

Employing the enemy: the contribution of German and Italian POWs to British agriculture during and after the Second World War

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Historians emphasize the ‘substantial contribution’ of prisoner of war (POW) labour to British agriculture;¹ Italians were ‘more useful to Britain’s cause in the wheat fields than the battlefields’.² Official government publications are more cautious, referring to a time lag and the removal of security constraints to fully use POW labour.³ Davis considers POWs a liability for captors during both World Wars; they crowded out native workers, were costly, inefficient, lacked motivation, and skills.⁴ This paper seeks to determine which of the above views is correct. Davis’s hypothesis is tested by assessing German and Italian POW contribution and productivity in British agriculture. New qualitative and quantitative evidence is used to establish POW productivity proxies and yield a first estimate for POW contribution to British GDP. The paper concludes that POWs made significant contributions to British agriculture, particular in the post-war period.

Manpower supply and POW employment in British wartime agriculture

Wartime agricultural labour was a constant problem for the Ministry of Agriculture and Fisheries (MAF). Call-ups, worker drifts to other industries and the failure to attain sufficient labour allocations from the War Cabinet created substantial rural manpower gaps.⁵ POWs initially played a minor role as one of many supplementary wartime labour groups. Beginning in 1943, they were increasingly tapped as a substitute for the Women’s Land’s Army (WLA) and schoolchildren. After the war, the reluctance of de-mobilised farm workers to return to agriculture and meagre WLA recruitment resulted in ever-growing demands for Germans on the land.⁶ Moore-Coyler finds German POWs ‘indispensable’ in 1946, but also detects persistent press criticisms of POW labour. He lacks evidence to quantify their value, but acknowledges the government authorities’ success in marshalling and controlling the POW labour force.⁷

¹ Moore, ‘Turning Liabilities into Assets’, *Journal of Contemporary History*, vol. 32, 1 (1997), p.127

² Wiley, ‘POWs in the Era of Total War’, *War in History*, 2006 13 (2), p.224

³ Parker, *Manpower* (London, 1957), pp.187, 384; Satow, *POW department in the Second World War* (London, 1950), pp.33- 35

⁴ Davis, ‘POWs in Twentieth-Century War Economies’, *Journal of Contemporary History*, Vol. 12, 4 (1977), pp.627-629

⁵ Murray, *Agriculture*, (London, 1955), p.272

⁶ Ibid, pp.120, 122, 128

⁷ Moore-Coyler, ‘POWs’, in Short et al, *Frontline of Freedom* (Exeter, 2007), pp.130-131

During and after the Second World War, 400,000 German and 154,000 Italian POWs were held in Britain.⁸ Following Italy's surrender in September 1943, Italians were offered the choice of becoming 'co-operators' or 'non-co-operators'. The former performed work contrary to the Geneva Convention and under lower security constraints while receiving higher financial rewards than non-co-operators.⁹ Italians were repatriated by 1946 and the Germans by 1948. After repatriation, 15,700 Germans and 1,400 Italians remained in Britain as civilian rural workers.¹⁰

The agricultural POW workforce developed from being small and mostly Italian in 1941 to a sizeable and exclusively German workforce after the war (figure 1). At peak in March 1947, 170,000 German POWs worked in agriculture. Overall, 150,000 Italians and 388,000 Germans were employed in Britain. At peak in summer 1946, German POWs represented 1.86 per cent of the aggregate labour force in Great Britain (figure 2). Agriculture was the main sector of POW employment, accounting for 40 to 60 per cent of the POW workforce during and after the war. Most POWs worked on farms during the day and returned to camps in the evening. Those with records of good behaviour could be sited at 'hostels', guarded houses near employment sites or 'live in' individually on the farm as 'billetees'. The government favoured billeting because it saved guarding, accommodation, transportation and food costs, shifted responsibility to the farmer, and increased net working time.¹¹ Hostel and billee employment grew rapidly given these advantages over camp employment. Germans were employed from 1944 onwards as a potential replacement for Italians. They replaced Italians only gradually as they were initially considered more security-intensive, but given the scheme's success, German POW employment rapidly expanded.

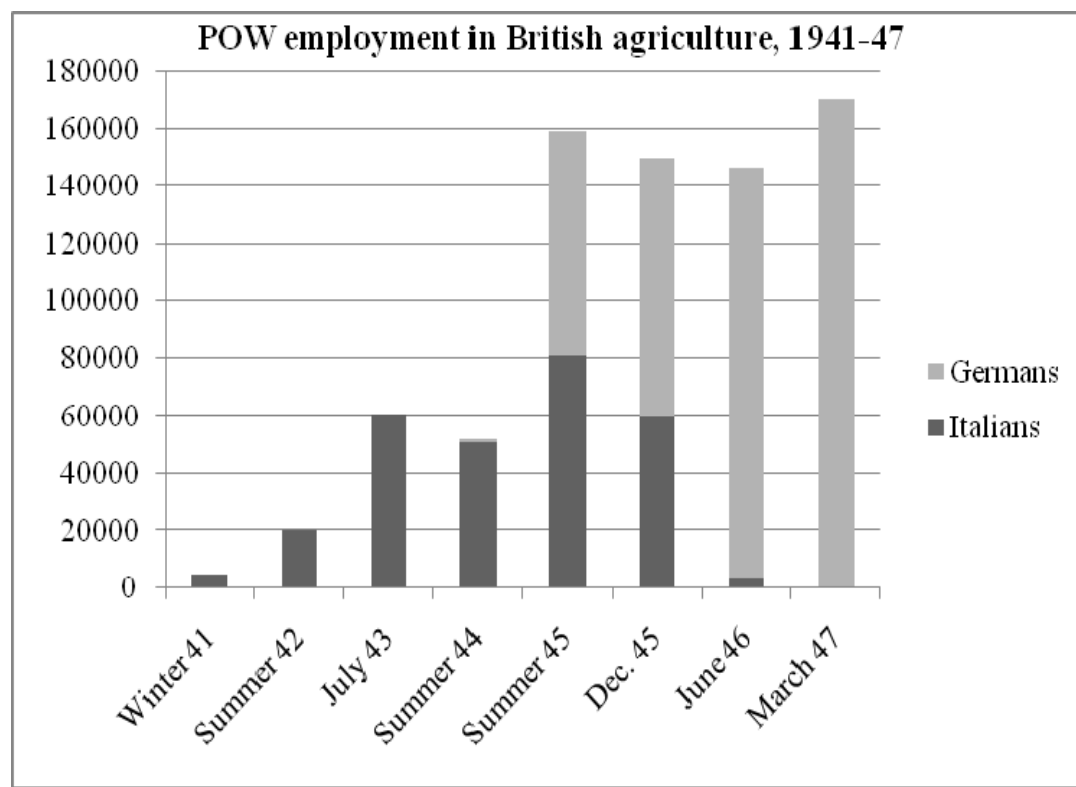
⁸ Moore & Fedorowich (eds.), *POWs and their Captors in World War II*, (London, 1996), p.19

⁹ Ibid, p. 33

¹⁰ Isaac, *British Post-War Migration*, (Cambridge, 1954) , p.183

¹¹ NA, MAF47/56, 'agricultural labour supply, Great Britain, June 1944'

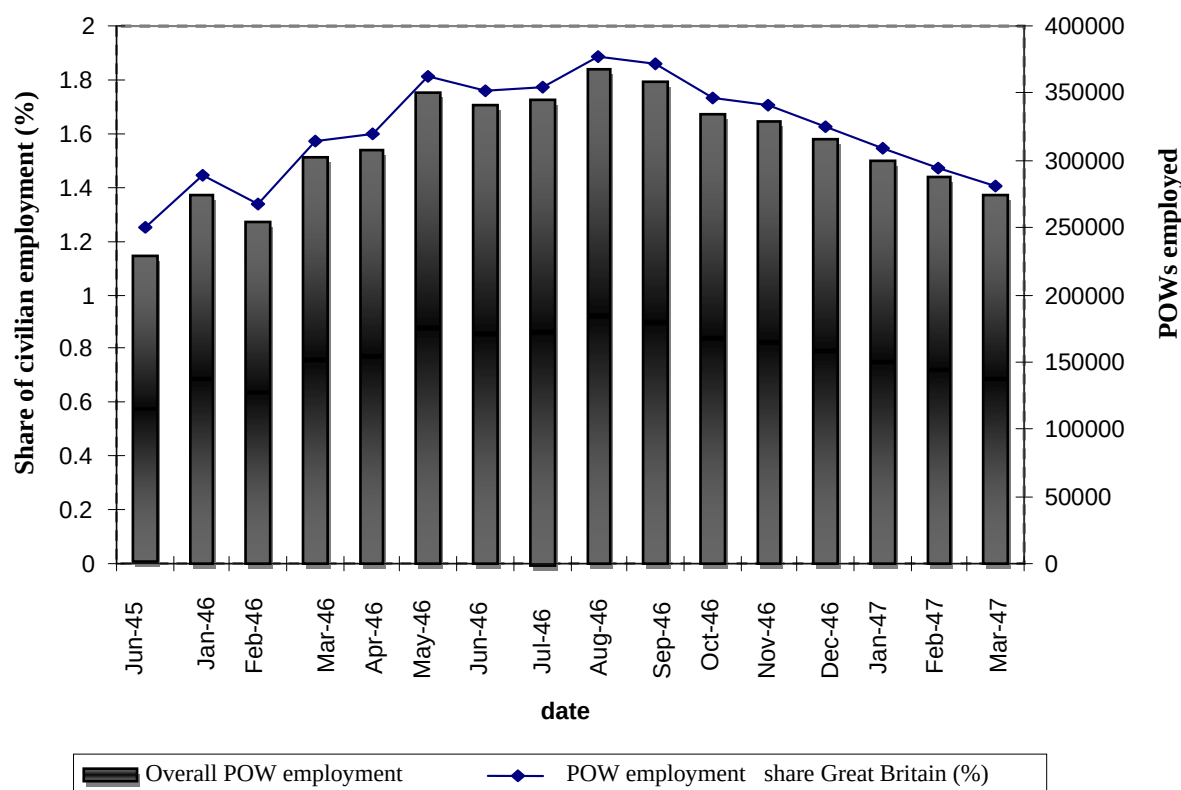
Figure 1.



Sources: National Archives (NA), MAF47/132, LAB13/257, CAB114/26, WO165/59

Figure 2.

Aggregate POW employment in Great Britain in absolute terms and as a share of civilian employment



Source: NA, WO 165/59, various monthly reports.

POW productivity in British agriculture

Qualitative assessments of POW labour productivity varied substantially. While one farmer claimed in 1941 that his two Italians were worth ten casual civilian workers,¹² Lord Somerleyton stated in 1944 that two boys could do the job of 30 Italians.¹³ Such disparate assessments arose because POW productivity changed significantly over time and differed by POW sub-group. In addition, the British press biases Italian POW productivity downwards but also reveals high volatility in productivity. Quantitative evidence from government sources is more detailed. The first Italians in 1941 were compliant, skilled and on average 65 per cent as productive as British civilians.¹⁴ The average was raised to 75 per cent in late 1942, but productivity varied between 25-100 per cent.¹⁵ Italians were most productive in small groups and as billetees. Shirking reduced Italian productivity in 1942 and both German and Italian productivity responded negatively to ration cuts and adverse war events.

¹² Sponza, *Divided Loyalties*, (Bern, 2002), p.198

¹³ Museum of English Rural Life (MERL), *Farmers Weekly*, 15 December 1944

¹⁴ NA, WO32/10734, 'note on relative value of Italian POWs', 18 December 1941

¹⁵ Library Archives Canada (LAC), RG24/6577, Massey (High Commission Canada) to External Affairs, 27 Nov. 1942

Some Italians outperformed British workers, but some County War Agricultural Committees (CWAECs) also reduced POW wages given low productivity.

The co-operator status for Italians introduced in April 1944 entailed a wider use of Italians. Co-operators were more productive than non-co-operators and could be used more extensively without the constraints of the Geneva Convention. However, co-operator conversions remained below expectations and non-co-operators frequently refused to work, reducing the expected productivity gain. Germans were more productive than Italians. They also required supervision and discipline, but were more willing to work. As soon as security restrictions constraining their use were relaxed after VE Day, employment increased rapidly. German billetees were most productive, but unescorted Germans in large groups also showed good results.

Quantitative evidence on POW productivity comes from three different sources. First, MAF's manpower division worked with constant POW productivity. Before POWs arrived, it estimated their productivity at 80 per cent of civilians and used 75 per cent for 1942,¹⁶ 1944,¹⁷ 1945 and 1946. MAF also estimated relative productivities in terms of 'man-equivalents' that were calculated to forecast rural labour requirements. For instance, 71,000 POWs in 1945 were worth 54,000 'man-equivalents', implying a productivity of 76 per cent compared to civilians. However, the MAF's assessment seems arbitrary because all supplementary labour groups were valued at 75 per cent and because proxies did not change over time whilst POW productivity did.

Second, the difference between POW and minimum civilian wages presents a more dynamic POW productivity measure. Evidence comes from the Agricultural Wages Board (AWB) which reviewed and set rural minimum wages and POW wages. The AWB estimated POW productivity at four-fifths of civilians prior to their arrival and set wages accordingly in summer 1941. POW wages were raised over time to account for rising POW productivity. Assuming the wage shares also present relative productivity, POWs were 74% as productive as civilians in 1943 and less than 70% in summer 1945. POW wages were increased in October 1945 to account for POW productivity exceeding wages. The AWB considered POWs as productive as civilians from April 1946 onwards against protests from farmers and wages remained at that level afterwards. POW wage shares fell from 80 per cent in 1941 to 70 in 1944 and then rose from August 1945 to 100 per cent in April 1946 (table 1). The productivity/wage ratio compares the POW wage share with MAF's 75 per cent estimate. If the ratio is below 1, then productivity expressed by the MAF estimate exceeded the wage

¹⁶ LAC, RG24/6577, *ibid*

¹⁷ NA, MAF47/56, Hudson to Anderson, 13 January 1944

share and farmers underpaid for POW labour. The ratio captures a rise in POW productivity over time and implies that the MAF's 75 per cent proxy initially over- and eventually understated POW productivity.

Third, Williams provides another alternative dynamic POW productivity proxy. He assumes that relative weekly earnings in 1945/46 and 1948/49 reflect productivity to attain conversion factors and relative productivities and finds billeted more productive than non-billeted POWs. POW productivity relative to full-time regular civilian workers rose over time from 40 for non-billeted and 65 for billeted in 1944/1945 to 70-80 per cent in 1947/1948. Williams explains the variation with growing experience and declining hostility and irresponsibility.¹⁸ Comparing POW productivity to that of other civilian supplementary rural labour groups reveals that POWs changed from one of the least productive supplementary labour groups to the most productive post-war. Williams did not determine varying factors for all labour groups and did not distinguish between Germans or Italians or co-operators or non-co-operators. Moreover, he himself finds his measures arbitrary and various authors have criticised them as excessively low.¹⁹ Still, Murray considers William's figures as a good overall approximation.

Table 1. POW and rural civilian wages 1941-1946 (Shilling)

Date	Min. wage/ week	Minimum wage/hour	POW wage/hour	POW wage share (%)	Productivity/wage ratio
July 1941	48	1s.	9½ d.	79	0.95
Dec.1941	60	1s. 3d.	1s.	80	0.94
Dec.1943	65	1s. 4¼ d.	1s.	74	1.01
Aug.1945	70	1s. 5½ d.	1s.	69	1.09
Oct. 1945	70	1s. 5½ d.	1s. 3d.	86	0.87
Feb.1946	70	1s. 5½ d.	1s. 3d.	86	0.87
Apr.1946	70	1s. 6d.	1s. 6d.	100	0.75

Source: Ministry of Labour Gazettes 1943-46 for civilian wages. NA, MAF 47/138 for POW wages. POW productivity is 75 % of civilians, see text.

Billetee shares of POWs employed taken from monthly War Office reports are used to produce new productivity aggregates. Applying Williams' methodology to this new evidence, we yield the relative productivity of the aggregate POW rural workforce by adjusting for the share of billetees. The billetee shares are multiplied by 40 and 65 per cent for non-billets and billeted until 1946 and by 70

¹⁸ Williams, 'Changes in the productivity of labour in British agriculture', *Journal of Agricultural Economics*, vol. X (1954), 4, pp. 333-334

¹⁹ Brassley, 'Wartime productivity and innovation, 1939-45', *Frontline*, pp.36-37, Clarke, 'WLA', *ibid*, pp. 113-4

and 80 per cent for 1947. Table 2 shows that these proxies then undergo sensitivity analysis to incorporate dynamic POW productivity. While B1 denotes the pessimistic and B3 the optimistic constant POW productivity proxy, B2 accounts for rising POW productivity over time. The results show that POWs were 40-70 per cent as productive as civilians. They are lower than the wage gap proxies and suggest that POW productivity was only half as high as the MAF thought but rose by 1947.

Table 2. Billetee shares and relative POW productivity

<i>Date</i>	<i>Billetee share (%)</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>
Winter 41	0	40.00	40.00	50.00
Summer 42	5.00	41.25	41.25	51.25
July 43	9.18	42.30	42.30	52.30
Summer 44	28.57	47.14	47.14	57.14
Summer 45	14.02	43.50	43.50	53.50
Dec. 45	12.00	43.00	71.20	53.00
June 46	12.92	43.23	71.92	71.92

Note: Column B1 uses a 70-80 per cent estimate from 1947 onwards. B2 uses 70-80 per cent from 1946 and B3 uses 50 and 75 per cent for non-billeted and billeted until Dec.45.

In light of divergent productivity estimates from Williams, the MAF and AWB, sensitivity analysis yields a plausible productivity range (table 3). P1 assumes that POW productivity remained at the minimum value of 47 per cent, from 1944 to 1947. P3, the upper bound proxy, is fixed at 75 per cent throughout the entire period. P2 accounts for a varying and increasing productivity. For 1944, Williams' minimum value is taken. For the 1945 P2 value, the B3 value for 1945 from table 2 is taken to adjust for increasing productivity of Germans and co-operators. For the 1947 P2 value, the aggregated William's figure of 71 per cent is used. The 1946 P2 figure is interpolated to attain lower bound and smooth productivity estimates.

Table 3. Sensitivity analysis of POW productivity proxies

<i>Proxy</i>	<i>Productivity average (%)</i>	<i>Source</i>
P1	47.0	Williams
P2a – 1944	47.0	“
b – 1945	53.50	MAF
c – 1946	62.25	Interpolation
d – 1947	71.0	Williams
P 3	75.0	MAF

Sources: See text.

POW productivity in British agriculture

Equipped with these revised productivity figures, POW productivity can be ascertained using rural employment shares. In order to pursue this exercise, new evidence on German and Italian POW employment figures in British agriculture from government sources is compiled and compared with civilian data. Table 4 illustrates these results. Rural POW employment was initially small but became significant post-war. POW shares catch up with WLA shares by 1943, exceed it by 1945 and by June 1946, one in five rural workers is a POW. In fact, on average between 1941 and 1947, every tenth worker in agriculture is a POW and every eighth worker if the period 1944-47 is examined. Official figures by MAF severely understate actual POW employment. The new evidence from government figures are twice as high as official estimates, even if averages are taken into account. Also, June and September are peak harvest dates, so civilian rural employment is inflated. By contrast, the new figures denote summer averages and thus avoid upward bias.

Table 4. POW and civilian employment in British agriculture, 1941-47

<i>Date</i>	<i>POWs</i>	<i>Civilians</i>	<i>New POW share (%)</i>	<i>MAF POW share (%)</i>	<i>WLA share (%)</i>
Dec.1941	5,000	729,000	0.70	n/a	3.22
Summer 1942	20,000	824,000	2.43	n/a	7.16
July 1943	61,000	843,000	7.24	n/a	9.53
Summer 1944	52157	862,958	6.04	2.93	9.04
Summer 1945	100683	886,686	11.35	6.51	7.36
June 1946	146677	888,864	19.17	9.91	
March 1947	170,880	891,479	19.17	9.91	
Av. 1941-1947	79,485	846,570	9.40	n/a	
Av. 1944-1947	117,599	882,497	13.32	7.41	

Sources: MAF, *Agricultural statistics*, (London, 1949) pp.30-31.; *Statistical Digest of the War*, (London, 1951), p.16. WLA data is only available until 1945 and MAF data on POWs only after 1944.

Next, the revised employment shares are adjusted for the POWs' relative productivity according to the 'man-equivalent' methodology. Aggregate civilian employment is adjusted downwards by an

average of 82.45 per cent obtained from MAF man-equivalent calculations. The POW labour share range in table 5 indicates that POWs contributed on average five to eight per cent to the net rural labour force 1941-1947. Lower bound estimates suggest that the POW workforce grew at least from less than one per cent in 1941 to a tenth in 1947. According to the intermediate proxy, one in six rural workers was a POW in 1946. From 1944 to 1947, when POW labour was more productive and more sizeable than in previous periods, POWs on average represented 7-11 per cent of the net rural labour force.

Table 5. Man-equivalent adjustments using P1-P3, Great Britain, 1941-47

<i>Date</i>	<i>Total workforce adjusted</i>	<i>POW share P1 (%)</i>	<i>P2 (%)</i>	<i>P3 (%)</i>
Dec.1941	601,061	0.39	0.39	0.62
Summer 1942	679,388	1.39	1.39	2.21
July 1943	695,054	4.14	4.14	6.58
Summer 1944	711,509	3.46	3.46	5.50
Summer 1945	731,073	6.49	7.37	10.33
June 1946	732,868	9.43	12.46	15.01
March 1947	735,024	10.96	16.49	17.44
Av. 1941-47	697,997	5.18	6.53	8.24
Av. 1944-47	721,694	7.10	9.23	11.30

Finally, net contributions are converted into monetary estimates to compare them with British national income. For simplification, it is assumed that the labour force shares adjusted for productivity reflect productivity, i.e. one net worker produces one net unit of output. The POW labour shares translate into a contribution to agriculture of £35 to £55 million during 1945 and £51 to £81 million in 1946.²⁰ Using Feinstein's British GDP estimates at 1938 factor costs, POWs contributed 0.60 to 0.92 per cent to British GDP in 1946 through agriculture alone.²¹ Adding the building sector, for which monetary POW output figures exist for 1946,²² to POW output, yields a national income contribution of 0.76, 0.94 and 1.1 per cent. Using GDP in market instead of constant prices produces an only slightly lower range from 0.77 to 1.03 per cent. Physical values of output might reflect wartime contribution of POW labour more adequately, but in their absence, monetary values seem a plausible substitute. Also, the POW contribution is understated because several sectors with POW labour usage, e.g. brick, paper canned food and fertilizer industries, have been omitted.

²⁰ MAF, *ibid*

²¹ British GDP was £8,770m (1946). Feinstein, *National income, expenditure and output of the UK, 1855-1965*, (Cambridge, 1972), table 6.

²² German POWs contributed £16m to British building output in 1946. Fleming&Rowden, *Ministry of Works Statistics, 1941-56*, (London, 1980), p.533

Conclusion

Contrary to Davis's assertions, POWs were not a liability in British agriculture. Farmers initially saw POW labour with scepticism, but towards the end of the war and after it, their demand for them appeared insatiable. Crowding out did occur, but it was rare and happened because German POW productivity exceeded that of civilians. Productivity varied by region, POW type, period and depended on many other factors. Language difficulties, inexperience, and reluctance to work certainly reduced POW productivity. But Davis ignores the dynamics, scale and scope of POW labour. Prisoners became more skilled over time and language barriers fell. Post-war employment occurred on a much larger scale, average productivity was higher as Italians were replaced with more productive Germans, and costs in terms of guarding were lower.

New evidence shows that POWs were 47-75 per cent as productive as civilians and constituted 10 per cent of the British rural labour force 1941-1947. Adjusting for productivity, they seem to have contributed five to eight per cent to net rural output. Sensitivity analysis reveals that POWs contributed one per cent to British GDP in the rural and construction sectors in 1946. German and Italian POWs were substitutes in industries that civilians were reluctant to work in. Their work in the 'wheat fields' enabled the release of civilian workers to war-relevant industries. They filled a significant manpower gap in an industry that was notoriously short of labour and could be compelled to work while civilians and even de-mobilised farm workers were reluctant to do so.