compensate for the ploughing up of valley bottom fields.⁹¹ Indeed the Board of Agriculture recognised the potential value of common land early on in the conflict. In a circular of February 1916 the Board encouraged farmers and landowners to consider the use being made of moorlands 'with the object of ensuring that they are stocked with as many sheep as the land can carry'. They suggested 'that permission might safely be given as a temporary measure to pasture more sheep than are usually kept on moors without any harm resulting'.⁹² To what extent overgrazing resulted in a decline in quality of common grazing is unclear. Generally there is little documentation available for the commons in the post-war period: the manorial courts were ceasing to function either because they were deemed unnecessary or because abuse was so widespread that no one was willing to take action against a neighbour when he himself was breaking the rules. However the files from the Hothfield Estate give details of two applications for regulation of common land during the 1920s. On Little Asby Common unlimited rights were converted to stints so 'that every farmer may be able to enjoy his just and equal rights of pasture'.⁹³ At East Stainmore 'owing to continued over stocking and trespass on the regulated pasture it has been necessary to amend the bye laws, drawn up in 1892, as the limited penalty was so small that it paid stock owners to deliberately trespass'.⁹⁴

Additional evidence of the importance of fell grazing comes from the Second World War in an enquiry into upland farms in East Westmorland. Farms with fell grazing spent less on feedstuffs, although there was some extra outlay on the hire of grazing for wintering hogs due to higher stocking levels.⁹⁵ Cash margins as a percentage of profits were higher for farms with fell rights than for those without.⁹⁶ By contrast, those in parishes at lower elevations, directed by the Food Production Policy to convert pasture to arable, concentrated on the production of fat cattle as a priority. Higher prices for fat cattle than for fat sheep supported this production decision.

Shortage of pasture meant that the value of any additional grazing rights or 'eatage', occasionally made available by tender, was considerable. In January 1913 £27 was paid for three years grazing on the 'wastes and lanes' of the village of Morland⁹⁷ and a government enquiry found

⁹⁰ BPP, 1919, VIII, p. 46. Fat Sheep prices rose by 53 per cent between 1913/14 and 1916/17, and then by 21 per cent from 1916/17 to 1917/18.

⁹¹ The Field Books of the 1910 Valuation Survey describe most grazing rights in Patterdale as 'unlimited'.

⁹² *J. Board of Agriculture*, Feb. 1916, p. 1187.

⁹³ CRO (K), WD/HH/36, Regulation of Little Asby Common.

⁹⁴ CRO (K), WD/HH/38A, Regulation of East Stainmore Pasture.

⁹⁵ 'Hoggs' are sheep of between one and two years of age.

⁹⁶ University of Durham, *Farm Management Survey*, 16, *Financial Results on upland farms in east Westmorland, 1944* (copy in CRO (K), WDX 494).

⁹⁷ CWH, 4 Jan. 1913, p. 1.

increases of up to 150 per cent in such rentals for subsidiary grazing in Cumberland between 1913 and 1918.⁹⁸

In upland areas only limited cash revenues came from the arable cultivation of corn crops and potatoes. In 1914 the Penrith market sold 37 tons of oats but no wheat. During the war the maximum quantity of oats sold was just two tons in any one year.⁹⁹ Much of the increased arable production was requisitioned by the military for horse provender, resulting in some additional cash flows, and the remainder stayed on the farm and contributed to livestock production. Even in the most arable of the parishes in the West Ward at the fullest extent of the plough policy, farmers were cultivating to produce feed for the army or their own livestock rather than providing crops for human consumption.

Cash incomes continued to be derived from sales of livestock, although farmers would have been conscious of a slowing of the rate of growth in prices in the latter years of the war. The income of farmers at lower elevations where arable cultivation impinged on livestock numbers and where feedstuff shortages reduced the weight and number of fat stock for sale would have been adversely affected compared with farmers in upland parishes who, benefiting from access to common and moorland, continued their rearing business at or above pre-war levels and for whom total revenues would have increased even if the rate of growth was slowing.

(ii) Costs

Whilst revenues rose during the war, so did costs. Rents, wages and feedstuffs made up about 80 per cent of total expenses.¹⁰⁰ The enquiry into financial results of the occupation of rural land suggested that during the war rents were usually only revised on a change of tenancy, landowners being reluctant to be associated with wartime profiteering. Examining the North of England, the enquiry found 22 per cent of holdings had been relet since Lady Day 1914 at rents which were about 23 per cent above pre-war levels.¹⁰¹ Later, the Corn Production Act of 1917 effectively prohibited further rent increases by requiring proof that the rent increases were not based on higher profits arising from corn price guarantees, something for which no mechanism was provided.¹⁰²

Dewey ascribes the profitability of wartime farming to a stasis in rental income, but at the local level there would have been four groups of farmers: those benefiting from long standing tenancies, those who took on tenancies during the war and paid higher revised rentals, and two groups of freehold farmers. Some of the latter owned their farms outright but others would have borrowed to purchase their farms or buy out relatives on their inheritance: they, at least, would have suffered from increased wartime interest rates. In terms of cash outflows therefore, yeoman farmers without borrowings would have been at an advantage over tenant farmers and of those, tenants with very similar holdings may have faced very different rent charges depending on when the tenancy commenced.

The structure of wage rates for agricultural workers was especially complex in the Lake Counties due to the system of half-yearly hiring and the provision of board and lodging. Pre-war

⁹⁸ BPP, 1919, VIII, p. 11.

⁹⁹ BPP, 1915, XLIX, 'Agricultural Statistics', p. 203.

¹⁰⁰ Dewey, *British Agriculture in the First World War*,

p. 230.

¹⁰¹ BPP, 1919, VIII, p. 10.

¹⁰² Dewey, 'British farming profits', p. 383.

wage rates in Westmorland were amongst the highest in the country reflecting a scarcity of labour. The *Cumberland and Westmorland Herald* highlighted this in its reports of the Whitsuntide Hirings of 1913: 'the shortage of farm servants both male and female and the high wages asked were the features of the Whitsuntide hirings ...'.¹⁰³

The financial results enquiry of 1919 calculated summer rate increases in Westmorland between 1914 and 1918 at rates as high as 94 per cent for ordinary labour and 86 per cent for skilled.¹⁰⁴ But as the war progressed and labour shortages were exacerbated by military recruitment, many labourers struck bargains with existing employers to their advantage and so avoided the recruiting officers at the hiring fairs. In late 1915 it was 'the poorest attendance seen at Penrith hirings for a long time. It was a most difficult matter to get men, many having agreed to stay in their present places usually at an advance in wages.' 'Top men were nearly all stopping on.'¹⁰⁵ Many of these privately-struck bargains would have been at rates in excess of those quoted by investigators. The minimum wage rate of 25s. set by the Agricultural Wages Board in August 1917 was less than the wage rate ruling in Westmorland and would have been of little local relevance.¹⁰⁶

Rising wage rates would have had a differential impact on farmers. Best placed would have been the smaller farm relying on family labour with perhaps the services of a lad or 'maid' – farms like John Kendal's at Melkinthorpe or Crook a Beck in Patterdale. Here rising wage rates would not have impacted on cash flows, and the ability to extend working hours and adjust work task schedules would have made possible the extension of arable cultivation without significantly increased cash outlay for labour. Although the personal cost of reduced leisure and the possible depletion of farm capital because of low maintenance must not be discounted, these did not involve actual cash outlay.

The West Ward made little use of paid female labour. '[N]one of the farmers wanted women immediately ... and considered the girls not fitted for it.'¹⁰⁷ Prisoner labour does not seem to have been made available to farmers. 'North Westmorland will not be able to have German Prisoners of War for work on the land as desired.'¹⁰⁸ Soldier labour from the Agricultural Corps at Carlisle was offered but was not warmly received as an alternative to securing the return of sons from the army. R. Walker from Bank Farm, Crosby Ravensworth, who was refused temporary exemption for his son, was offered a soldier from Carlisle in his place. He wrote to the secretary of the county committee, 'No I don't want a soldier ... they are neither use nor ornament ... I cannot do without him [his son] I have more corn than last year over 11 acres and 32 acres of hay.'¹⁰⁹ Rates of up to 42s. a week for soldier labour would have added an economic motive to the personal desire to secure exemption for family members, for sons rarely received cash wages. There were complaints from early 1916 of farmers dismissing labourers to offer their jobs to adult children. If this happened, it would have saved the children from conscription but

¹⁰³ CWH, 17 May 1913, p. 1.

¹⁰⁴ BPP, 1919, VIII, pp. 57–8.

¹⁰⁵ CWH, 20 Nov. 1915, p. 3.

¹⁰⁶ Dewey, *British Agriculture in the First World War*, p. 94.

¹⁰⁷ CRO (K), WD BS/3, file July-Oct. 1918, – Aug. 1918.

¹⁰⁸ Ibid.

¹⁰⁹ CRO (K), WD BS/3, 7 May 1918.

also reduced farmers' wage bills.¹¹⁰ Much of the hired labour so released would have found itself conscripted, leaving only those over military age and the very young at the hiring fairs.

Again there were considerable discrepancies in the cash outlay required to secure sufficient labour. Family farms with limited hirings would have been able to adjust labour input at personal, rather than cash cost. Those requiring hired labour or soldier assistance would have seen an increase in cash outlay particularly where soldier labour did not live in and the full wage had to be paid out in cash. Board and lodgings also were not neutral. At a time of labour shortage, good working and living conditions were an essential part of retaining hired hands and although much could be supplied from the farm, providing a good and varied diet would have involved some cash outlay. Overall, it was the small farms with flexible family labour that were able to benefit from rising prices for their produce without commensurate increases in the cash cost of their labour input.

The price of feedstuffs rose sharply as availability declined. Initially farmers aimed to maintain volumes but by 1918, prices had doubled whilst overall usage in England and Wales had halved.¹¹¹ With shortages in supplies of feed, the efforts of the CWAEC in Westmorland were directed to encouraging the maximum cultivation of fodder crops leaving farmers to make their own adjustment to livestock numbers as required. 'Farms at high altitude should only be required to produce what the occupier needs for consumption on his own holding with the knowledge that he cannot buy artificial feeding stuffs.'¹¹² Ironically it was those parishes with the most arable land which suffered the largest reduction in livestock as volumes of fodder crops increased and supplies of oats and straw were requisitioned for army use. At higher elevations common grazing and moorland continued to provide much of the nutrition required for the production of store stock and here only limited quantities of additional fodder resulted from the plough policy. In terms of cash outlay, farmers in Patterdale would have seen little change overall in expenditure on feedstuffs, whilst in Brougham the cash effect would have been seen in the reduced number of fat stock sold as well as the increased prices paid for scarce feedstuffs.

V

This analysis has looked at cash flows in farming rather than accounting profit. To obtain a materially correct estimate of the latter requires information on stock movements and asset valuations. Most farmers did not keep the sophisticated accounting records required and they relied on cash flows for their only real indication of business performance. Had accurate asset valuations been possible, the farmer may have found that wartime farming had depreciated his capital by reducing soil fertility and the quality of common land grazing and diverting labour from maintenance. Some of his capital was now held in higher cash balances and would need to be reinvested after the war.

¹¹⁰ CRO, Carlisle, CC 1/39/1, 9 Dec. 1918. Captain Broadhurst was reported as saying at the Penrith Tribunal that 'some employers of labour, farmers and others, had since last November dispensed with their hired labour with a view to getting sons into a safe position'

[prior to the introduction of conscription]. *CWH*, 11 Mar. 1916, p. 2.

¹¹¹ Dewey, 'British farming profits' p. 379.

¹¹² CRO (K), WD BS/3, Report from the West Ward, 19 Nov. 1918.

Evidence of general depreciation in farmers' capital comes from the 1919 enquiry. In his evidence the Hon. E. Strutt, chairman of the Essex CWAEC, stated 'that it will require a considerable sum of money spent on it [the land] to bring it back into the condition in which it was in 1914'. Asked for an estimate of the amount he suggested at least £5 per acre to return it to good heart.¹¹³ He also highlighted the need to make up arrears of repairs.

Arable farmers in lowland regions benefited from the escalation in the prices of cereals before 1917. This prompted some to switch more land to arable before the introduction of government direction. Once government started to coerce farmers towards arable production, it restricted the returns available and subsequently raised the costs of labour, in effect setting up a disincentive to compliance. It was at this stage that livestock farming regained some of the advantage it had lost in the early part of the war.

In upland areas generally, where revenues came from sales of livestock supplemented by dairy produce, all farmers benefited from the higher prices of the early war years. 'They merely had to produce what they had done before the war in order to raise their incomes substantially.'¹¹⁴ Fat stock prices rose ahead of store stock throughout the war, although rises slowed after 1916, but these higher revenues were eroded by the higher prices of feed and also by the need to reduce stock levels as grazing pasture was converted to arable, much of the production of which was requisitioned by the army.

Stock rearing costs were lower and more stable so farmers at higher elevations with less extension to the arable area were better able to maintain livestock numbers and suffered less from the higher prices of purchased feeding stuffs. Geographically therefore, it was farmers in the most marginal and less favoured areas who, although working from a much lower base, would have seen the largest percentage rise in net cash revenues over the course of the war. In stock rearing parishes at the highest elevations, limited plough up and extensive common grazing facilitated the maintenance of livestock numbers. Here too although prices of store stock rose at a slower rate than fat stock, margins suffered less erosion from high feedstuff prices.

At the sub-parish level this study also highlights local variations. Within the broad categories of rearers and fatteners, individuals' cash flows varied with the type and size of farm they worked. The effects of wartime direction of cultivation were uneven in their incidence, some were able to exercise personal influence, others were less fortunate. Cash outflows for rent varied between neighbours and freeholders without borrowings were obviously advantaged. Those who took on tenancies during the war would have been disadvantaged by higher rentals compared with some of their neighbours who either owned the freehold or had been in occupation for many years.

The cash cost of labour varied with the size of farm and the personal family circumstances of the farmer; smaller family farm units benefiting from flexible working practices and limited cash outgoings. Such farms were able to 'stretch' family labour and limited cash outlay on wages allowed farmers to put aside more of the windfall cash incomes that arose from the wartime prices. The desire to keep sons at home, especially after the introduction of conscription in 1916, was therefore driven by economic as well as practical and emotional considerations.

¹¹³ BPP, 1919, VIII, *Royal Commission on Agriculture*, 'The economic prospects of the agricultural industry',

evidence of Mr E. Strutt, paras 1424–35.

¹¹⁴ Dewey, 'British farming profits', p. 379.

Farming in Brougham changed more than in nearby Patterdale where farmers felt the benefit of significant increases in cash resources, but the effects on the capital valuation of farms must be factored in to any assessment. Shortage of labour and more intensive arable production and reductions in livestock quantity and quality will have taken their toll on all farmers and the increased cash resources would have been required to make good wartime depreciation.

This study launches the investigation of the impact of First World War food policy and controls on the individual farmer. It has demonstrated a wide range of difference between farming enterprises at the micro level whilst identifying the adaptability of the family farm to crisis situations. At the sub-regional level, it reveals that farming was least disrupted in marginal areas with access to high moorland and commons. Stretching grazing resources allowed farmers to maintain cash revenues by taking advantage of wartime prices and so maintain levels of livestock, particularly sheep. The paper also distinguishes between raised cash incomes and the depreciated capital which meant that farmers faced the post-war depression with a depleted asset base. It may be questioned whether farmers really had such a good war before agriculture slipped back into post-war depression.