Women’s pay in British industry during the Second World War

By IAN GAZELEY

This article reviews the evidence pertaining to changes in women’s relative pay during the Second World War and presents new evidence relating to important wartime manufacturing industries. It is argued that gender pay inequality declined sharply where women were employed in industries that had previously been dominated by men, but did not occur in industries that had traditionally been important areas of female employment. The explanation for this pattern probably lies in a combination of excess demand effects and institutional factors, both of which were strongest in wartime munitions industries. Because of the importance of these industries to the war economy, the behaviour of inequality in munitions dominates the behaviour of inequality across all industries. Nearly all existing scholarship acknowledges the impact of the Second World War on reducing the employment segregation of women, but simultaneously views the war as an unimportant episode in the history of gender pay inequality. This article shows how the transition from ‘female’ to ‘male’ work also led to a significant improvement in women’s relative pay.

The Second World War reduced considerably the extent of gender segregation of employment in Britain, and gender pay inequality declined sharply where women were employed in industries that had previously been dominated by men. Generally, this improvement in women’s relative pay did not occur in industries that had been important areas of female employment during the first decades of the twentieth century. Burgeoning female employment in munitions industries was accompanied by double figure percentage reductions in gender wage and earnings per hour pay ratios. Because of the importance of these industries to the war economy, the behaviour of inequality in munitions dominates the behaviour of inequality across all industries. As a consequence, the all-industry percentage reduction in gender pay inequality during the war is in the high single figures, despite the fact that in industries that had traditionally employed women, inequality changed little. These findings are in direct contrast to the conclusions of recent scholars who have investigated the behaviour of gender pay inequality during the war and concluded that there was little change.

At the time of the first wage census in 1906, women’s average earnings were a little over 40 per cent of men’s average earnings.¹ This inequality was due to women being paid less than the male rate for the job and because women were working in predominately low-wage sectors. Women’s average pay rose to about three-quarters of men’s average pay, following the introduction of

¹ Bowley, Wages and income, p. 51, tab. XI. Average earnings of women and girls compared with average earnings of men and boys.
anti-discrimination legislation in the early 1970s. Taking the perspective of the twentieth century as a whole, both wartime periods are regarded as important for changes in relative pay by grade, though they are not seen as being particularly important with respect to changes in women’s relative pay. Early post-Second World War studies of pay inequality were confined to an examination of the changes in the relative pay of unskilled and skilled men. Changes in the relative pay of women workers were addressed eventually, but not until much later and only for benchmark years that bracketed the war by a fairly wide margin.

For those women working in wartime industries, data are available from the official history which seem to indicate that women workers’ earnings made minimal advances during the war. Summary data on the average earnings of manual wage-earners in manufacturing during the war are given in Parker’s *Manpower* (1957). Between October 1938 and July 1945, the ratio of women’s average earnings to men’s average earnings increased from 0.47 to 0.52. These data were also published in the *Statistical digest of the war* (1951), which was recently reprinted as *Fighting with figures* (1995). Parker’s data are reproduced by Summerfield in *Women workers in the Second World War* (1984) and are the source for her influential conclusion that ‘women’s average industrial earnings rose at the most to 53 per cent of men’s during the war’.

Other evidence appears to confirm the war years as a period in which women made little progress with respect to pay equality. Summerfield cites evidence drawn from another official history, Inman’s *Labour in the munitions industries* (1957), relating to the women’s wage schedule, which she claims was ‘throughout the war, significantly lower than the male labourer’s rate. In May 1940 it was 35s. compared with the male minimum rate of 57s. and, though the women’s rate rose during the war to 56s. in 1944, it was still well behind the 75s. 6d. minimum now paid to men’. Smith reached similar conclusions based on an examination of earnings data originally collected for the *Report of the Royal Commission on Equal Pay, 1945–6*. He argued that ‘Even in the engineering industry, where considerable improvement might have been anticipated, the differential between the earnings of male and female workers declined surprisingly little: women’s earnings in 1938

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2 The 1970 Equal Pay Act made it illegal for women to be paid less than men for the same work and the 1975 Sex Discrimination Act made it illegal for women to be treated less favourably than men. The operation of the Sex Discrimination Act was overseen by the Equal Opportunities Commission. The average wage of women in full-time work rose to about 80% of the average wage of men in full-time work in 1996, but the relative pay of part-time women did not narrow nearly as much. The differences in the average pay of women and men are partly explained by the fact that women remain segregated in low wage industries (Bruley, *Women in Britain*, pp. 163–4).

3 Knowles and Robertson, ‘Wages of skilled and unskilled workers’, tab. 1, p. 111, calculated wage-rate skill differentials for shipbuilding, engineering, building, railway workers, and the police. Throughout the 1950s, Knowles and various co-authors also investigated changes in earnings differentials for men in craft industries, although this later research is less often cited. See Knowles and Robertson, ‘Earnings in shipbuilding’ and Knowles and Hill, ‘Structure of engineering earnings’.

4 Routh, *Occupation and pay*.

5 ‘Official history’ refers to any of the volumes in the *History of the Second World War*, published by HMSO during the 1950s and early 1960s. These official histories are further divided into Civil Histories and Military Histories. From the Civil series, the official histories that I refer to are: Parker, *Manpower*; Inman, *Labour*; Hancock, *British war economy*; Postan, *British war production*.

6 Parker, *Manpower*, tab. XIV, p. 503, calculated from column III/column I.


were 44.4 per cent of men’s, and by 1944 had risen only to 50.5 per cent of men’s earnings’. In short, a substantive body of evidence appears to point to the exclusion of women workers from the wartime trend of narrowing differential during the Second World War.

This article seeks to challenge this orthodoxy. Section I reviews the nature and extent of the mobilization of women during the war. Section II re-examines the earnings data for a wide range of manufacturing and service industries, first utilized by Parker in his official history, and argues that because hours worked varied significantly between men and women, the appropriate measure of gender pay inequality is earnings per hour. This section also reports new evidence on wage rates by occupation in the key munitions industries that experienced large increases in female employment during the war (engineering, motor vehicles, cycles and aircraft, and chemical industries). The behaviour of indices of women’s relative pay based upon minimum wage rates or earnings per hour differ from those based on Parker’s earnings data and show a significant narrowing in gender pay inequality. Section III investigates the way in which gender pay inequality varied by industry and examines the relationship between changes in employment and changes in inequality. The data reveal a strong positive correlation between increases in female employment shares by industry and the narrowing of pay inequality. It is argued that improvements in women’s relative pay were the result of a severe and sustained excess demand for labour in munitions industries. Section IV discusses these findings in the context of the changing volume and pattern of trade union membership during the war. The growth in wartime trade unionism was particularly strong among women workers and most of this increase was concentrated in industries which hitherto had low levels of female unionization. There was a parallelism in the outcome of trade union wage bargaining, despite the differing objectives of general and craft unions. The former sought grading on the basis of skill, irrespective of gender, and the latter sought to improve the rate for the job to avoid the undercutting of the skilled male rate by (temporary) women workers. Both bargaining positions tended to increase the relative pay of women workers.

I

The Second World War led to a labour shortage of immense proportions. Women were the obvious reserve of non-combatant labour, either by transfer from industries not considered essential for the war effort or from inactivity. They were encouraged, and then coerced, into industry and into the Auxiliary Services in ever-increasing numbers between 1940 and 1943. Not surprisingly, mobilization led to important changes in the composition of the workforce. In the case of the industries surveyed by the Ministry of Labour, the proportion of adult men in the workforce remained surprisingly stable. Men accounted for 60 per cent of the workforce in January 1945, compared with 61.5 per cent in October 1938. In comparison, the adult women’s share of the workforce increased from 19.75 per cent to 27 per cent between the same dates. The balance was accounted for by a

declining proportion of young workers. Boys declined from 12 per cent to 8.5 per cent and girls from 6.75 per cent to 4.25 per cent.\footnote{11}

The transformation of the economy from peacetime to wartime involved the state facilitating a movement of workers into munitions and other essential industries and increasing the supply of labour from the pool of workers who were outside the labour force. The expansion of munitions production relied upon a transformation of the production process, which involved breaking down formerly skilled work into more numerous semi-skilled and unskilled tasks. The Ministry of Labour secured a dilution agreement in the engineering industry between the Engineering and Employers’ National Federation (EEF) and Amalgamated Engineering Union (AEU) just before war was declared, in August 1939. This Temporary Relaxation of Customs agreement, which allowed for the upgrading of workers and the use of semi-skilled workers to assist skilled workers, only related to men and was not followed promptly by similar agreements in other industries.\footnote{12}

Eventually, in May 1940, two separate (but almost identical) dilution agreements for women workers were made: one between the EEF and the general unions (TGWU and NUGMW) and the other between the EEF and the AEU.\footnote{13}

The first clause of these dilution agreements specified that women ‘drafted into industry... shall be regarded as temporarily employed’.\footnote{14} Women who were employed on work ‘hitherto performed by adult male labour’ were subject to a probationary period of 32 weeks (during which time women were paid on an increasing scale). After the 32 weeks women dilutees were paid the same basic rate and bonus as men, if they could do the same work without supervision. On the other hand, when women were employed in factories that had previously employed women, they were to be paid on the Women’s Wage Schedule or the district rate for youths and boys (whichever was the higher). Disputes arose over the interpretation of the key provisions of this dilution agreement; specifically relating to the definitions of what constituted ‘without supervision’ and ‘previously employed’.\footnote{15}

In August 1940, the Manpower Requirements Committee, chaired by William Beveridge, instigated an enquiry that reported in December 1940. Beveridge placed great emphasis on the need for extensive skill dilution, the necessity of recruiting women workers, and the problems arising from the need for labour transference between regions.\footnote{16} One of the key features of the dilution agreements

\footnote{11} Nicholson, ‘Earnings, hours, and mobility’, p. 148. This would suggest, overall, that women workers were substituted for juveniles, as the proportion of male workers does not decline markedly. Nicholson offers no explanation for the apparent stability in the proportion of men employed.

\footnote{12} Postan, \textit{British war production}, p. 99 and Inman, \textit{Labour}, p. 3. Further agreement was reached at the beginning of September, confirming that the August agreement would operate in wartime.


\footnote{14} PRO Lab10/109, Memorandum of Agreement between the Engineering and Allied Employers’ Federation and the Amalgamated Engineering Union and Memorandum of Agreement between the Engineering and Allied Employers’ Federation Transport and General Workers’ Union and the National Union of General and Municipal Workers, May 1940.

\footnote{15} Inman, \textit{Labour}, p. 59.

of 1939 and 1940 was that they were intended to lead to a general reduction in the proportion of workers who were paid the skilled rate, as formerly skilled tasks were broken down into several less skilled ones. The committee hoped that the percentage of labour paid at the skilled rate could be reduced from 37 per cent in June 1940 to 28 per cent by August 1941.17

In the first year of the war, there was no perceived need for any measures to augment the supply of female labour. At the end of 1940, there was a realization for the first time that production requirements and armed forces expansion required the mobilization of womanpower on a significantly greater scale than occurred during the First World War. To increase and direct the supply of labour, a series of further measures were taken.18 In February 1941, Essential Works Orders were introduced. Under this amendment to Defence Regulation 58A of May 1940 (which empowered the Minister of Labour to direct any person to perform any task which s/he was capable of), employers were unable to fire workers, except for reason of serious misconduct, and employees were unable to quit without the agreement of a National Service Officer. This was designed to reduce labour turnover and affected 4.5 million people by the end of 1941.19 In March 1941, the Registration for Employment Order required workers not covered by the National Service Act to register for civilian employment. In practice, its operation was restricted mainly to women, although it also affected some men over the combatant age of 41 years who were unemployed, in part-time work, or working outside reserved occupations.20 By December 1941, men aged between 41 and 46 and women aged between 20 and 30 had been registered and subsequent age cohorts were registered thereafter.

In response to shortfalls of women volunteers to the Auxiliary Services and the urgent need for more labour in munitions industries, the National Service (No. 2) Act introduced conscription for unmarried women and childless widows aged 20 to 30 years in December 1941.21 Women could choose between the Auxiliary Services, industry, and civil defence.22 Women in the Auxiliary Services tended to perform tasks consistent with the prevailing gender division of labour. It was only men who were allowed fully combatant roles.23 The policy of relying on women volunteering had largely failed, and despite the War Cabinet’s serious misgivings, Britain became the first combatant nation to conscript women.24 Industrial conscription was also seen as a possible solution to the problem of mismatch between the supply of women to industry and the location of munitions factories. Essentially, this involved transferring labour from Scotland, Wales, and northern counties to the midland regions of England.

The extent of direction exercised by the Ministry of Labour was further increased in January 1942 with the Employment of Women (Control of

18 See Smith, ‘Womanpower problem’.
19 Parker, Manpower, p. 137.
20 Ibid., p. 144.
21 Women’s Auxiliary Air Force (WAAF), Women’s Royal Naval Service (WREN), and Auxiliary Territorial Service (ATS).
22 By mid-1943, the need for expansion of the women’s Auxiliary Services had receded and no registrations were taken under the National Service (No. 2) Act from July until the end of 1943. Parker, Manpower, p. 290.
24 Calder, People’s war, pp. 267–8.
Engagement) Order, which required all women between 20 and 30 years, except those with children under 14 years, to obtain their employment through an employment exchange. From this date, all men between the ages of 18 and 60 and most women aged 20–30 were required to undertake some form of National Service. Subsequently, older women were registered for civilian employment during 1942 and 1943.

Despite the measures to increase the labour supply, the Ministry of Labour’s first proper Manpower Survey, in July 1941, revealed a significant shortfall. The total number in munitions and the forces was roughly 8 million, rather than the 9.5 million that had been forecast. In addition, it was thought that another 1.5 million people would be needed for the armed forces in 1942, plus 775,000 for munitions and essential services. Thus, Britain was entering a period of acute ‘labour famine’ even before the geographic scale of the conflict was drastically enlarged by the outbreak of war in the Pacific in December 1941. Further attempts to expand the supply of workers were made during 1942 as the register for civilian employment was enlarged to include successively older age cohorts, and the age of male conscription was increased to 51. But many women in the older age cohorts had children under 14 years old and were not, therefore, available for work. In April 1942, 19-year-old women were registered, providing a supply of young, potentially more mobile workers. In April 1943, direction was extended to part-time workers under the Control of Engagement (Directed Persons) Order. By September 1943, about 7.25 million women were engaged in National Service of one type or another.

These measures were not enough, however, to meet the demands of war. Gradually, as plans for the second front developed, based on an Allied invasion of France, the labour requirements of the armed forces were given precedence over those of munitions industries. Although by the middle of 1942, the size of the armed forces had reached the ceiling agreed in the 1941 manpower budget, the change in the nature of the war meant that this limit was too low, and a number of increases were approved prior to the 1942 Manpower Survey. The limitations of effective labour supply had been foreseen for some time, but the Ministry of Labour’s manpower budget of October 1942 (covering the period June 1942–June 1943) suggested that, at best, the ‘gap between supply and demand still remained perilously near the million figure’. The autumn 1943 Manpower Survey revealed further huge shortfalls between labour supply and demand for 1944. This led to further cuts in the supply programmes, as the build-up in the armed forces for D-Day had to be accommodated. The workforce in munitions was cut, especially in aircraft production, and resources were transferred from the navy and air force to the army.

A number of salient facts emerge from this brief institutional history of the mobilization of women in Britain during the Second World War. Mobilization

involved increasing the supply of women workers who were outside the labour force and directing those already employed into sectors in which previously employment had been dominated by men. Mobilization was achieved by a blend of cooperative and coercive strategies. Skill dilution was central to the success of the project, which took time to organize, but gathered pace in 1941, accelerating until the peak of industrial mobilization was reached in 1943. From mid-1943 to 1945, there was gradual net transfer of resources from industry to the armed forces. From about the spring of 1940, the economy was perpetually in a state of excess labour demand, but, crucially, this was concentrated in particular sectors and the resultant upward pressure on women’s wages varied greatly between industries.

II

Comprehensive data on earnings and hours worked in much of the manufacturing sector are available in the Ministry of Labour’s Earnings and Hours Enquiries. For the period 1938–48, it is possible to calculate women’s relative earnings and women’s relative earnings per hour; at both an aggregate level and for specific industries that were important employers of wartime female labour. The original data from these wartime surveys no longer exist, so any analysis is constrained by the nature of the reporting of the results of these enquiries published in the Ministry of Labour Gazette.

The Board of Trade conducted the first wage census in Britain in 1886. This was followed by a further enquiry by the Labour Department in 1906.31 After the First World War, the Ministry of Labour undertook a number of surveys of earnings and hours, typically in conjunction with the Census of Production or for the purposes of comparison with previous surveys. There were five enquiries conducted in the interwar period (October 1924, October 1928, October 1931, October 1935, and October 1938), the results of which are published in the Gazette, under the title ‘Average earnings and hours enquiries’, although information on hours worked was not collected until 1938.32 This enquiry was followed by annual enquiries in July 1940 and 1941 and biannual enquiries (in January and July) between 1942 and 1945. In 1946, there were three enquiries (January, July, and October) before a spring/autumn (April/October) temporal pattern of enquiry was established in 1947.33 The October 1948 enquiry was the first to use a revised industrial classification, which makes comparison with previous enquiries problematic. All the enquiries were restricted to one week in the month of the enquiry, and none of the wartime enquiries prior to July 1943 collected data on hours worked. These enquiries excluded agriculture, coal mining, domestic service, and other important tertiary sectors.34 These surveys were the original source for the data given in Parker’s official history and cited subsequently in secondary texts.

31 See Bowley, Wages and income, pp. 100–6, for a full discussion.
33 The 1946 July survey is extremely limited in both scope and size, however. The enquiry was based on only 10,000 firms (all firms with more than 200 workers, plus 10% of firms with less than 200 workers). The report only provides average earnings for all workers and there is no data on hours worked.
34 See Bowley, Wages and income, 1937, app. A for full details.

From table 1 it can be seen that in all industries covered by the Ministry of Labour enquiries, men’s average earnings increased by about 75 per cent between October 1938 and July 1945, while women’s increased by about 94 per cent.35 For both men and women, most of the increase in weekly earnings occurred before July 1943.36 In July 1945, average adult male earnings were roughly equivalent to what they had been two years earlier.

Hours worked also changed during the war. In comparison with 1938, the average time worked by adult males had increased by over five hours per week by 1943. Over the same period, the increase in hours for women workers was significantly less, at fewer than three hours per week. The difference in hours worked for adults is partly explained by the fact that theoretically women’s maximum hours were still regulated, even though regulation had been relaxed early in the war. Moreover women typically retained sole responsibility for the family and domestic household chores, both of which had to be combined with full-time work.37 Even in the absence of young children, the challenge involved in combining paid work with time-consuming household tasks, such as shopping for rationed goods, acted to limit women’s labour supply.38

From July 1943, hours worked fell for all groups, with average hours worked in July 1945 significantly less than had been the case two years earlier, but, for adult men, still in excess of prewar hours. By April 1947, hours worked for all classes of

### Table 1. Industrial earnings, earnings per hour, and women’s relative pay (earnings in shillings per week)

<table>
<thead>
<tr>
<th></th>
<th>All industries</th>
<th>Women’s earnings per hour</th>
<th>Men’s earnings per hour</th>
<th>Women’s earnings hours</th>
<th>Men’s hours</th>
<th>Women’s relative earnings</th>
<th>Men’s relative earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938/10</td>
<td>32.5</td>
<td>43.2</td>
<td>0.75</td>
<td>69</td>
<td>47.7</td>
<td>1.45</td>
<td>0.47</td>
</tr>
<tr>
<td>1943/7</td>
<td>62.17</td>
<td>45.9</td>
<td>1.35</td>
<td>121.25</td>
<td>52.9</td>
<td>2.29</td>
<td>0.51</td>
</tr>
<tr>
<td>1945/7</td>
<td>63.17</td>
<td>43.3</td>
<td>1.46</td>
<td>121.33</td>
<td>49.7</td>
<td>2.44</td>
<td>0.52</td>
</tr>
<tr>
<td>1947/10</td>
<td>69.58</td>
<td>41.5</td>
<td>1.68</td>
<td>128.08</td>
<td>46.6</td>
<td>2.75</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Notes and sources: Ministry of Labour Earnings and Hours Enquiries, published in the Ministry of Labour Gazette. The results of the Oct. 1938 enquiry were not released until the middle of the war. The enquiry report for Jan. 1943, published in the Gazette in June 1943, provides details of hours worked in Oct. 1938 and the report on the July 1943 enquiry, published in the Gazette in Feb. 1944, gives figures for the percentage increase in earnings since Oct. 1938. The Jan. 1944 inquiry, published in the Gazette in Aug. 1944, provides earnings figures (s/week) for the last week in Oct. 1938. The results of the July 1943 were published in the Gazette in Feb. 1944, the July 1945 enquiry was published in Feb. 1946, and the Oct. 1947 enquiry was published in the Gazette in April 1948. Gender earnings pay ratio calculated as columns 2 and 5 and gender earnings per hour pay ratio calculated by the author as columns 4 and 7. ‘Men’ refers to males over 21 years of age and ‘women’ to females over 18 years of age.

35 Calculated from Howlett, Fighting with figures, tab. 12.3, p. 236.
36 Average percentage increases varied from less than 40% to over 80% for men and between 50% and 100% for women. For all industries, the average increase for men was 76%, and 91% for women. Women’s earnings increased more than men’s on average, partly because of an increase in the number of women working in munitions, where earnings increased fastest. Ministry of Labour Gazette, Feb. 1944, p. 27.
37 Report on hours and employment of women and young persons; Ministry of Labour, ‘Report on hours and employment of women and young persons’, Gazette (March 1940). The Factories Act also fixed the maximum working week for women at 48 hours (from 1 July 1938). In the early months of the war, these conditions could be relaxed by Order (issued by the Home Office). In the case of women workers over 16 years of age, most Orders allowed for a working week of 57 hours. Ministry of Labour Gazette, March 1940, p. 77.
38 Summerfield, Women workers, pp. 123–47.
worker were less than they had been in October 1938, reflecting in part the postwar reduction in the length of a normal working week, from about 47 or 48 hours to about 44 hours.\footnote{For a full analysis of the importance of changes in hours and wage rates to the increase in earnings during the war, see Nicholson, ‘Earnings, hours, and mobility’, pp. 146–68.}

Average earnings per hour for both adult men and women grew continually through the 1940s, although the most pronounced increase occurred in the first few years of the war. As hours worked began to fall after 1942 or 1943, modest weekly earnings growth was maintained by increases in earnings per hour. Because on average women worked fewer hours than men during the war, the appropriate measure of pay inequality is earnings per hour, rather than weekly earnings.

Table 1 reports women’s relative pay by industry on the basis of both earnings and earnings per hour data. Between 1938 and 1945, women’s average relative weekly earnings (column 8) narrow from 0.47 to 0.52, confirming Summerfield’s conclusion that there was little change during the war. Women’s relative earnings per hour (reported in column 9) narrow more than do weekly. Across all industries covered by the Ministry of Labour enquiries, in October 1938 women’s average earnings per hour were just over half those of adult men. By July 1945, women’s relative earnings per hour had increased, so that the average earnings per hour of all adult women were 60 per cent of the average of all men.

However, this narrowing in women’s relative pay was not universal across all industries during the war. The published results of the Ministry of Labour enquiries also provide disaggregated earnings and hours worked data for 16 industrial groups. Table 2 reports women’s average relative earnings per hour for the industrial groups covered by the Ministry of Labour enquiries, 1938–47, where women’s earnings are recorded.\footnote{The published reports do not include details of women’s earnings in mining or construction.} It shows that there was a large variance in the change in gender pay inequality by industry. In clothing, for example, women’s relative earnings per hour did not change at all between 1938 and 1945, whereas at the other extreme, in the transport and storage industries, it narrowed by 27 percentage points over the same period.

Based on these earnings per hour data, the gap between men and women’s pay narrowed considerably in metals, chemicals, and woodworking during the war. The reduction in pay inequality in munitions was primarily the result of a significant relative improvement in adult women’s minimum rates of pay under the Women’s Wage Schedule. Table 3 reports pay ratios for engineering, vehicle building, and chemicals between 1938 and 1947, based on year averages of monthly time-rates of wages data. It shows that in engineering and vehicle building, the improvement in women’s relative wages was about 20 and 24 percentage points respectively. In heavy and fine chemicals, the extent of the relative improvement was less, at around 10 and 13 percentage points. The proximate cause of this levelling in pay was the granting of flat-rate increases in wages in the form of National Bonuses. These bonuses were linked loosely to the change in consumer (or output) prices and because price inflation was greatest in the early years of the war, most of the improvement in women’s relative wages occurred before 1943. The narrowing in gender pay inequality was greater for minimum wage-rate measures than...
in earnings per hour measures because men, and particularly skilled men, were able to offset partially the reduction in wage-rate differentials through preferential access to various forms of supplementary payment that enhanced their earnings.41

41 See Gazeley, 'Levelling of pay', for a full discussion and for sources of wage-rate data used to compute gender pay ratios reported in tab. 3, p. 182.
Because women were typically paid less than men, and in the early part of the war substantially less, it was generally in the employers’ interest to classify as many women as possible as being engaged on ‘women’s work’, irrespective of whether they were replacing adult male labour or whether the skill level of the work on which they were engaged justified the ‘men’s rate’. The precise extent to which women dilutees were subject to skill segregation is not known, but according to Inman, ‘it can be said that many were employed as semi-skilled workers and only a very small proportion in the highly skilled grades’.42 Inman maintains that the numbers of women employed in the engineering industry, in skilled and semi-skilled categories, increased from 75 per cent in June 1940 to about 85 per cent between 1942 and 1944, while the corresponding percentages for men were 81 per cent in 1940 increasing to 86–7 per cent at the later date.43 No official figures exist for the numbers of women employed at the men’s rate, but the best estimate by Inman is that, in September 1942, 75 per cent of women in engineering were on the women’s schedule.44 Croucher argues that engineering employers implemented the May 1940 dilution agreement with ‘utter rigidity’, while ‘protesting their innocence in public’. Government departments behaved little better. The Air Ministry insisted that women mechanics had to demonstrate that they could do the job without supervision before being granted the men’s rate (the onus was normally on the employer to show that women needed assistance). Accordingly, very few women were granted the men’s rate, despite the increasing number of applicants during 1943–4.45

III

To understand the mechanisms responsible for the wartime changes in women’s relative pay, it is necessary to place women’s mobilization in the context of the historic pattern of female paid work. At the beginning of the twentieth century, women’s employment was concentrated in a small number of sectors. In 1921, more than seven out of every 10 women were occupied in one of five industrial groups: personal services; commercial, financial, and insurance occupations; clerks, typists, etc; and textiles, textile goods, and clothing.46 Outside these industries, the number of women employed in traditional male sectors, such as metal manufacture, machines and vehicles building, etc. remained very low. It is clear that women’s war work reduced the extent of industrial segregation, as large numbers of women entered industries that had been the preserve of men. This process was consistent with continued segregation on the basis of skill, as women entering the male sphere were directed to low-skill work. Table 4

42 Inman, *Labour*, p. 80. This seems to be the basis for most secondary interpretations that stress the extent to which the war did not reduce skill segregation by gender.
43 Ibid., pp. 78–9.
44 Ibid., p. 354.
45 Croucher, *Engineers at war*, pp. 279–81. Of course, it is not possible to argue that women were both segregated into unskilled, repetitious work and that large numbers of women were engaged in skilled work, but denied the men’s rate.
46 See Gazeley, ‘Work and pay’, tab. 3.3, p. 60. The exact figure is 71.8%.
Table 4. Total employment, female employment, and female employment share in selected industries, 1939–45 (thousands)

<table>
<thead>
<tr>
<th>Industry</th>
<th>June 1939 total (000)</th>
<th>June 1943 total (000)</th>
<th>June 1945 total (000)</th>
<th>June 1939 female (000)</th>
<th>June 1943 female (000)</th>
<th>June 1945 female (000)</th>
<th>June 1939 female share</th>
<th>June 1943 female share</th>
<th>June 1945 female share</th>
<th>Wartime change in female share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pottery, glass</td>
<td>97.6</td>
<td>61.1</td>
<td>64.7</td>
<td>45.1</td>
<td>32.5</td>
<td>34.5</td>
<td>0.462</td>
<td>0.532</td>
<td>0.533</td>
<td>0.071</td>
</tr>
<tr>
<td>Chemicals, paint, oil, etc.</td>
<td>284.4</td>
<td>565.3</td>
<td>438.1</td>
<td>73.9</td>
<td>292.4</td>
<td>197.7</td>
<td>0.260</td>
<td>0.517</td>
<td>0.451</td>
<td>0.191</td>
</tr>
<tr>
<td>Metals, engineering</td>
<td>2,572</td>
<td>4,314.1</td>
<td>3,575.9</td>
<td>424.2</td>
<td>1,601.8</td>
<td>1,228.5</td>
<td>0.165</td>
<td>0.371</td>
<td>0.344</td>
<td>0.179</td>
</tr>
<tr>
<td>Textiles</td>
<td>987.9</td>
<td>654.1</td>
<td>619.2</td>
<td>599.6</td>
<td>434.3</td>
<td>408.9</td>
<td>0.607</td>
<td>0.664</td>
<td>0.660</td>
<td>0.053</td>
</tr>
<tr>
<td>Leather, fur, etc.</td>
<td>73</td>
<td>53.3</td>
<td>51.6</td>
<td>27.9</td>
<td>25.1</td>
<td>24</td>
<td>0.382</td>
<td>0.471</td>
<td>0.465</td>
<td>0.083</td>
</tr>
<tr>
<td>Clothing</td>
<td>492.7</td>
<td>342.2</td>
<td>332.8</td>
<td>326.5</td>
<td>244.6</td>
<td>236.3</td>
<td>0.663</td>
<td>0.715</td>
<td>0.710</td>
<td>0.047</td>
</tr>
<tr>
<td>Food, drink, tobacco</td>
<td>654</td>
<td>631</td>
<td>621</td>
<td>263</td>
<td>357</td>
<td>345</td>
<td>0.402</td>
<td>0.566</td>
<td>0.556</td>
<td>0.153</td>
</tr>
<tr>
<td>Woodworking</td>
<td>240</td>
<td>180.4</td>
<td>187.3</td>
<td>38.5</td>
<td>60.4</td>
<td>63.9</td>
<td>0.160</td>
<td>0.335</td>
<td>0.341</td>
<td>0.181</td>
</tr>
<tr>
<td>Paper, printing, stationery</td>
<td>456.4</td>
<td>262.8</td>
<td>271.6</td>
<td>177.8</td>
<td>124.8</td>
<td>129.2</td>
<td>0.390</td>
<td>0.475</td>
<td>0.476</td>
<td>0.086</td>
</tr>
<tr>
<td>Public utility services</td>
<td>242</td>
<td>200</td>
<td>196</td>
<td>17</td>
<td>33</td>
<td>31</td>
<td>0.070</td>
<td>0.165</td>
<td>0.158</td>
<td>0.088</td>
</tr>
</tbody>
</table>

Source: Statistical digest of the war, tabs. 20–8, pp. 18–27; Parker, Manpower, pp. 481–2. It is not possible, from these sources, to calculate numbers employed in all the industries reported in tab. 2 (including treatment of non-metallic quarry products, transport and storage, public utility services, government industrial establishments, and miscellaneous manufacturing).
shows that there was a reduction in the numbers of females employed in industries not essential for the war effort. For example, the number of women in textiles and clothing fell by 190,000 and 90,000 respectively between 1939 and 1945. At the same time, female employment in munitions industries expanded dramatically. Metals and chemicals accounted for just fewer than 927,000 extra female workers between the same dates.47

The vast majority of women wartime workers in metals were concentrated in aircraft production, although large numbers also worked in light engineering. In aircraft manufacture, the proportion of women workers rose from 7 per cent in 1935 to 40 per cent in 1944, and at its peak represented three-quarters of a million women.48 Prior to conscription, there had been only a small increase in the proportion of the labour force that was female in munitions industries. In the summer of 1939, the proportion of women in metal manufacture was about 16 per cent and had increased to just under 18 per cent a year later, and to about 24 per cent in July 1941. From this point, the pace of women’s mobilization quickened: by July 1942, women accounted for nearly a third of all workers in metal industries (about 32 per cent), and in 1943 and 1944 just over a third (35 per cent), before declining somewhat in 1945.49 Only a minority of women war workers had little or no previous work experience, but equally, only a similar sized minority had previous work experience in metal industries. A 1943 government survey found that a quarter had come from school or home, a quarter had previously worked in the industry, and the other half came from other industries.50

Given the limitations of the earnings enquiry data reported in the Gazette, it is not possible to estimate empirically the relationship between the wage and a set of observable characteristics by industry (typically, age, work experience, education, etc.).51 Nevertheless, the unequal pattern of changing gender pay inequality by industry raises obvious questions about the characteristics of industries where pay inequality narrowed by more than the average amount and vice versa, and the probable causes of differential narrowing.

Table 4 reports women’s employment and share of total employment for the majority of industrial groups tabulated in tables 1 and 2.52 It is noticeable that although female employment fell between June 1939 and June 1945 in pottery and glass, textiles, leather and fur, clothing, and paper printing and stationery, the share of female employment in all industries increased across the duration of the

47 There were just fewer than 1.4 million extra female workers at the peak of mobilization, if 1939 is compared with 1943.
48 Jeffreys, Story of the engineers, p. 214.
49 Derived from Parker, Manpower, pp. 481–2. Note that the equivalence scale for part-time workers is 2:1 in these calculations. The number of part-time workers was insignificant until 1942 when the number was 0.38 million, rising to 0.75 million in 1943 and 0.9 million in 1944 and 1945. Wrigley, History, tab. 1.2, p. 14.
50 Cited in Croucher, Engineers at war, p. 253.
51 As a consequence, it is not possible to perform a standard Oaxaca decomposition of the gap between male and female wages into explained (due to differing characteristics) and unexplained components. Oaxaca, ‘Male–female wage differentials’, p. 14. For the use of this technique with respect to explaining components of the gender wage gap on contemporary data, see Harkness, ‘Gender earnings gap’, p. 17.
52 The temporal coverage is slightly different from the gender pay inequality data presented in tabs. 1 and 2, and the employment data relate to female workers and not just adult women, but otherwise the employment data in tab. 4 is fairly consistent with the earnings data used in tab. 2.
Using shift-share analysis, it is possible to decompose the increase in female employment into its component parts, that is (1) changes in total employment in the industry (holding the share of women employed constant); (2) changes in the proportion of women employed (holding total employment constant); and (3) the interaction between these two effects. In table 5, these are termed ‘growth’, ‘share’, and ‘interaction’ effects. The share effect is always positive and the growth and interaction effects are generally negative. Only in the munitions sectors of chemicals and metals are the growth and interaction effects positive, reflecting the substantial wartime expansion of these sectors. In chemicals and metals, the share effect accounts for respectively about one-third and one-half of the increase in female employment in the period 1939–45.

As figure 1 shows, there is a clear relationship between changes in the share of female employment and changes in gender pay inequality. The correlation between changes in female employment share and changes in the gender pay ratio is 0.835 and is significant at the 1 per cent level, although, of course, this tells us nothing about causation. The narrowing in gender pay inequality was greatest in precisely those industries in which the share of female employment in total employment increased the most during the war. This was mainly in munitions industries (metals, chemicals, and wood-working) and those industries that were key for the war effort (food and drink). Gender pay inequality narrowed significantly less in industries in which the share of female employment increased modestly during the war (textiles, clothing, leather and fur, and pottery and glass). Indeed, for the most part, these were industries in which total employment and female employment fell substantially (see table 5).

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### Table 5. Decomposing changes in female employment by industry

<table>
<thead>
<tr>
<th>Industry</th>
<th>June 1939 (000)</th>
<th>June 1945 (000)</th>
<th>Wartime change in female employment (000)</th>
<th>Growth (000)</th>
<th>Share (000)</th>
<th>Interaction (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pottery, glass</td>
<td>45.1</td>
<td>34.5</td>
<td>-10.6</td>
<td>-15.203</td>
<td>6.943</td>
<td>-2.34051</td>
</tr>
<tr>
<td>Chemicals, paint, oil, etc.</td>
<td>73.9</td>
<td>197.7</td>
<td>123.8</td>
<td>39.938</td>
<td>54.440</td>
<td>29.42149</td>
</tr>
<tr>
<td>Metals, engineering</td>
<td>424.2</td>
<td>1,228.5</td>
<td>804.3</td>
<td>165.573</td>
<td>459.410</td>
<td>179.3163</td>
</tr>
<tr>
<td>Textiles</td>
<td>599.6</td>
<td>408.9</td>
<td>-190.7</td>
<td>-223.780</td>
<td>52.778</td>
<td>-19.6975</td>
</tr>
<tr>
<td>Leather, fur, etc.</td>
<td>27.9</td>
<td>24</td>
<td>-3.9</td>
<td>-8.179</td>
<td>6.053</td>
<td>-1.77458</td>
</tr>
<tr>
<td>Clothing</td>
<td>326.5</td>
<td>236.3</td>
<td>-90.2</td>
<td>-105.962</td>
<td>23.335</td>
<td>-7.57302</td>
</tr>
<tr>
<td>Food, drink, tobacco</td>
<td>263</td>
<td>345</td>
<td>82</td>
<td>-13.271</td>
<td>100.333</td>
<td>-5.06269</td>
</tr>
<tr>
<td>Woodworking</td>
<td>38.5</td>
<td>63.9</td>
<td>25.4</td>
<td>-8.454</td>
<td>43.379</td>
<td>-9.52538</td>
</tr>
<tr>
<td>Paper, printing, stationery</td>
<td>177.8</td>
<td>129.2</td>
<td>-48.6</td>
<td>-71.993</td>
<td>39.309</td>
<td>-15.9166</td>
</tr>
<tr>
<td>Public utility services</td>
<td>17</td>
<td>31</td>
<td>14</td>
<td>-3.231</td>
<td>21.276</td>
<td>-4.04411</td>
</tr>
<tr>
<td>Total</td>
<td>1,993.5</td>
<td>2,699</td>
<td>705.5</td>
<td>-244.561</td>
<td>807.257</td>
<td>142.804</td>
</tr>
</tbody>
</table>

**Notes and sources:** Employment data as tab. 4. Following Rubery, ed., *Women in recession*, app. 2, p. 2, $F_{t}$ is women’s employment in year $t$; $T_{t}$ is total employment in industry $i$ in year $t$, and $p_{i}$ is the proportion of women employed in industry $i$ in year $t$, then $F_{t} = \sum p_{i} T_{t}$.  
Growth effect = $\Delta F_{t} = F_{t} - F_{t-1} = \sum (T_{t} - T_{t-1}) p_{i}$  
Share effect = $\sum (p_{i} - p_{i-1}) T_{t}$  
Interaction effect = $\sum (p_{i} - p_{i-1}) (T_{t} - T_{t-1})$  

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53 See Humphries, ‘Women’s employment’, p. 29. This exercise accounts for changes in relative pay rather than explaining them.
The industries that experienced the largest increase in female employment share between June 1939 and June 1945 (column 10) were often ones in which women had accounted for a relatively low proportion of total employment before the war, namely chemicals, metals, and woodworking. Conversely, the female employment share in some industries that had had a relatively high proportion of women workers before the war, such as pottery and glass, and textiles and clothing, increased hardly at all during the war. The overall correlation between the change in wartime pay ratio and women’s initial employment share in the industry (taking 1938 as the base) is −0.532, but it is insignificant at the 10 per cent level on this small sample.

We can further explore the relationship between changes in women’s relative pay during the war and changes in employment and average pay by industry with a simple regression analysis. In table 6, both OLS regressions have the change in the gender pay ratio as the dependent variable. Change in female employment share is

---

**Figure 1. Gender pay and employment, 1938–1945**

**Table 6. Changes in women’s relative pay, employment, and average industry wage, 1939–45**

<table>
<thead>
<tr>
<th>Dependent variable: change in Wf/Wm</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in female employment share</td>
<td>0.51 (2.8)</td>
<td>0.56 (3.0)</td>
</tr>
<tr>
<td>Change in average industry wage</td>
<td>0.06 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Change in total industry employment</td>
<td></td>
<td>0.00 (0.3)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.715</td>
<td>0.701</td>
</tr>
<tr>
<td>SE</td>
<td>0.024</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Notes and sources: Derived from the following OLS regressions for the 10 industries given in tab. 4.

1. $\Delta W_f/W_m = \alpha + \beta_1 \Delta \text{FES} + \beta_2 \Delta \text{WAV} + \varepsilon$
2. $\Delta W_f/W_m = \delta + \gamma_1 \Delta \text{FES} + \gamma_2 \Delta \text{TOTEMP} + \varepsilon$

where $\Delta W_f/W_m$ is the change in gender pay inequality, $\Delta \text{FES}$ is the change in female employment share, $\Delta \text{WAV}$ is the change in average industry wage (earnings per hour), $\Delta \text{TOTEMP}$ is the change in total employment in the industry, and $\varepsilon$ is an error term. T-statistics are given in parentheses.

The industries that experienced the largest increase in female employment share between June 1939 and June 1945 (column 10) were often ones in which women had accounted for a relatively low proportion of total employment before the war, namely chemicals, metals, and woodworking. Conversely, the female employment share in some industries that had had a relatively high proportion of women workers before the war, such as pottery and glass, and textiles and clothing, increased hardly at all during the war. The overall correlation between the change in wartime pay ratio and women’s initial employment share in the industry (taking 1938 as the base) is −0.532, but it is insignificant at the 10 per cent level on this small sample.

We can further explore the relationship between changes in women’s relative pay during the war and changes in employment and average pay by industry with a simple regression analysis. In table 6, both OLS regressions have the change in the gender pay ratio as the dependent variable. Change in female employment share is

---

54 See Glucksmann, Women assemble, pp. 50–5.
a significant explanatory variable with a coefficient of about 0.5 in both regressions. These regression coefficients indicate that neither changes in the average industry wage nor changes in total employment are significant for explaining changes in the gender wage ratio. Both have coefficients near to zero, having controlled for female employment share.

These empirical results demonstrate that women workers’ ability to secure preferment depended upon whether the industries in which they were employed were crucial to the war effort. The greater degree of parallelism in the outcome of the different bargaining and recruitment strategies of general and craft unions may also have played a role. These are briefly explored in the next section in the context of Bevin’s wartime labour market reforms.

IV

The impact of Bevin’s control of the labour market was to strengthen trade unions through the operation of Emergency Work Orders, workplace joint consultation, and binding wartime collective agreements. Within this general context, however, the war did not have the same impact on all industries or on all groups of workers. First, the extent and pace of dilution varied considerably by industry. In some industries it was possible to break down skilled tasks into several semi-skilled ones while in others this was impossible. Secondly, the war had an uneven impact on workplace labour organization because union membership was not uniform across industries in the 1930s and employers in some industries remained hostile to unions even in wartime.

The role of male-dominated trade unions, especially the craft unions, has often been viewed as a key factor in explaining the lower wages of women and their segregation into unskilled, repetitive work in Britain. Savage sums up succinctly:

Widely influential overviews of women’s position in British society have placed considerable emphasis on the way in which unions have historically been instrumental in protecting male interests in paid employment at the expense of female ones, by for instance restricting entry to the job to men, or by confining women to inferior forms of employment.55

During the interwar period, the industries with the highest union density generally also had the highest proportion of male workers (and hence trade unionism appears associated with male employment).56 As we have already seen, however, the wartime mobilization of women led to large numbers of women entering industries that had been previously dominated by men. The war also saw a substantial increase in union membership. For women, the increase was from just over 0.9 million in 1938 to just over 1.6 million in 1945, and the number of men in trade unions increased from just over 5 million in 1938 to just over 6 million by 1945. Trade union density among women doubled between 1938 and 1943, increasing from just fewer than 15 per cent of all women to a little less than 30 per cent.57 The peak of wartime unionization was 1943, when just over 40 per cent of men and women were unionized, compared with just over 40 per cent of men and women were unionized, compared with just over

56 Walby, ‘Spatial and historical variations’.
30 per cent immediately before the war. This increase was not spread evenly across all industries or within industries. For example, in core sections of engineering in 1943, average female union density was about 10 per cent, although 'in many of the bigger factories, with large active shop steward' committees, it was approaching 100 per cent.58

The largest increases in union membership were in the munitions industries, as table 7 shows (although these figures refer to all union members, not just women members). The majority of new trade unionists were in metals and engineering, where union membership grew by nearly a million in five years, from just under 1 million in 1939 to nearly 2 million in 1943.59 Several industries that had been important areas of female employment before the war (textiles, clothing, pottery and glass, paper and stationery, etc) lost union members, as the numbers employed in these industries contracted in order to release labour for work essential to the war effort. It is clear, therefore, that changes in wartime union membership and employment are highly correlated and, given the relationship that has already been identified between the change in employment share and the change in gender pay inequality, it is not surprising that a correlation (albeit a much weaker one) also exists between the change in union membership and the change in gender pay inequality (0.546, though not significant at the 10 per cent level on this sample).60

The increased demand for labour was reflected in continued growth in shop-floor trades’ union activity, but the attitude towards women of most male-dominated unions was, at best, ambivalent. There was a sharp conflict of interest between safeguarding men’s jobs (while away at the front) and safeguarding the pay of their members. In most traditionally male-dominated industries, craft unions were unable to prevent skilled work from being broken down into a number

Table 7. Union membership in selected industries, 1939–45 (thousands)

<table>
<thead>
<tr>
<th>Industry</th>
<th>1939</th>
<th>1943</th>
<th>1945</th>
<th>Wartime change, 1939–45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pottery, glass</td>
<td>45.2</td>
<td>40.9</td>
<td>42.3</td>
<td>–2.9</td>
</tr>
<tr>
<td>Chemicals, paint, oil, etc.</td>
<td>57.4</td>
<td>173.2</td>
<td>130.7</td>
<td>73.3</td>
</tr>
<tr>
<td>Metals, engineering</td>
<td>993.9</td>
<td>1,970.3</td>
<td>1,634.4</td>
<td>640.5</td>
</tr>
<tr>
<td>Textiles</td>
<td>458.3</td>
<td>413.5</td>
<td>412.7</td>
<td>–45.6</td>
</tr>
<tr>
<td>Leather, fur, etc.</td>
<td>13.9</td>
<td>18</td>
<td>16.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Clothing</td>
<td>223.5</td>
<td>220.6</td>
<td>232</td>
<td>8.5</td>
</tr>
<tr>
<td>Food, drink, tobacco</td>
<td>149</td>
<td>210</td>
<td>211.7</td>
<td>62.7</td>
</tr>
<tr>
<td>Woodworking</td>
<td>61.4</td>
<td>84.3</td>
<td>82.6</td>
<td>21.2</td>
</tr>
<tr>
<td>Paper, printing, stationery</td>
<td>225.5</td>
<td>211.6</td>
<td>227.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Public utility services</td>
<td>101.1</td>
<td>129.3</td>
<td>140.5</td>
<td>39.4</td>
</tr>
</tbody>
</table>

Source: Constructed from Bain and Price, Profiles of union growth; food and drink, tab. 2.8, p. 47; tobacco, tab. 2.9, p. 48; chemicals, tab. 2.10, p. 49; metals and engineering, tab. 2.11, p. 50; cotton, flax and man-made fibres, tab. 2.12, p. 51 and other textiles, tab. 2.13, p. 52; leather and fur, tab. 2.14, p. 53; clothing, tab. 2.15, p. 54 and footwear, tab. 2.16, p. 55; pottery, tab. 2.18, p. 57 and glass, tab. 2.19, p. 58; timber and furniture (woodworking), tab. 2.20, p. 59; paper and board, tab. 2.21, p. 60 and printing and publishing, tab. 2.22, p. 61; gas, tab. 2.25, p. 64; electricity, tab. 2.26, p. 65, and water, tab. 2.27, p. 66.

58 Croucher, Engineers at war, pp. 269, 275–6.
59 Bain and Price, Profiles of union growth, tabs. 2.10 and 2.11, pp. 49–50.
60 Note that no such correlation exists between change in union density and change in gender pay ratio. The correlation is –0.357.
of semi-skilled tasks, a process that had begun long before the war. However, the war certainly accelerated this change. Although craft unions may have been successful in maintaining the earnings of their remaining skilled craftsmen, against a background of forces tending to reduce the wage skill premium, the reduction in the proportion of skilled work fundamentally altered the nature of the labour market. Indeed, as we have seen, this was a primary objective of government manpower policy from 1940 onwards.

The engineering industry, for example, was highly unionized along craft traditions. Membership of the AEU stood at about 168,000 in 1933 and 716,000 in 1951. This increase in membership was partly due to the growing importance of engineering as an industry, but also because engineers, who had previously been denied membership, were admitted during the war. While this covered some men working on jobs previously not considered sufficiently skilled, the main beneficiaries were women. Spurred on by concerns over the growth in numbers of female engineering workers being recruited by the general unions, the AEU finally admitted women members in January 1943 (but, ostensibly, only for the duration of the war).

The TGWU and NUGMW were general unions that had been recruiting women in the late 1930s; by the end of 1943 the TGWU had about 306,700 women members and by 1945 the NUGMW had 45,000 women members. Although both general unions supported the equal pay campaign, according to the Director of the EEF, Alexander Ramsay, ‘neither of these unions was as assiduous in enforcing the legal standing of “rate for the job” as the all-male Amalgamated Engineering Union’. From 1943, the AEU campaigned for the complete abolition of the category ‘women’s work’ and in the interim, the men’s rate for all women employed in men’s work. This contrasts markedly with the position adopted by the AEU in the early years of the war. General unions evolved a somewhat different policy, as they had no interest in preserving skilled male rates and were in competition with the craft unions for members. They advocated a national grading system for women’s work and negotiated with the EEF a grading agreement for women in December 1942, but the EEF refused to implement it unless the AEU signed too. Croucher has argued for a clear distinction between the attitude of AEU and TGWU leadership, which reflected the position of the majority of the rank and file in these unions:

In contrast to Arthur Deacon of the TGWU, Jack Tanner did not stress the theme that women were ‘here to stay’. At the third Annual Women’s Conference, held in May 1945, Tanner reflected the fears of the rank and file when he said that there would not be enough jobs for men, let alone women, at the end of the war.

Broadly, general unions campaigned for grading of (unskilled and semi-skilled) jobs on the basis of skill, while craft unions pushed for ‘the rate for the job’ (that

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61 Shipbuilding provides an interesting exception. See Inman, Labour, pp. 125–32.
63 In 1943, it recruited 138,717 women members. Pelling, History of British trade unions, p. 218.
64 Croucher, Engineers at war, pp. 274–5.
65 Cited in Lewenhak, Women and trade unions, p. 237.
68 Croucher, Engineers at war, pp. 284–5.
69 Ibid., p. 277.
is, the men’s rate), expecting women to withdraw from the labour force with the cessation of hostilities. Both types of union were united, however, in the need to prevent a pool of cheap labour being used to undercut existing rates.

As the dominant position of craft unionism waned, the power of general unions increased. Female workers would carry out much of the increased proportion of semi-skilled and unskilled wartime work, and this changed the distribution of women in the industrial workforce. In addition the growth of trade union workplace organization, partly fostered by the Ministry of Labour through Joint Production Committees, led to an increase in the unionization of women as the war progressed, in industries where formerly they had little union representation. The direct competition for unskilled and semi-skilled jobs in ‘male’ sectors of industry forged a limited unification of purpose between general unions seeking members and women trade unionists, as both groups attempted to exploit the unique circumstance of excess demand for labour brought about by the needs of war. As Lewenhak writes, unions were effective in raising the rates of wages for those women paid on the Women’s Schedule:

... in order to encourage women to join, unions were obliged to pay attention not only to those who could be proved to have taken over men’s work, but also to substituted women, and indeed all women workers. Even where women were not paid quite as much as men whom they replaced at work, unions negotiated for them a high proportion of the men’s rate, 70 per cent being quite common as compared with levels around 50 per cent before the war. Where there was no question of substitution at all, unions negotiated higher wages for them to an extent they had never known before.

It was this temporary ‘congruence of interest’ between general unions and women workers which paved the way for better relative remuneration for women in the unique circumstances of labour scarcity in wartime Britain.

V

Although the economic position of women in the labour market improved during the Second World War, the extent of their gain still left them a long way short of achieving economic equality with men. Nevertheless, contrary to existing secondary accounts, it has been shown that the increase in relative pay of women workers was widespread across key munitions industries. Moreover, there is a clear relationship between changing industrial structure and gender pay inequality. The extent of the improvement in women’s relative pay varied significantly by industry and was much greater in munitions industries than in traditionally female-dominated sectors. This pattern is likely explained by a combination of excess demand and the effects of Bevin’s labour market reforms, both of which were strongest in wartime munitions industries. The results presented here strengthen considerably the arguments of previous writers who have argued that women workers and unskilled and semi-skilled male workers had a unity of purpose in

70 Ibid., p. 80.
71 Lewenhak, Women and trade unions, pp. 238–9. Nevertheless, Lewenhak argues that it was in the sphere of welfare provision rather than wage advancement that most progress was made by unions on women’s behalf during the Second World War.
72 Croucher, Engineers at war, p. 80.
advocating a system of grading by skill, irrespective of gender. In contrast, male craft unions pushed for women to be paid the ‘rate for the job’, but simultaneously endorsed women’s employment in the male sphere on a temporary, ‘wartime only’ basis.

How important is the narrowing of gender pay differentials during the war in the context of the gradual improvement in the relative pay of British women that occurred during the twentieth century? The 1970 Equal Pay Act provided a legal commitment to equal pay and in 1975, after a transition period, separate pay scales for women workers disappeared. The economy-wide effect on aggregate gender pay inequality was marked. Zabalza and Tzannatos concluded that female relative hourly earnings remained stable, albeit with a slight downward trend, between 1950 and 1970 and then rose sharply between 1970 and 1977. In 1950, relative female hourly earnings were 0.60, only slightly lower than the figures presented here for 1947, and had fallen to 0.58 by 1970 before increasing to 0.69 in 1977. This 11 percentage point increase following the Equal Pay Act is only marginally greater than the average increase in women’s relative pay across all manufacturing industries tabulated here for the Second World War.

After the war, the proportion of women employed in industries previously dominated by men declined, though generally women’s share of employment still exceeded prewar figures. In engineering, for example, women’s share of employment was 21 per cent in 1950, compared with 34 per cent in 1943 and 10 per cent in 1939. The AEU insisted upon the terms of the temporary nature of the 1940 dilution agreement and saw that women workers were the first to leave employment as industry adjusted to peacetime requirements. In January 1947, 58 per cent of women who had been employed in engineering in 1943 had been made redundant.

Although the overall extent of sex segregation by industry was lower in the postwar period than it had been in the 1930s, the proportion of women employed in munitions industries in 1951 (as a share of women’s total employment) was very similar to the proportion employed in 1931. Nevertheless, despite the partial withdrawal of women from wartime industries, the gains in relative pay were not substantially reversed after the war. Wages are notoriously downwardly ‘sticky’ and, contrary to contemporary expectations, in the immediate aftermath, demand for labour remained buoyant. Nearly all existing scholarship acknowledges the impact the Second World War had on reducing the employment segregation of women, but simultaneously views the war as an unimportant episode in the history of gender pay inequality. This article has shown how the transition from ‘female’ to ‘male’ work also led to a significant improvement in women’s relative pay.

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74 Summerfield, Women workers, p. 187.
76 Employment in metals represented 2.3% of total female employment in 1931 and 3.0% in 1951. In chemicals the figures were 0.1 and 0.2% at the same dates. Derived from the Population Census 1931 and 1951 (see Gazeley, ‘Work and pay’, tab. 3.3b, p. 60).
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