

Female Salaries and Careers in British Banking, 1915-41

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Abstract

Women were first employed in large numbers by the British banking industry during the First World War, and were an essential part of the industry's labour force thereafter. During the interwar period, women were often confined to routine back office positions, and could not advance past the level of clerk. Evidence from Williams Deacon's Bank shows that the salaries of younger women were very similar to their male counterparts; however, an ever-widening gender pay gap emerged after about 5 years seniority. The main reasons for this pay gap were higher exit rates for women, largely due to marriage bars, and lower returns to seniority. Promotion restrictions, though ubiquitous, account for a relatively small proportion of the gender pay gap. Despite the pay gap, the marriage bar, and the lack of promotion opportunities, a sizable proportion of female clerks were very loyal to the Bank and remained for 10 or more years. This was due to the absence of better opportunities elsewhere in the labour market.

Keywords: Salaries, gender pay gap, discrimination, banking, clerical sector.

1. Introduction

The growth of the clerical sector was among the most important changes to British labor markets in the late 19th and early 20th centuries. Between 1871 and 1951 clerical employment increased over 15-fold, from 137,275 to 2,132,153.¹ Also during this time, the sector became increasingly feminised. According to statistics from the *British Census*, there were fewer than 1,500 women employed as clerks in England and Wales in 1871, approximately 1 percent of the clerical labour force.² By 1911, this had increased to nearly 125,000, approximately 18.2 percent of the clerical labour force; and by 1951, 1,270,000, or 59.6 percent of the clerical labour force. However, the process of feminisation did not occur evenly throughout the sector. Women were employed in large numbers as commercial clerks from the late 19th century. However, few women held positions among

¹ Takahashi, *Unrealised*, pp. 39-40.

² Takahashi, *Unrealised*, pp. 39-40.

the 'clerical aristocracy' in banking, law, insurance and the railways prior to the First World War.

Prior to the feminisation of the clerical labour market, the main employment opportunities for women were in the agriculture and manufacturing sectors. Women earned considerably less than men in these sectors. Sydney Webb estimated that in 1883 the weekly earnings of women in manufacturing averaged only 41 percent of their male counterparts.³ Across 15 manufacturing industries this ratio ranged from 26.6 percent (metal goods) to 61.4 percent (hosiery). Joyce Burnette has shown that in 18th and 19th century British agriculture and manufacturing, the wage gap ranged from approximately one third to approximately two thirds.⁴ She argues that these differences can be primarily explained by competitive market forces, specifically productivity differences resulting from men working longer hours and possessing greater physical strength. Discrimination was of second-order importance.

Unlike employment in agriculture and manufacturing, clerical work required little strength, and thus women had a comparative advantage in the sector. Clerical work also was seen to be more socially acceptable for women, more 'feminine', than many other types of employment.⁵ Despite their comparative advantage in the sector, female clerks earned considerably less than their male counterparts. Figures compiled by Samuel Cohn show that in 1909-10, the average salaries of female clerks in the British commerce and insurance industries were only 38.8 and 43.0 percent of their male counterparts, respectively.⁶ Ball and Sutherland conclude that the gap was somewhat smaller; arguing

³ Webb, 'Alleged differences', pp. 636-37.

⁴ Burnette, 'An investigation', pp. 258-59 and Burnette, *Gender*, pp. 72-84.

⁵ Webb, 'Alleged differences', p. 653; Zimmeck, 'Jobs', p. 158; and Anderson, 'White blouse revolution', p. 9.

⁶ Cohn, *Process*, p. 71.

that women earned half to three quarters of their male counterparts across the sector.⁷ Cohn estimates that a generation later in 1929-30, the salary ratios for commerce, transport, banking, and insurance were 61.5, 60.0, 66.7, and 60.0 percent, respectively.⁸ Similarly Lockwood estimates the 1929-30 ratios as 61.1, 65.4, 60.0, and 60.7 percent in public services, industry and commerce, transport, and banking and insurance, respectively.⁹

Although these figures demonstrate the existence of a gender-related pay gap, they do not control for position, hours worked, or productivity and thus do not provide a like-for-like comparison of male and female salaries. There are several possible explanations for why such a gap could emerge. Men may have been paid more because of greater human capital, resulting from voluntary choices concerning education levels or labour force attachment. It is thus possible that differences in clerical salaries simply reflected market forces. Other explanations for the pay gap rely on some form of discrimination. The literature has focussed on three forms of discrimination: namely, occupational segregation, marriage bars, and 'pure wage discrimination'. Scholars have argued that occupational segregation led to lower pay for women through two separate mechanisms.¹⁰ First, women faced barriers to promotion and thus did not have access to the highest paid positions. There were no female bank branch managers in all of the United Kingdom until 1958, and as late as 1986 women still accounted for less than 2 percent of branch managers.¹¹ Similarly, promotion barriers were commonplace for office workers and in the Civil Service.¹² Secondly, occupational segregation led to 'overcrowding' in female-intensive jobs.

⁷ Ball and Sunderland, *Economic history*, p. 327.

⁸ Cohn, *Process*, p. 71.

⁹ Lockwood, *Black-coated worker*, p. 47.

¹⁰ Edgeworth, 'Equal pay', p. 439; Cohn, *Process*, pp. 126-35; Blackburn, *Union character*, p. 73; Lewis, 'Women clerical workers', pp. 33, 35-36; and Wilson, *Disillusionment*, pp. 234, 247.

¹¹ Barclays Bank, 'Our history' and Woodward and Özbilgin, 'Sex equality', p. 327.

¹² R. G. Wilson notes of Glasgow office workers, 'There [was] a stratification with routine jobs going to women and managerial jobs going to men'. Wilson, *Disillusionment*, pp. 243, 244, 250-52. Henry Parris states that in the Civil Service 'there were only a very limited number of higher grade posts available to women.' Parris, *Staff relations*, p. 144.

Marriage bars, institutionalised barriers preventing the employment of married women, were nearly universal in the clerical sector, existing in the Civil Service, the Post Office, libraries, schools, railways, banks and insurance companies.¹³ The existence of marriage bars meant that women had, on average, much shorter careers than men. This directly reduced lifetime earnings, which were closely linked to tenure in the clerical sector. It also meant that firms were reluctant to invest in training for female employees or assign women to positions with long learning curves. Finally, scholars have argued that the clerical sector was characterised by pure wage discrimination.¹⁴ Women with equal experience and qualifications were often paid less than men doing the same jobs, often under the pretence that a man needed a ‘family wage’, whereas a woman was only supporting herself.¹⁵ Others have questioned the extent of wage discrimination, arguing that men earned more than women on average because of longer tenure and higher rates of pay in predominantly male jobs, but also that men and women in similar posts tended to have similar earnings.¹⁶

This paper examines gender-based differences in the British clerical sector in the early 20th century, specifically focussing on the banking industry. On the eve of the First World War, there were virtually no women employed in the industry. The loss of nearly half of all male staff to the Services meant that the banks had to employ large numbers of women throughout the War. Initially female positions were temporary; however, the successful war-time experience with female staff, the loss of men in the War, and post-war expansion

¹³ See Parris, *Staff relations*, pp. 145-52 and Cohn, *Process*, pp. 97-100 on the Civil Service; Anderson, ‘White blouse’, pp. 13-14 and Cohn, *Process*, p. 102 on the Post Office and the railways; Liladhara and Kerslake, ‘No more library classes’, p. 219 on library workers; Oram, *Women teachers*, pp. 26-27, 47 on teachers; and Dohrn, ‘Pioneers’, pp. 59-60 on banks and insurance companies. The impact of the marriage bar is evident from the fact that in 1911, 114,429 of 117,057 (98 percent) of female commercial clerks in London were single. Anderson, ‘White blouse’, p. 10.

¹⁴ Rathbone, ‘Remuneration’, pp. 57-62; Blackburn, *Union character*, p. 71; Cohn, *Process*, p. 75; Dohrn, ‘Pioneers’, pp. 49, 51, 53; Wilson, *Disillusionment*, p. 249; and Parris, *Staff relations*, pp. 145-154.

¹⁵ Edgeworth, ‘Equal pay’, pp. 449-50 and Rathbone, ‘Remuneration’, p. 60.

¹⁶ Blackburn, *Union character*, p. 73 argues that in appointed position women were paid the same as men. Also see Wilson, *Disillusionment*, p. 248.

of the branch networks, led the banks to create permanent female positions. Female employment in the industry increased dramatically over the remainder of the century. Women comprised only 3.9 percent of all staff in the insurance, banking finance and business services sector in 1911 (and about 1 percent in banking), but 25.8 percent by 1921, 34.4 percent by 1951, and 50.1 percent by 1971.¹⁷

The primary focus of this paper is the earnings and career opportunities of female clerks at Williams Deacon's Bank, a medium-sized joint-stock branch bank based in Manchester, which operated 109 branches and sub-branches in 1911 and 200 in 1927. Williams Deacon's was the product of the 1890 merger between the London-based Williams, Deacon & Co. and the Manchester-based Manchester and Salford Bank.¹⁸ After running into troubles because of the decline of the Lancashire textile industry, it was absorbed by the Royal Bank of Scotland in 1930, but continued to trade separately under its own name until 1969. As was the case for most of the British banking industry, Williams Deacon's employed exclusively male staff until 1915, when the loss of men to the Services necessitated the temporary employment of women. The Bank first created permanent female positions in 1920, retaining most of the women hired during the War, although allowing many more women to leave than in other sample years.¹⁹ During the War, women simply replaced the men who were away; however, most permanent post-war positions were in what might be termed 'women's jobs', doing secretarial and routine back-office clerical duties. Relatively few women advanced to positions of responsibility. The Bank reduced its hiring of new women after the War, averaging about 7 per year between 1921 and 1928, but again increased female hiring from 1929. During the 1930s women

¹⁷ Wardley, 'Women', p. 23. Although these figures cover a range of service industries, the overall picture for banking alone is likely very similar. See Blackburn, *Union character*, p. 277 and Takahashi, *Unrealised*, pp. 39-40 for figures on the banking industry during the inter-War period.

¹⁸ Allman, *Williams Deacon's*, pp. 142-145.

¹⁹ Williams Deacon's Bank Limited, *Staff registers*.

comprised the majority of new hires; however, the much higher female exit rate meant that men remained a substantial majority of staff throughout the interwar period. The Bank maintained a marriage bar throughout the interwar period, which not only required women to leave upon marriage, but also to forfeit their pension.²⁰

The Bank's unusually comprehensive personnel records, which cover virtually every employee between 1890 and 1936 (and most through 1941), are used to construct a very large panel data set.²¹ These data are used to address a number of questions that have been raised in the previous literature, but heretofore have not been addressed quantitatively using micro-level data. The comprehensiveness of the data makes it possible to control for tenure, entry age, branch-specific factors, and (imperfectly) for position, and thus it is possible to distinguish between alternative explanations for the gender pay gap. Female salaries at the Bank are compared to male salaries at different levels of tenure. It is shown that while early-career salaries of men and women were very similar, an ever-increasing gap emerged over time. Part of this gap was due to the absence of promotion opportunities for women, but a larger proportion was due to the marriage bar and to wage discrimination. Promotion to branch manager had a large effect on the salaries of the most-capable staff; however, few staff reached positions that commanded large salary premiums and thus the *ex ante* expected return to promotion opportunities was relatively small. Despite earning considerably lower salaries, confinement to routine jobs with few opportunities to advance, and the marriage bar, a substantial proportion of women displayed considerable loyalty to the Bank. Careers lasting over 10 years were not uncommon and some women stayed considerably longer. Broader evidence from the British labour market suggests that this was because outside opportunities for women were limited, clerical positions were

²⁰ Allman, *Williams Deacon's*, p. 165.

²¹ Williams Deacon's Bank Limited, *Staff registers*.

typically the highest paid jobs available, and banking was among the highest paying industries in the clerical sector.

The outline of the remainder of the paper is as follows. Following the introduction, the second section describes the British banking industry in the early 20th century; the factors that led to feminization of the industry; and the organization, growth, and feminization of Williams Deacon's Bank. The third section describes the extremely rich Williams Deacon's data set. The fourth section compares the salaries of female banking staff to those of men and analyses the determinants of the gender pay gap. The fifth section examines the consequences of promotion barriers for female salaries. The sixth section uses data from the *New survey of London life and labour* and published salary scales for civil servants, teachers, and railways clerks to examine the opportunities in the external labour market for female banking staff. The seventh section concludes.

2. Institutional Background

In the 19th century, banking clerks were viewed as part of the 'clerical aristocracy'.²² They were career employees and trusted servants who worked side-by-side with the bank owner or general manager and, upon proving their merit, could rise through the ranks. Perhaps because of the elite status of banking, it was among the last of the clerical industries to be feminized. In 1911, women comprised 1.2 percent of all banking clerks, compared to 24.5 percent in commerce, 8.8 percent in insurance, 6.0 percent in law, and 20.7 in the Civil Service.²³ Only the railways, where women comprised 1.3 percent of clerical staff, remained similarly masculine.

²² Wilson, *Disillusionment*, p. 15 and Lockwood, *Black-coated worker*, pp. 44, 51.

²³ Takashi, *Unrealised*, p. 39.

Despite the absence of women prior to the First World War, there were a number of changes to the industry in this period that later paved the way for feminization. The number of branches in England and Wales, grew from 3,456 in 1871, to 4,888 in 1891, to 7,741 in 1911.²⁴ At the same time, a series of mergers and the absorption of private banks by joint stock banks reduced the total number of banks from 365 in 1871 to 92 in 1911. The direct effect of the increased number of branches was a need for more staff. The total number of bank clerks in England and Wales increased from 1,287 in 1871 to 20,885 in 1891 and 40,379 in 1911 (Takashi, 1994).²⁵ Although the supply of male clerks increased during this period due to increased levels of secondary education and specialist clerical education, it is likely that the banks' demand for clerks grew at a faster rate.

In addition to increasing the total number of staff, the growth of the branch networks changed the division of labour within the banks. In 1870 most bank clerks worked in the head office of their bank, performing a wide range of tasks. The growth in the number of branches per bank meant that much of the employment growth over the period occurred through the opening of smaller branches. At the same time, ever-larger back offices at the main branches were needed to handle the growing volume of paperwork associated with larger branch networks and more accounts. The nature of work at these two types of branches differed considerably. The smaller branches were largely specialized in customer service, handling deposits and loans. The larger branches became increasingly specialized in back-room clerical work, such as correspondence and monitoring the smaller branches. This division of labour meant that when women were offered permanent positions, they were often segregated into highly specialized positions in the larger offices and did not

²⁴ Capie and Webber, *Monetary history*, pp. 576-78.

²⁵ Takashi, *Unrealised*, p. 39.

receive a broader training in banking practices. In 1921, women comprised a third of all Williams Deacon's staff.²⁶ However, women comprised only 26.2 percent of staff at branches with 5 or fewer staff. Over 48 percent of these branches employed no women. By contrast, women comprised 38.7 percent of staff at branches with at least 15 staff, and all of these branches employed at least one woman.

The First World War transformed the role of women in banking. During the War, women simply replaced the men who were on leave. Many were in back office clerical positions with identical titles to those held by men.²⁷ Several even held front office positions such as cashier. However, after the War they worked almost exclusively in back office positions. Most female clerks performed routine duties such as 'secretarial work, typing, coupons, and other [similar] posts'.²⁸ These roles were formalized by requirements that women had to be proficient at short hand and be able to type at least a fixed minimum number of words per minute.²⁹ The number of these positions continued to grow after the War, as the Bank increased the size of its main offices.³⁰ Women accounted for 33.3 percent of Williams Deacon's staff in 1921, 16.6 percent in 1928, and 22.7 in 1936.³¹ The loss of men to the Services in the Second World War meant a further increase in female employment from the late 1930s and, for the first time, some married women were hired on a temporary basis. Between 1939 and 1941, 297 women were appointed to positions in the Northern branches, and women accounted for nearly 40 percent of the Bank's staff.³²

²⁶ Williams Deacon's Bank Limited, *Staff registers*.

²⁷ Williams Deacon's Bank Limited, 'Female staff' and Williams Deacon's Bank Limited, 'Male staff'.

²⁸ Williams Deacon's Bank Limited, *London Manager's staff papers*.

²⁹ Williams Deacon's Bank Limited, *London Manager's staff papers*.

³⁰ The number of staff at Williams Deacons' two main offices at Mosley St., Manchester and Birchin Lane, London increased from 107 and 107, respectively in 1914, to 113 and 172 in 1922, and to 122 and 178 in 1930.

³¹ Williams Deacon's Bank Limited, *Staff registers*.

³² It is not possible to provide exact figures on the number of women or the proportion of staff that was female for 1941 because the Mosely St. and London branch records are truncated in 1936. However, if the

3. Data

The primary source of data for this study is the personnel records of Williams Deacon's Bank, collected from the Royal Bank of Scotland Archive in Islington, London.³³ The data set is constructed from a series of ledgers which are organized at the branch level and contain the names of all employees, their dates of birth, dates of entry to the Bank, dates of entry to the branch, nominal salaries, and dates of exit from the branch.³⁴ The records often also state a reason for exit (transferred to another branch, resigned or left, dismissed, died, or retired on a pension). For most women, the reason for exit was either transferring to another branch or simply given as 'left'. Additional details (such as whether a woman left to marry or for another job) were recorded in a very haphazard manner, and were thus not entered into the data. The records cover the period from 1890 and 1936 for all London branches and the Head Office in Manchester and from 1890 through 1941 for other northern branches.³⁵

The ledgers have been used to create an individual-level panel data set, with information recorded annually as of October 1 each year.³⁶ All totalled, the female sample contains 1,300 staff and 7,775 observation-years between 1915 and 1941. The male sample contains

1936-1941 growth rate in the number of women was the same for the Head Office and London branches as for the (observed) Northern branches, then women would have comprised 38.6 percent of staff in 1941.

³³ Williams Deacon's Bank Limited, *Staff registers*.

³⁴ The year of birth is missing for 31 women. These individuals have been omitted from the analysis, though including them by imputing average entry age for the sample makes little difference to the overall results. In a number of other cases, the ledgers do not provide exact birth and entry dates. In these cases, I used the midpoint of the possible range. For example, if a birth year was given, but the month and day were missing, the birth date would be recorded as July 1 in the data.

³⁵ The only omitted observations within this time frame are for staff who left between 1890 and 1895. As the exit rate for male staff was low throughout the sample period (and likely lower in the Depression of the 1890s), it is likely that the number of missing observations is very small.

³⁶ In cases of employees in their first calendar year at the Bank who entered after October 1 and employees in their last calendar year who left before October 1, the information has been recorded as of the latest date available.

2,117 staff and 34,714 observation years for the period 1890-1941 and 1,688 staff and 22,806 observation years for the period 1915-41, including 12,304 observations for the 1,034 men entering between 1915 and 1941. Throughout the analysis, male staff who entered after 1915 are used as the main comparison group for women in order to ensure comparability between the male and female samples.

An important limitation of these records is that they do not identify position at the Bank. The only position that can be identified with certainty is the manager of each branch, who is evident from the ordering of the names on the ledgers and from salaries.³⁷ Identification of branch managers is crucial for estimating the consequences of promotion barriers for female salaries. This was the main barrier that women were not able cross; several of the women in the sample rose to senior clerical positions, but none to manager. Moreover, evidence from other banks has shown that promotion to manager was far more important for male salaries than promotion within the clerical ranks.³⁸

Identification of different non-managerial positions is not possible. Clerical positions at Williams Deacon's ranged from apprentices and typists to division heads and branch accountants. It is clear from the *London Manager's staff papers* that there was considerable, though far from complete, occupational segregation by gender.³⁹ Some clerical positions, such as typist and telephone operator, were held predominantly by women. Other backroom positions, such as correspondence and checking the ledgers, were

³⁷ I assume that the first male employee listed for each branch was the manager at the start of the record period. If he left the branch and another highly paid male employee arrived at approximately the same time, I assume that he was the new manager, regardless of the order in which he appears on the record. If the original manager left but there wasn't an obvious replacement arriving around the same time, I assume that there was an internal promotion to manager. In these cases, I used the structure of salaries at the branch to identify the new manager. Williams Deacon's Bank Limited, *Particulars* lists all branch managers for the period 1890-1901, and the approach described above perfectly identifies every branch manager for this period.

³⁸ Seltzer and Merrett, 'Personnel practices', pp. 600-08 and Seltzer and Simons, 'Salaries', pp. 208-13.

³⁹ Williams Deacon's Bank Limited, 'Male staff' and Williams Deacon's Bank Limited, 'Female staff'.

held by both men and women. Still others such as cashier or division head were predominantly held by men, though a small number of women rose to these levels.

The inability to identify sub-managerial positions is somewhat problematic for the analysis as it makes it impossible to precisely estimate the importance of occupational segregation and gender-based differences in promotions within the clerical ranks. Two approaches are used in the empirical analysis to imperfectly control for differences in position. First, the salary data can be used to identify at least some of the women who were able to rise to 'male' positions. The Bank maintained a maximum salary of £250 for women, which could be over-ridden by the directors in 'special cases'.⁴⁰ I assume that holding positions of responsibility would have been the main reason for invoking the 'special case' rule.⁴¹ This suggests that women earning over £250 probably would have been doing the same jobs as male clerks and thus should be directly comparable in terms of position. Second, I assume that the men who eventually rose to the level of branch manager were given greater responsibilities, even when they were still clerks. This implies that male staff who were never promoted would have been more likely to be holding the sort of routine clerical positions that were also held by women.⁴² Thus limiting the sample to women who earned over £250 and men who were never promoted to manager effectively controls for position at the Bank, and makes it possible to make a lower-bound estimate of the extent of wage discrimination. It is a lower bound estimate because the women who rose to these positions

⁴⁰ Williams Deacon's Bank Limited, 'Circular'.

⁴¹ The *London Manager's staff papers* supports this assumption. When the London manager requested that an increase above £250 be granted to a woman, he always made reference to the nature of her duties and frequently specifically stated that she was performing the same task as men at the branch.

⁴² Peter Wardley also reached this conclusion, stating, 'Junior ranks of the bank staff came to comprise of newly recruited women and men, more experienced women who had no possibilities of promotion, and older men whose less than promising performance had caused their employer to deny their expectations of promotion.' Wardley, 'Women', p. 10.

were unusually capable, what one manager termed ‘super clerks’, whereas the men who failed to rise to the level of manager typically possessed lower ability than average.⁴³

Another issue with the Williams Deacon’s data is truncation. The records end in 1936 for staff at the Head Office and the London branches and 1941 for the other branches. Among the 1915-41 entrants, 78.5 percent of the men and 35.9 percent of the women were still at the Bank at the end of the sample period. In addition, 24.5 percent of male entrants between 1890 and 1905 were still at the Bank at the end of the sample period. The problem of truncation in the 1915-41 entry sample is potentially serious, as it comprises the majority of men and a sizable minority of women in the sample. Moreover, it is likely that much of the careers of these individuals are missing from the data, as many of them were still fairly young at the time of their last observation, and the evidence from earlier cohorts suggest that it was common for men to stay at the Bank until retirement.⁴⁴ The younger individuals in the sample would have been coming to retirement in the early 1980s, 40 years after the end of the sample period. The nature of the data mean that some of the missing observations are ‘far’ out of the sample, and extrapolating the regression results over the entire career of all employees in the sample is likely to result in very large prediction errors. Thus I do not attempt to measure the effects of truncation on the estimated determinants of gender-based salary differences, however; in the next section I discuss the likely direction of the biases induced. The problems associated with truncation of the 1890-1905 entry sample are far less serious, as far fewer observations were excluded as a result of truncation. In this sample, the median age at truncation was 56.4 years old and the

⁴³ Williams Deacon’s Bank Limited, ‘Circular’. Other scholars have also noted that women in these positions tended to possess well above average ability. See Blackburn, *Union character*, p. 73; and Silverstone, ‘Office work’, p. 104.

⁴⁴ The median age of men and women at the point of truncation was 32.0 and 22.3, respectively. In the 1890-1905 entry sample 18.4 percent retired during the sample period and a further 24.5 percent were still at the Bank at the end of the sample period and were rapidly approaching the retirement age.

youngest was 48.6 years. As the normal retirement age was 60, it is reasonable to assume that most of these men were in their final position at the Bank and would have carried on to retirement.

In addition to the employment records, the Royal Bank of Scotland Archive contains a range of other documents that outline practices at the Bank. The *London Manager's staff papers* contain a variety of letters, reports, and memos concerning staff policies. For the purposes of this paper, the most important of these documents are the annual reports 'Male staff' and 'Female staff', which outline the duties of each employee and provide a brief subjective performance evaluation for most.⁴⁵ In addition, these papers contain various internal memos that outline the evolution of the Bank's policies with regard to women.⁴⁶ Finally, *Particulars of branches* provides data on the age, number of accounts, and the volume of loans and deposits at the Bank's branches.

The evidence from Williams Deacon's can be compared to practices at other banks using qualitative evidence drawn from the records of the industry's trade union, the Bank Officer's Guild (BOG). The BOG's records, housed at The Modern Record Office at Warwick University, include transcripts of the annual general meetings, salary scales at the different banks, and the Guild's trade journal, *The bank officer*.⁴⁷ The BOG almost never distinguished between banks when discussing personnel practices in these publications, suggesting fairly common standards across the industry. It is also possible to make broader comparisons across the clerical sector and with other sectors using data from the *New survey of London life and labour* (NSLLL), a 1929-32 survey of working class households

⁴⁵ Williams Deacon's Bank Limited, 'Female staff' and Williams Deacon's Bank Limited, 'Male staff'.

⁴⁶ Williams Deacon's Bank Limited, 'Letter from Asst. GM' and Williams Deacon's Bank Limited, 'Letter from London Manager'.

⁴⁷ A Junior, 'Another view'; Bankman, 'Bankman's status'; Bank Officers' Guild, 'Correspondence'; Bank Officers' Guild, 'Minutes'; and Bank Officers' Guild, 'Salary scales'.

in London, which covers the occupation and earnings of approximately 11,700 women earning £250 per year or less, including 1,287 clerks.⁴⁸ Finally, published salary scales for the Civil Service, railways, and teachers provide additional evidence on female clerical earnings in large bureaucracies.⁴⁹

4. The Determinants of Salaries

Female salaries were one of the very first issues addressed by the Bank Officer's Guild after its formation in 1917. Some male clerks felt that women were undercutting their salaries and ultimately taking their jobs, a view that has found some support from subsequent scholars.⁵⁰ In a 1921 forum in *The bank officer* one clerk stated, '[T]hough many of them are inefficient and do not take their jobs seriously, they are employed because they are cheap.'⁵¹ Another stated, 'Their competition ... cannot fail to depress the standard of living of those compelled to earn in order to live.'⁵² From 1921 the BOG officially advocated 'equal pay for equal work [and] no sex distinction'.⁵³ However, at the same time they recognized that 'this is not a practical policy, however desirable in theory. ... Successful insistence on this point would mean that very many women would lose their posts in the Banks.'⁵⁴ It is generally acknowledged that women earned less than men in banking and throughout the clerical sector, though the extent of inequality remains an open

⁴⁸ Hatton et. al., *New survey*.

⁴⁹ Augmented Society of Railways Servants, *Report*; Board of Education, *Report*, and Federation of Women Civil Servants, *Statement*.

⁵⁰ Wilson, *Disillusionment*, p. 249; Anderson, 'White blouse', pp. 17-18; and Rathbone, 'Remuneration', p. 64.

⁵¹ Bank Officers' Guild, 'Correspondence', p. 14.

⁵² Bank Officers' Guild, 'Correspondence', p. 15.

⁵³ Bank Officers' Guild, 'Minutes'.

⁵⁴ Bank Officers' Guild, 'Minutes'.

question.⁵⁵ This section examines the salaries of men and women hired between 1915 and 1941 and analyses the extent and underlying causes of gender-based pay differences.

The difference in nominal salaries at Williams Deacon's was substantial. Men entering between 1915 and 1941 averaged £191.91 per year over the sample period, whereas women averaged £128.97. In 1921 and 1936 the average salaries for all male staff were £339.43 and £363.95, respectively, whereas the average salaries for female staff were £130.00 and £145.04, respectively. These figures do not control for differences in worker characteristics and thus do not provide like-for-like comparisons.⁵⁶ As a first approach to controlling for tenure, the primary determinant of salaries in the clerical sector, Figure 1 shows the distribution of nominal salaries of junior male and female staff entering between 1915 and 1941. The distributions are shown for tenures of 5-6, 10-11, and 20-21 years. The left-side panels show the salaries for women, the right-side, for men. The male and female distributions at 5 years tenure are fairly similar. On average, women earned 93.9 percent of men and only a handful of men earned more than the highest paid woman. There is still considerable overlap in the two distributions after 10 years, although relative female earnings had declined to 89.7 percent of men's earnings and approximately 11 percent of men earned more than the highest paid woman. However, after 20 years of tenure, the differences between the male and female distributions are striking. Over 80 percent of women earned exactly £250, the maximum under normal circumstances. Average female earnings were only 68.9 percent of average male earnings and *all* men earned more than

⁵⁵ See Blackburn, *Union character*, pp. 71-73; Wardley, 'Women', pp. 8-9; and Lockwood, *Blackcoated*, pp. 45-47.

⁵⁶ The 1921 and 1936 cross-sectional averages will also reflect differences in potential tenure resulting from the fact that women were not employed before 1915. The maximum tenure that women could have had in 1921 was 6 years and 3 months. Over 65 percent of male staff in 1921 had been at the Bank for at least that long, and approximately 17.5 percent had been there for at least 30 years. Similarly, the maximum tenure that women could have had in 1936 was 21 years and 3 months. Approximately 31 percent of male staff in 1936 had been at the Bank for at least that long.

even the highest paid woman. The growing gap in salaries implies that the returns to tenure were higher for men than women, an issue that will be further addressed later in this section.

To further examine gender-based differences in salaries, I use an econometric approach developed by Jacob Mincer, Alan Blinder, and Ronald Oaxaca.⁵⁷ Separate regressions for men and women are estimated on the natural log of the real annual salary.⁵⁸ The regression results are then used to plot estimated salary profiles. Finally, the regression results are decomposed in order to determine what part of the estimated gap in salaries is due to ‘explained’ gender-based differences in characteristics and what part is due to ‘unexplained’ gender-based differences in returns to these characteristics, or differences in ‘prices’. I begin by estimating regressions of the form:

$$1. Y_{i,t} = \beta X_{i,t} + \sum_{k=1}^4 \delta_k TENURE_{i,t}^k + \varepsilon_{i,t}$$

where $Y_{i,t}$ is the natural log of the real salary of individual i at time t , X is a matrix of the control variables, ε is an error term.

The control variables in the matrix X are as follows: entry age (and its square), dummies for London and the Head Office at Mosley St., a time trend, dummies for the First and Second World Wars (1914-18 and 1939-41), a dummy for whether the individual was the branch manager, the number of staff at the branch, the interaction of manager and number of staff at the branch, and the national inflation rate. The relationship between salaries and tenure is modelled as a polynomial of fourth order (i.e. salary is a function of tenure, tenure², tenure³, and tenure⁴), rather than the standard quadratic, in order to allow for the possibility that the Bank used end-of-career raises as a way of inducing effort and reducing

⁵⁷ Blinder, ‘Wage discrimination’; Mincer, ‘Investments’; and Oaxaca, ‘Male-female’.

⁵⁸ The real salary (1890 prices) is constructed using Charles Feinstein’s price series. Feinstein, *National income*, table 65.

turnover.⁵⁹ In line with the extensive existing literature, it is expected that salaries will have increased with tenure at a decreasing rate, and that the rate of increase with tenure was greater for men than for women.⁶⁰ Entry age and its square capture the returns to education and outside experience.⁶¹ I expect the standard relationship, with salaries increasing in entry age, but at a decreasing rate. The number of staff at the branch captures several differences in the nature of work at branches of different sizes. Larger branches could support a greater division of labour. As a result, they had more specialised clerks who performed repetitive tasks requiring only general training and also more clerks who were given positions of particular responsibility, such as heading divisions. It was more difficult to monitor staff at the larger branches, as teamwork was more important and the cost of errors or fraud was potentially far higher than in the smaller branches. The prevalence of routine clerical positions suggests that salaries at the larger branches would have been lower than at the smaller branches. The difficulty of monitoring staff and the responsibility associated with some clerical positions suggest that salaries would have been higher at the larger branches. The cost of living was higher in London than in the north, and thus one would expect higher salaries and a positive coefficient on the London dummy. The manager dummy captures the attachment of salary to position, and managers are expected to have earned more than clerks. The interaction of branch size and manager captures the extent to which managers of larger branches, which were particularly demanding jobs with the most important responsibilities, earned more than managers of smaller branches.

⁵⁹ See Lazare, 'Why?' on deferred compensation. The quartic specification originally comes from Murphy and Welch, 'Empirical'. Seltzer and Merrett, 'Personnel' and Seltzer and Simons, 'Salaries' find that the quartic specification describes salaries in the Australian banking industry better than the standard quadratic specification.

⁶⁰ Goldin, *Understanding*, p. 110 shows that in the American clerical sector men had much larger tenure-based salary increases than women.

⁶¹ The data do not contain any information about education, which is generally an important determinant of salaries. However, this omission is far less serious than it would be for most studies of earnings. During the interwar period, bank staff were extremely homogenous in terms of formal schooling. All possessed some secondary education at the time of hiring, and there is no evidence to suggest that any possessed a university education during the period of this study. See Blackburn, *Union character*, p. 74 and Lockwood, *Blackcoated worker*, pp. 20-21.

Table 1 shows summary statistics of the variables used in the regressions. On average men earned more than women, were younger at the time of entry, had higher tenure, were more likely to be a branch manager, and were less likely to be at the Head Office or London branches. A few of these differences are particularly striking and deserve further comment. The gender-based differences in tenure are due to different propensities to exit, particularly after the first five years tenure. Most men who survived their first 5 years remained at the Bank until the end of the sample period.⁶² By contrast, the majority of women surviving into their 5th year left before the end of their 10th year. While it is impossible to determine why individual staff left, approximately 97 percent of women who left between their 5th and 10th year were between the ages of 18 and 31 at the time of their departure, suggesting that the marriage bar was a prime reason for the shorter careers of women. In line with the discussion in Section I, women tended to work in larger branches than men and were more likely to work in the Head Office and London branches.

The regression results are shown in Table 2. The first two columns report the results using generalized least squares (GLS) regressions for male and female entrants after 1915.⁶³ The next two columns use the same set of independent variables, but report the results of GLS regressions using the restricted samples (men who did not reach the level of branch manager during the sample period and women who at some point earned over £250). These regressions are used to examine the salaries of men and women who were likely to have been in similar clerical positions. The fifth and sixth columns repeat the first two

⁶² Similarly, a majority male staff entering before 1900 who remained at the Bank into their 5th year stayed until either death or retirement.

⁶³ Generalized least squares is essentially the same as the standard linear ordinary least squares models (OLS), except for a correction to the error term. The regressions are run using GLS rather than ordinary least squares to correct for heteroskedasticity, which characterises the equivalent OLS regressions.

regressions, but add random effects to control for unobserved worker heterogeneity.⁶⁴ The final column uses GLS to estimate the regression for men who entered the Bank between 1890 and 1905. I return to this regression later, as part of the discussion of the consequences of promotion barriers for women.

The main results are fairly similar across specifications and are generally in line with prior expectations. Salaries increased at a decreasing rate with entry age, implying that outside experience increased earnings. Both male and female salaries were higher in London than in the North. Male salaries were higher at the Head Office than at other northern branches. Both male and female salaries were lower during the Second World War than during other sample years. Male salaries were also lower during the First World War, but female salaries were higher during these years.⁶⁵ Managers earned more than clerks. The managerial premium increased considerably with the size of the branch. The regression in column 1 implies that the manager of a large branch (50 staff) would have earned approximately 70 percent more than the manager of a small branch (3 staff), all else equal.

Perhaps the most interesting results pertain to the returns on tenure at the Bank, which were higher than the returns on entry age and were considerably higher for men than for women. Rather than evaluate the coefficients on the individual tenure variables, I consider the effect of all 4 tenure variables simultaneously.⁶⁶ Figure 2 plots real male and female salaries for

⁶⁴ As the unit of observation for this study is the worker-year, there will be multiple observations for most workers. A potential problem that arises in the GLS regressions is that, in effect, they treat separate observations of the same worker in much the same way as they would treat observations of two different workers.

⁶⁵ The War-time penalty for men is likely due to the Bank's policy regarding men in the Services. Throughout the War, the Bank paid male staff in the Services the difference between their salary at the Bank and their salary in the military. However, with few exceptions, the Bank did not grant increments to staff on military leave. A plausible explanation for the female premium is that women were only employed on temporary contracts until 1920, and a higher salary may have acted as an offset to the lack of job security.

⁶⁶ Formally, this is done by examining the predicted real salary at different tenures, other factors held constant. This is given by the antilog of the product of the coefficients and the values of the independent

the first 27 years tenure using the regression results from Table 2, columns 1-4. The striking feature of the salary profiles is that, consistent with the distribution of salaries shown in Figure 1, the gender-based differences in the salaries of junior staff was fairly small. The group of women who earned over £250 at some point entered the Bank at an older age, and actually earned slightly more than their male counterparts during their first few years at the Bank. However, over time a clear gender-based pay gap emerged and gradually widened. Female salaries normally levelled off after about 15 years' tenure, whereas male salaries continued to increase throughout the range of tenures covered by the main sample. The coefficients from column 7 (1890-1905 entrants) imply that male salaries continued to increase with tenure through retirement age. This basic pattern is evident in both the full and restricted samples, suggesting that the gender-pay gap was not primarily due to occupational segregation within the clerical ranks.

In addition to the profiles from the regressions, Figure 2 also shows average real salaries across the industry in 1962, based on the salary scales of the 10 largest English Banks.⁶⁷ The salary scales closely track 1915-41 earnings at William Deacon's, suggesting that many of the practices outlined in this paper were still commonplace throughout the industry well after the Second World War. All of the banks started men and women on identical scales for the first 4-7 years tenure. After about 8 years, the gap between men and women began to widen. The gender pay gap from the 1962 scales appears to be less than the inter-war gap at Williams Deacon's; however, the scales probably understate the *de facto* gap in 1962 for two reasons. First, the banks also operated 'merit', 'special merit', and 'advanced'

variables, $\hat{Y} = e^{-X\beta}$. The continuous independent variables are evaluated at their means, except for tenure, which is evaluated at every integral value between 0 and 27, and the dummy variables are evaluated at their modes.

⁶⁷ Bank Officers' Guild, 'Salary scales'. The profiles are a raw average of the scale salaries for Yorkshire Bank, District Bank, National Provincial Bank, Williams Deacons Bank, Barclays Bank, Lloyds Bank, Midlands Bank, Martins Bank, Westminster Bank, National Bank.

salary scales, which enabled the most capable men to increase their earnings above those shown.⁶⁸ There were also ‘merit’ scales for women, but these were used much less frequently.⁶⁹ Secondly, some men were able to advance multiple increments by being promoted before they reached the top of the scale for their current position, whereas promotion was less common for women.

The second approach used to evaluate gender differences in salaries is to decompose the gap between male and female salaries.⁷⁰ Note that the male and female regressions can be written as follows (with the *i* and *t* subscripts dropped for expositional simplicity): $Y_M = B_M X_M$ and $Y_F = B_F X_F$; where *Y* is the dependent variable (natural log of real salaries); *X* is a vector of independent variables (tenure, entry age, etc.); *B* is a vector of coefficients (from Table 2); and *F* and *M* denote female and male, respectively. The difference between male and female salaries can be written as: $(Y_M - Y_F) = (B_M X_M - B_F X_F)$, which can be rewritten as $(Y_M - Y_F) = B_M (X_M - X_F) + (B_M - B_F) X_F$. This is the Blinder-Oaxaca decomposition. The term $B_M (X_M - X_F)$ reflects ‘explained’ differences in salaries caused by differences in endowments of the independent variables. The differences in endowments may be caused by voluntary choices (for example, men choosing to stay longer at the bank) or by non-wage discrimination (such as the marriage bar). The term $(B_M - B_F) X_F$ reflects ‘unexplained’ differences in the returns to these endowments or ‘prices’ of characteristics. This reflects pure wage discrimination. The decompositions are evaluated using the

⁶⁸ See, for example, National Provincial Bank of England, ‘Salary scales’. The National Provincial Bank’s merit, special merit, and advanced scales paid 5-18 percent, 10-19 percent, and 14-25 percent more than the ordinary scale, respectively, depending on tenure.

⁶⁹ Blackburn, *Union character*, pp. 71-72.

⁷⁰ Oaxaca, ‘Male-female’. Blinder, ‘Wage discrimination’.

regression coefficients on the full and restricted samples from Table 2, columns 1-4 and the variable means shown in Table 1.⁷¹

Table 3 shows the Blinder-Oaxaca decompositions, with characteristics aggregated into the tenure variables and other variables. The interpretation of numbers in Table 3 is as follows. For the full sample, the total gap is .431, indicating that on average men in the 1915-41 entry sample earned about 43 percent more than women. The decomposition shows that the net effect of tenure accounts for more than 100 percent of the gap, with men earning about 29 percent more than women because of greater average tenure and about 24 percent more because of greater returns to tenure. In fact, had there been no differences in either the amount of or return to tenure, women would have earned about 10 percent more than men, largely due to their higher entry age. The decomposition of the regressions on the restricted sample is perhaps even more striking. More than 100 percent of the gender pay gap is accounted for by differences in the returns to tenure. Had the returns to tenure been the same, women would have earned about 27 percent more than men, largely due to their higher returns on other characteristics.⁷²

Finally, it should be noted, that even despite the strong evidence of wage discrimination in the above analysis, the results may, in fact, considerably underestimate the importance of discrimination over the entire career because of truncation of the sample. As noted in the previous section, the nature of the data implies a maximum tenure of 26 years; whereas it

⁷¹ To take a specific example, for the full 1915-41 sample the effect of tenure net of all other variables (including tenure squared, etc.) is $.20(8.16 - 5.56) + 5.56(.20 - .08) = +.52 + .67 = 1.19$ or 119 percent. The first term reflects the 'explained' portion due to differences in the average level of tenure, the second reflects the 'unexplained' portion due to differences in the returns to tenure.

⁷² The figure of 27 percent is obtained from table 3 as $(-.09 + .06 - .24) = -.27$, or approximately 27 percent higher earnings for women. It is likely that the higher returns to women on other characteristics is due to the sample selection process for the restricted sample, which meant that women in the sample were considerably above average in terms of capabilities, whereas the men were below average.

was not uncommon for banking careers to last well over 40 years. The truncation of the data is likely to have two separate effects, both of which reinforce the importance of tenure to the pay gap. First, the tenure-specific survival rate was much higher for men than women. As a consequence, more male observations will be missing due to censoring than female observations (a fact which is evident from the much higher proportion of men who are censored in the data). This implies that if it were possible to observe the censored observations, the difference in average tenure is likely to be considerably higher than is reported in Table 1.⁷³ Second, as is evident from Table 2 and Figure 2, women's salaries had levelled off before the 26th year of tenure whereas men's salaries were still increasing at this stage of the career. Thus it is likely that if the data continued forward after 1941 and included individuals with longer tenure, the estimated gap in the returns to tenure would be larger than those shown above.

5. The Salary Consequences of Promotion Barriers

The data on the 1915-41 entrants highlight the importance of tenure for the gender pay gap, but at the same time provides little evidence that the absence of promotion opportunities was an important contributing factor to the lower earnings of women. Although the regressions in columns 1-6 of Table 2 show that managers earned considerably more than clerks, only 7.1 percent of men entering after 1914 became a branch manager during the sample period and only 3.7 percent of observations in the male sample are at the level of manager. The Blinder-Oaxaca decomposition on the 1915-41 regressions shows that differential promotion opportunities resulted in male salaries being only 0.43 percent

⁷³ This is further evident from the 1890-1905 entry sample, which suffers far less from the problem of right censoring. The average tenure in this sample is 17.3 years, more than double the average tenure observed for 1915-41 male entrants.

higher than female salaries.⁷⁴ However, using the using the 1915-41 sample to estimate the consequences of promotion barriers is problematic because of truncation of the sample. Promotions were generally only attained after an initial apprenticeship followed by a period of 10-15 years moving up the ranks. It would have been unusual for an employee to have been considered for promotion to manage a small branch before about 15 years of service or to manage a medium to large branch before about 25 years service. Because of the truncation of the sample in 1936 and 1941, only 12.9 percent of observations in this sample had tenure of at least 15 years and only 0.3 percent had tenure of at least 25 years. The deferred nature of promotion means that to estimate the consequences of promotion for salaries it is necessary to observe staff over their entire careers. In this section, I use the data for the 1890-1905 entry cohorts to estimate the *ex ante* expected returns to promotion opportunities over the entire career.⁷⁵

The regressions on male staff in Table 2, column 7 can be used to infer that managers of branches with 2, 10, 25, 50, and 100 staff, respectively earned approximately 25.4, 36.4, 57.0, 91.3, and 159.8 percent more than other otherwise similar clerks, all else equal. This implies that the glass ceiling at the level of manager substantially reduced the earnings of the most capable senior female employees. However, this does not necessarily imply that promotion barriers made a large contribution to the pay gap, as most male staff were never promoted and even the most capable spent years in the clerical ranks before rising to the level of manager. In order to calculate an expected promotion premium for an employee

⁷⁴ This figure is obtained by calculating the Blinder-Oaxaca decomposition using the coefficients for managers (male, .05 and female, 0), the male and female means (.037 and 0, respectively), and the total wage gap (.431 from table 3). Thus the total gap due to difference in the difference in promotion rates as a percent

of the total gap is: $\frac{100((.05)(.037) + 0(.037 - 0))}{.431} = .043$.

⁷⁵ The *ex ante* promotion premium can be thought of as a comparison between observed male salaries and a counterfactual whereby women possessed the same characteristics and received the same within-position earnings as men, but did not have any opportunities promotion.

with *ex ante* average promotion prospects, it is necessary to adjust for the likelihood that they were still at the Bank and the likelihood that they were a manager of a given sized branch at different tenures. Formally, the *ex ante* promotion premium is given by Q:

$$2. Q = \sum_{B,T} \frac{\pi_T ((P_{M,B,T} W_{M,B,T} + (1 - P_{M,B,T}) W_{C,B,T}) - W_{C,B,T})}{(1 + r)^T}$$

where Q is the net present value of the difference between lifetime earnings with average promotion possibilities and lifetime earnings with no promotion possibilities (expressed as a percentage of lifetime earnings)

B denotes branch size

T denotes tenure

M denotes manager

C denotes clerk

r is the discount rate

π_T is the share of all observations with tenure T

$P_{M,B,T}$ is the probability that an individual with tenure T in branch size B is the branch manager

$W_{X,B,T}$ is the predicted salary for a manager (clerk) with tenure T in branch size B

The values of W, P, and π can be estimated using the data covering the 1890-1905 entrants.

The salaries of clerks and managers are estimated using Table 2, column 7 for every combination of branch size and tenure (evaluated only at integral values).⁷⁶ The

probabilities P and π are constructed from a matrix of tenure and position.⁷⁷ A simplified

form of this matrix is shown in Table 4.⁷⁸ A few observations can be made from Table 4.

First, most (about 81.3 percent) man-years were spent at the level of clerk. Approximately

75 percent of staff did not reach the level of manager during the sample period, and thus

⁷⁶ Formally this is given by: $\hat{Y} = e^{-X\beta}$.

⁷⁷ The data is truncated in 1936 or 1941 for 108 of 440 1890-1905 entrants. These individuals ranged in age from 49-69 years at the truncation point, and would have been rapidly approaching retirement. I have assumed that the individual would have remained at their current position until age 60 (the standard retirement age) or, for individuals over age 60, another 3 years when calculating the probabilities P and π . This adds an additional 466 man-years to the 1890-1905 entry sample, approximately 4.4 percent of the total.

⁷⁸ The position-tenure matrix used to calculate the expected returns to promotion has 9,669 cells (the maximum tenure was 52 years and the largest branch size was 183 staff). Table 4 collapses this matrix considerably in order to highlight important features of promotion.

realised no *ex post* gains from promotion opportunities.⁷⁹ This implies that the consequences of promotion barriers were born by a talented minority of women, and were negligible for most women. Second, the proportion of staff in managerial positions increased with tenure. This was because promotion occurred slowly and because staff who were passed over for promotion had higher tenure-specific exit rates. The slow promotion process meant that the glass ceiling only had salary consequences for senior women and thus the *ex ante* promotion premium will be decreasing in the discount rate.

The estimated value of the *ex ante* promotion premium is 15.74, 14.23, and 12.76 percent over the entire career for discount rates of 0, 1, and 2 percent respectively. This suggests that the salary consequences of promotion barriers, though nontrivial, were relatively small in comparison to those of the marriage bar or pure wage discrimination (which is estimated at a lower bound of approximately 53 percent in Table 3). Moreover, while the estimated consequences of differences in tenure and pure wage discrimination is a lower-bound (because of truncation of the sample), the estimated value of the *ex ante* promotion premium is probably an upper bound for two reasons. First, men entering between 1890 and 1905 probably had a somewhat higher probability of promotion than later entrants. The expansion of the branch networks after the First World War created a large number of promotion opportunities for this cohort. Moreover, these men had limited competition for promotion. Women still faced glass ceilings and many of the men who would have normally been competing for promotion were lost in the First World War. Scholars have noted the existence of an ‘age bulge’, whereby subsequent cohorts had more restricted promotion opportunities.⁸⁰ Secondly, and perhaps even more importantly, the estimated

⁷⁹ There are 56 individuals who were right censored in the data and who had not reached the level of manager at the time when the data is truncated. It is unlikely that many of these staff ever were promoted, as they would have been rapidly approaching retirement in 1936 or 1941.

⁸⁰ Blackburn, *Union character*, p. 74 and Stoval, Savage, and Bearman, ‘Ascription’, pp. 365-66.

loss of earnings for female staff from promotion barriers is calculated using survival probabilities for male staff. Women had much lower tenure-specific survival probabilities than men, and thus even if the tenure-specific promotion rates were the same, women would have had lower *ex ante* expected returns to promotion.⁸¹ Undoubtedly, much of the difference in survival probabilities was due to the marriage bar, however, it is also likely that even assuming no other forms of discrimination by the Bank, social and cultural factors would have led to higher exit rates, and thus lower promotion rates, for women.

6. Comparison to Outside Opportunities

Despite segregation into routine jobs, lower pay than men, lower returns to tenure than men, and the existence of the marriage bar, a substantial proportion of female staff were long-term employees of the Bank. Among women entering between 1919 and 1921, approximately 68.6 percent remained at the Bank 5 years after their initial entry; 46.1 percent, 10 years after; and 20.6 percent, 20 years after. Part of the reason why some women stayed so long is that during the period of this study, staff were almost never able to move to positions at other banks.⁸² However, scholars have argued that elsewhere in the clerical sector, women were highly mobile and frequently changed employers.⁸³ The relatively high proportion of long-term employees thus suggests that although female banking clerks were paid substantially less than their male counterparts, they may have, nevertheless, not had any better outside opportunities. Several scholars have supported this

⁸¹ The 5, 10, and 20 year survival rates for 1919-21 male entrants were 90.4, 84.3, and 79.3 percent, respectively. For women entering in these years, these figures were 68.6, 46.1, and 20.6 percent.

⁸² See Blackburn, p. 78. Although the Williams Deacon's records do not provide information about prior experience, most female staff were hired within a few years of completing their secondary education and therefore *couldn't* have had much experience at other banks. Among women entering between 1919 and 1938, the average entry age was 18.7 years and 89.8 percent were under age 21.

⁸³ Zimmeck, 'Clerical work', p. 166 notes that women 'were knowledgeable about the pay and conditions on offer ... They were will to change jobs in pursuit of the "ideal".' Also see Anderson, 'White blouse revolution', pp. 7, 19-20.

view, arguing that bank clerks were among the ‘cream’ of clerical labour; however, there has been little systematic analysis of the opportunities available for female clerks.⁸⁴

To examine outside opportunities, this section compares salaries at the Bank to those of other clerical and manufacturing workers using data from the *New survey of London life and labour* (NSLLL), a cross-sectional survey of working class households, taken between 1928 and 1932 and published salary scales for civil servants, teachers, and railways clerks.⁸⁵ The NSLLL provides data on wages and salaries, age, occupation, employer, place of birth, and residence for 11,680 working women. It is in many ways an ideal data set for to examine outside opportunities of female bank clerks in London as it covers a broad range of clerical and non-clerical employment. Moreover, the NSLLL sample is, by construction, fairly similar to the Williams Deacon’s sample as it contains individuals earning up to £250, the normal maximum earnings for women at Williams Deacon’s.

Table 5 shows annual earnings (pounds when ‘fully employed’) for women by occupational category in the NSLLL data. It is evident from rows 1-14 that the clerical sector paid substantially more than other employers of large numbers of women. The average earnings of clerks in the sample were 11-45 percent higher than average earnings in the 13 other occupational categories which employed at least 150 women. The only categories which had higher average earnings than clerks (public administration, professional, entertainment and sports, and stationary engine drivers) together comprised only 1.2 percent of female employees in the NSLLL data. Table 5 only shows raw earnings data and thus may not provide like-for-like comparisons across industries. To control for other factors, I have run a simple regression of the log of real weekly earnings on age, age

⁸⁴ Lockwood, *Blackcoated worker*, pp. 46-7 and Wilson, *Disillusionment*, p. 147.

⁸⁵ Hatton et. al., *New survey*, Augmented Society of Railway Servants, *Report*; Board of Education, *Report*; and Federation of Women Civil Servants, *Statement*.

squared, UK-born, London-born, and occupation categories. The regression results are as follows:⁸⁶

$$3. W = \mathbf{-}.49 + \mathbf{.10}AGE - \mathbf{.0012}AGE^2 + \mathbf{.26}UKBORN + \mathbf{.20}LONBORN + \mathbf{.49}CLERK$$

(5.76) (43.72) (39.70) (4.89) (16.40) (6.06)

Absolute values of t-statistics are shown in parentheses, bold indicates significance at a 1% level. Adjusted $R^2 = .348$, $F = 173.42$.

The regression confirms the evidence from the raw data showing that clerical work was the best paid work available to most women. The coefficient on CLERK is significant at a 1 percent level, and is larger than the coefficients on all other occupation groups employing large numbers of women. The last 10 rows of Table 5 show earnings for clerks, subdivided by industry.⁸⁷ Bank clerks were among the highest earners within the clerical ranks, ranking behind only those in government, who were, on average, 2.4 years older. Moreover, entry into government positions may not have been feasible for many clerks, as these positions often had dozens of applicants for every opening.⁸⁸

Table 6 shows average earnings by age for clerks in the NSLLL data and a comparable sample of Williams Deacon's clerks.⁸⁹ The table provides two explanations for the considerably loyalty of Williams Deacon's female staff. First, salaries at the Bank were higher than those in the external labour market at every age. Second, the gap in average salary increased with age, suggesting that the returns to tenure at the Bank, although

⁸⁶ The regression also includes dummy variables for other occupations, but these are not reported due to space limitations. The NSLLL data do not contain information on some of the variables that would normally be contained in a Mincer-type earning regression, such as prior experience, education, or hours worked. Thus the regression coefficients may be affected by omitted variable bias, and caution should be used when interpreting the results. A full set of regression results is available from the author.

⁸⁷ The NSLLL data does not provide direct information on industry, but it does, in most cases, provide the name of the individual's employer. In some cases it was easy to infer the industry from the name, but in most cases it was not possible. It is likely that most of the clerks in the other/not specified category worked for relatively small employers in the retail, commercial, and manufacturing industries.

⁸⁸ Silverstone, 'Office work', p. 104 and Dohrn, 'Pioneers', p. 56.

⁸⁹ The Williams Deacon's sample is comprised of clerks from London earning £250 or less. The sample includes all female staff who met these criteria for 1930 (the main year of the NSLLL survey) and female staff in 1929 and 1931 who met these criteria, but were not present in 1930. Although the NSLLL Survey was conducted between 1928 and 1932, approximately 98 percent of individuals were surveyed in 1929-31, and thus I use these years to construct a comparable Williams Deacon's data set.

considerably less than those for men, were nonetheless greater than the returns to tenure at alternative employers.⁹⁰ In other words, women intending to remain in the labour force for a long period would probably have earned more over their careers by choosing banking employment and staying at the same employer than with alternative employment choices. Tables 5 and 6 may, in fact, understate the advantages of long-term employment at Williams Deacon's relative to alternatives, as banking staff benefited from greater job stability and benefits (such as pensions) than employees of virtually every other industry with a large clerical workforce.⁹¹

The *New survey of London life and labor* only covered individuals from working class households. Most banking staff however, came from middle class families, and it is possible that they had better outside employment opportunities than women from working class households.⁹² The evidence on salaries of women in the clerical sector from middle class backgrounds is fragmentary, but it is possible to make some basic comparisons using published salary scales from large bureaucracies, namely the Burnham Scales for teachers, published scales for railroads, and Whitely Council Scales for civil servants.⁹³ In each of these cases, the evidence is limited to published scales of the normal salary at different levels of tenure, and it is impossible to determine to what degree these reflect salaries actually paid.

⁹⁰ Table 6 shows the return to 'age', which, because of the absence of information on tenure in the NSLLL data and the close correlation between age and tenure, can be interpreted as the sum of the actual return to age and the return to tenure. Because most entrants to Williams Deacon's were young, the implied return to age (the gap between salaries at different ages in Table 6) can be interpreted as a tenure effect. This effect is larger than the age plus tenure effects at other clerical employers, and thus it is almost certain that the returns to tenure at the Bank was higher than at alternative employers.

⁹¹ Smith, *New survey*, pp. 284-98.

⁹² See Blackburn, *Union character*, p. 77 on the background of banking staff.

⁹³ Augmented Society of Railway Servants, *Report*; Board of Education, *Report*; Federation of Women Civil Servants, *Statement*.

Table 7 shows the salary scales for civil servants, teachers, railway clerks, and the actual salaries of Williams Deacon's staff. The scales are not compiled exactly the same way across the different organizations, and thus some caution should be used in making comparisons.⁹⁴ Despite this caveat, Table 7 seems to provide further evidence that female bank clerks may not have had better outside opportunities, particularly after they had spent a few years at the bank.

Broadly speaking the salaries of bank clerks were similar to those of certified teachers, who needed up to five additional years of formal education to be certified. However, teachers were better off than bank clerks in one respect not covered by the scale, namely that a small percentage were promoted to head teachers. Certified female head teachers earned £300-£360 in the smallest schools and £374-510 in the largest.⁹⁵ The salaries of uncertified teachers, perhaps the more directly relevant outside opportunity for bank clerks, were considerably lower. The salaries of railways clerks started out at a similar level to those of Williams Deacon's clerks, but increased at a much slower rate. After 5 years tenure, 85 percent of Williams Deacon's female staff earned at least the £95 proscribed under the railways scale. After 10 years tenure, all Williams Deacon's staff earned more than the £125 proscribed by the railways scale.

Clerical salaries in the Civil Service were determined by a more complex set of scales. Salaries on the standard Civil Service clerical scale were considerably lower than the

⁹⁴ The Civil Service Scales in Table 7 are transcribed exactly from the original source. The teachers scale covered salaries by tenure, not age, and the original source does not mention the normal starting age. The railways schedules are reported as shillings per week and converted into an annual salary by multiplying by 50. The Williams Deacon's series shows the average salary by tenure for staff entering the Bank before their 18th birthday.

⁹⁵ Board of Education, *Report*. The proportion of female teachers who rose to the level of head teacher is unavailable from the existing records, so it is impossible to estimate the overall effect of promotion opportunities on teachers' earnings.

average paid at Williams Deacon's, although those on the higher grade Civil Service clerical scale were similar to the upper end of the range paid to 'super clerks' at Williams Deacon's.⁹⁶ The Civil Service executive scale was very similar to the Williams Deacon's averages, with the exception that increments on the Civil Service scale automatically continued to a £300 maximum, the same as the highest salary paid to Williams Deacon's 'super clerks'. Salaries on the Civil Service administrative scale were considerably higher, and the maximum point on the scale (£400) was considerably above maximum paid by the Bank during the period. Although the Civil Service scales topped out at a higher rate, it is unclear that it generally provided higher salaries than banking, as the majority of women in the Civil Service were employed at the lower grades. In 1929, 88.6 percent of women in the Civil Service were on the clerical scale, 8.5 percent were on the higher clerical scale, and only 2.9 percent were on higher grade scales, which went above the £300 maximum the Bank paid to its 'super clerks'.⁹⁷ Guy Routh estimates that in 1924 the median salary of all female Civil Servants was £171, whereas the median for female bank clerks was £178.⁹⁸

7. Conclusions

This paper examines the earnings and career outcomes of female clerks in the banking industry between 1915 and 1941. Williams Deacon's Bank's *Staff registers* provide an extremely rich micro-data set covering virtually all male employees at the Bank between 1890 and 1936, all female employees between 1915 and 1936, and most male and female

⁹⁶ See Federation of Women Civil Servants, *Statement*. It is unclear at what point of their careers women were placed on the higher grade scale.

⁹⁷ Federation of Women Civil Servants, *Statement*. The higher grade scales also include staff on the higher executive grades between the executive and administrative grades.

⁹⁸ Routh, *Wage and occupations*, p. 90. Routh doesn't report tenure or grades, so it is unclear whether his figures reflect a like-for-like comparison.

employees between 1937 and 1941. These data are used to examine the earnings of women and compare these earnings to those of their male counterparts and to their outside opportunities.

The results show that women earned considerably less than men. Across the WDB sample women entering between 1915 and 1941 earned about 40 percent less than their male counterparts. The pay gap widened substantially with tenure; a woman with 1-5 years seniority earned almost the same as a similar man, whereas a woman with 20 years seniority earned substantially less. Some of this difference was due to differences in promotion opportunities, specifically resulting from the segregation of most women into routine clerical positions and a glass ceiling at the level of branch manager. However, even when the sample is restricted to men and women who were likely in the same positions, there remains a large salary gap, which was increasing with seniority. Moreover, the careers of an earlier cohort of male entrants suggest that, over their entire careers, the expected return to having promotion opportunities was relatively small in comparison to the observed gender pay gap. The evidence suggests that the primary reason for the gender pay gap was differences relating to tenure. Women were required to leave the Bank upon marriage, and thus had considerably shorter careers than men. Pay was directly tied to tenure and thus shorter careers would have resulted in considerably lower salaries, even if women had the same returns to characteristics as men. In addition, women also received lower pay increments and thus had lower returns to a given level of tenure. However, despite higher seniority-specific exit rates, a substantial number of women displayed considerable loyalty to the Bank. Careers over 10 or even 20 years were not uncommon. Evidence from the earnings of working class women in London and the salary scales for female clerks at large bureaucracies suggests that this was because of a lack of higher paid outside opportunities for women.

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Table 1: *Summary statistics of variables*

	Men	Women	Men	Women
	Full Sample	Full Sample	Restricted Sample	Restricted Sample
Ln(real salary)	4.47 (0.67)	4.05 (0.55)	4.43 (0.65)	4.50 (0.57)
Tenure	8.16 (5.96)	5.56 (5.53)	7.80 (5.74)	9.61 (5.92)
Entry age	17.49 (2.81)	19.68 (3.57)	17.38 (2.62)	19.38 (2.13)
London	0.10 (0.30)	0.14 (0.34)	0.11 (0.32)	0.60 (0.49)
Head Office	0.07 (0.25)	0.17 (0.38)	0.07 (0.25)	0.36 (0.48)
Manager	0.037 (0.19)	0.0	0.0	0.0
Staff at branch	32.41 (48.47)	56.68 (63.39)	34.35 (49.43)	99.01 (69.90)
Manager * Staff	0.126 (1.64)	0.0	0.0	0.0
Number of observations	12,304	7,771	10784	214

Notes: Standard deviations in parentheses.

Full sample refers to all 1915-41 entrants, restricted sample refers to male 1915-41 entrants not promoted to branch manager during the sample period and female 1915-41 entrants who were paid over £250 at some point during the sample period.

Source: Williams Deacon's Bank Limited, *Staff registrars*.

Table 2: Regressions on the determinants of log real salaries

	Men, 1	Women, 2	Men, 3	Women, 4	Men, 5	Women, 6	Men, 7
Specification	GLS	GLS	GLS	GLS	RE	RE	GLS
Sample	1915-41 entrants	1915-41 entrants	Restricted Sample	Restricted Sample	1915-41 entrants	1915-41 entrants	1890-1905 entrants
Tenure	0.20* (63.03)	0.08* (22.12)	0.20* (60.94)	0.03 (1.24)	0.20* (71.20)	0.09* (29.58)	0.26* (57.76)
Tenure ²	-0.006* (10.96)	0.009* (13.95)	-0.006* (10.90)	0.015* (3.20)	-0.007* (14.02)	0.008* (14.18)	-0.016* (38.84)
Tenure ³ *1000	-0.006 (0.18)	-0.86* (19.53)	0.02 (0.58)	-1.23* (4.22)	0.05 (1.55)	-0.81* (21.34)	0.45* (31.94)
Tenure ⁴ *1000	0.0026* (3.67)	0.017* (18.53)	0.002 (2.44)	0.029* (4.18)	0.0017* (2.68)	0.017* (20.36)	-0.004* (27.81)
Entry Age	0.11* (19.47)	0.02* (3.00)	0.11* (17.98)	0.28* (3.11)	0.14* (9.91)	0.04* (4.90)	0.03* (3.48)
(Entry Age) ²	-0.0013* (10.65)	-0.00014 (0.91)	-0.0013* (10.40)	-0.0065* (2.92)	-0.0016* (5.79)	-0.0003 (1.62)	0.00001 (0.42)
London	0.14* (29.51)	0.06* (18.53)	0.15* (29.90)	0.07 (1.62)	0.16* (14.47)	0.10* (7.57)	0.35* (30.86)
Head Office	0.02 (1.81)	-0.00 (0.10)	0.04* (3.32)	-0.01 (0.19)	-0.01 (0.55)	0.01 (0.46)	0.21* (12.44)
Time trend	0.01* (22.07)	0.01* (35.53)	0.009* (19.39)	0.05* (5.85)	0.008* (11.32)	0.018* (25.48)	0.006* (8.02)
WWI	-0.32* (17.59)	0.15* (14.54)	-0.29* (13.96)	0.25* (5.85)	-0.30* (14.82)	0.17* (18.74)	-0.19* (15.12)
WWII	-0.20* (39.76)	-0.17* (22.99)	-0.19* (36.52)		-0.19* (44.34)	-0.21* (31.43)	-0.11 (6.45)
Manager	0.05* (6.04)				0.05* (5.66)		0.23* (21.38)
Staff at branch	0.00023* (4.20)	0.00018* (3.27)	0.00017* (3.10)	0.00077* (4.76)	0.00025* (3.30)	-0.00003 (0.36)	-0.0002 (1.60)
Manager*staff	0.015* (13.74)				0.014* (7.49)		.014* (22.22)
Inflation	-0.012* (42.60)	-0.010* (37.41)	-0.012* (40.23)	-0.008* (6.82)	-0.012* (46.76)	-0.009* (45.28)	-.012* (22.22)
Constant	1.44* (20.84)	2.68* (35.93)	1.48* (19.60)	-0.73 (0.81)	1.20* (7.47)	2.19* (20.64)	2.53* (26.97)
Sample Size	12304	7714	10784	214	12304	7714	10100
R ²	0.96	0.92	0.96	0.97	0.96	0.92	0.89
F	17625.41*	10938.20*	18519.77*	477.00*			6221.11*
χ^2					269619.14*	82182.15*	

Notes: * indicates significance at the 1 per cent level
 Absolute value of t-statistic in parentheses
 Within group R² reported for the random effects regressions.
 Restricted sample refers to men who were not promoted to manager during the sample period and women who earned over £250 at some point during the sample period.
 The first three rows indicate the sample and regression technique (generalized least squares or random effects) for each regression.

Source: Williams Deacon's Bank Limited, *Staff registrars*.

Table 3: *Blinder-Oaxaca decomposition of the gender pay gap*

variable	Sample	explained	unexplained	Total
Tenure Variables	1915-41 entrants	0.29	0.24	0.53
Other variables	1915-41 entrants	-0.07	-0.03	-0.10
total gap	1915-41 entrants	0.22	0.21	0.43
Tenure Variables	Restricted	-0.09	0.62	0.53
Other variables	Restricted	0.06	-0.24	-0.18
total gap	Restricted	-0.03	0.39	0.36

Notes: The Blinder-Oaxaca decomposition is given by $(Y_M - Y_F) = B_M (X_M - X_F) + (B_M - B_F) X_F$.

Values of B are from Table 2. Values of X are from Table 1.

Restricted sample refers to men who were not promoted to manager during the sample period and women who earned over £250 at some point during the sample period.

The numbers in the table should be interpreted as follows. The value of 0.29 in column 3, row 2 implies that differences in average tenure led to male salaries being approximately 29 percent higher than female salaries. Similarly, the value 0.24 in the next row implies that differences in the returns to tenure led to male salaries being approximately 24 percent higher than female salaries.

Source: Tables 1 and 2.

Table 4: *Percentage of observations at different values of Manager*staff and Tenure*

		Tenure					
		0-5	6-15	16-25	26-40	40+	total
Manager*staff	0	21.59	25.31	16.85	15.64	1.90	81.30
	1-5	0.17	0.98	2.99	4.75	0.83	9.73
	6-15	0.01	0.02	0.70	4.52	1.21	6.46
	16-50	0.00	0.00	0.24	0.98	0.86	2.08
	50+	0.00	0.00	0.04	0.27	0.12	0.44
	Observations	2,299	2,778	2,198	2,764	521	10,560

Source: Williams Deacon's Bank Limited, *Staff registrars*.

Table 5: *Age and earnings of female London workers by occupation, 1929-31*

Occupation	Average Earnings	% of Bank Clerks	Average Age	Sample Size
Personal service	58.0	58.9	37.6	3,117
Mixed/undefined materials	59.0	59.9	21.8	159
Electrical	59.5	60.4	20.9	174
Metals	59.5	60.4	21.4	229
Warehousemen and storekeepers	61.5	62.4	20.9	653
Paper	63.0	64.0	24.4	467
Food, drink, tobacco	65.5	66.5	22.7	503
Skins and Leather	70.0	71.1	23.7	216
Other	70.5	71.6	25.0	944
Textiles	70.5	71.6	25.3	2,454
Transport and communications	73.0	74.1	22.0	234
Finance and insurance (ex: clerks)	75.0	76.1	27.1	1,085
Printers	76.0	77.2	23.0	179
Clerks	84.5	85.8	21.5	1,266
Manufacturing	72.0	73.1	20.6	113
Trains, utilities, telegraph	78.0	79.2	20.3	20
Retail	78.5	79.7	21.8	115
Unions, charities, hospitals	79.5	80.7	21.0	44
Other/Not Specified	84.5	85.8	21.3	826
Commercial	85.0	86.3	22.0	27
Insurance	86.0	87.3	20.6	22
Banking	98.5	100.0	21.9	20
Government	108.5	110.2	24.3	79

Note: Earnings in the *New survey* are reported as pounds per 'fully employed' week. This was converted to an annual salary by multiplying by 50.

Source: Hatton, et. al. *New survey of London life and labour*.

Table 6: *Pay by age at Williams Deacons' and in the London clerical labour market*

Age	WDB	NSLLL
<19	75 (3)	55 (429)
19-22	83.5 (7)	82 (293)
22-26	132.5 (4)	99 (254)
26-30	198 (9)	118.5 (85)
30+	245 (11)	120 (155)

Notes: Sample sizes in parentheses.

Earnings in the *New survey* are reported as pounds per 'fully employed' week. This was converted to an annual salary by multiplying by 50.

Sources: Hatton, et. al. *New survey of London life and labour* and Williams Deacon's Bank Limited, *Staff registrars*.

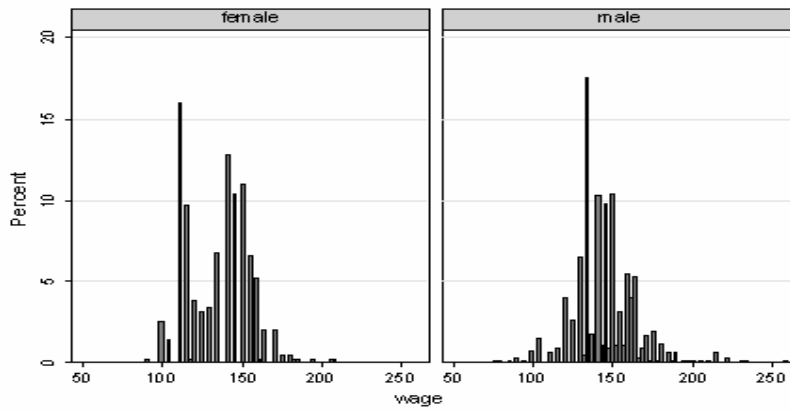
Table 7: Pay by age in large bureaucracies

	CS Clerical	CS Clerical High grade	CS Exec.	CS Admin.	Certified Teachers	Uncert. Teachers	Railways	WDB
	1929	1929	1929	1929	1920	1920	1919	1915-41
16	60							
17	60							59.2
18	80						75	68.1
19	85		100				80	82.5
20	90		110			90	85	98.4
21	95		120			96	90	115
22	100		130		150	102	95	128.6
23	105		140	200	160	108	100	141.2
24	110		150	220	170	114	106.25	154.5
25	115		160	240	180	120	112.5	167.3
26	120		170	265	190	126	118.75	180.6
27	127.5		180	290	200	132	125	194.8
28	135		190	300	210	138	131.25	208.4
29	142.5		200	320	220	144	137.5	222.7
30	150		210	340	230	150	143.75	231.9
31	157.5		220	360	240		150	240.9
32	165		230	380				246.6
33	172.5		240	400				247.9
34	180		250					248.9
35		230	260					251.4
36		240	270					252.6
37		250	280					
38		260	290					
39		270	300					
40		280						
41		290						
42		300						

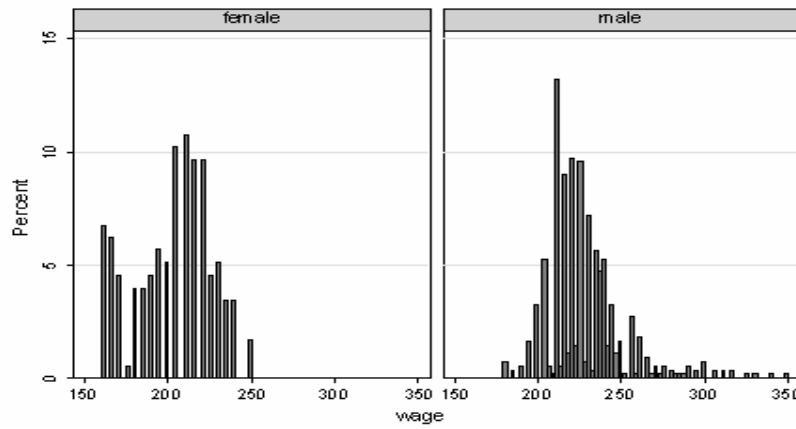
Notes: The scale for teachers is the provisional scale from 1920 and covers tenure, not age. I have assumed a starting age of 22 for certified teachers and 20 for uncertified teachers. Column 7 reports the average nominal salary for Williams Deacon's staff at different tenures, for all entrants starting before age 18. As the average entry age for this group was 17.1 years, I have assumed that year 1 corresponds to age 17. It is unclear from the original source whether the railways scales reflects one particular operator or is an average across a number of railways. It is unclear from the original source at what age a Civil Service clerk would normally be placed on the higher grade scale.

Sources: Augmented Society of Railway Servants, *Report*; Board of Education, *Report*; The Federation of Women Civil Servants, *Statement*; and Williams Deacon's Bank Limited, *Staff registrars*.

Tenure = 5 Means – male, 145.34; female, 136.52



Tenure = 10 Means – male, 227.78; female, 204.42



Tenure = 20 Means – male, 365.01; female, 251.56

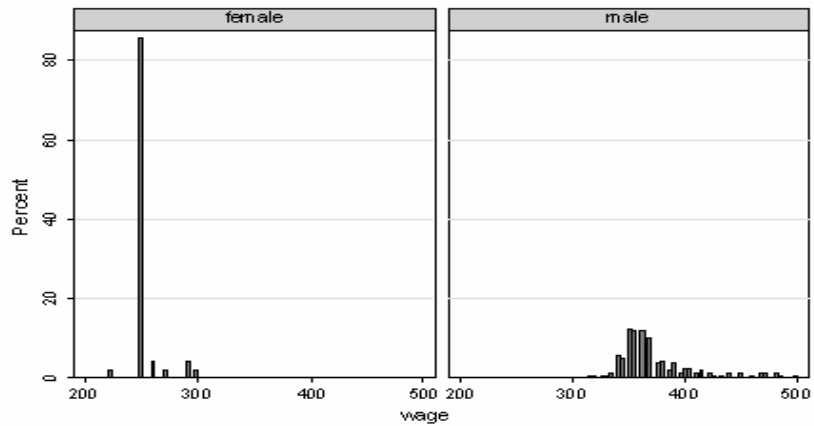


Figure 1: *Distribution of nominal salaries, 1915-41*

Notes: Sample includes only clerks entering the Bank before their 24th birthday. Sample sizes are tenure = 5: men – 696, women – 481; tenure = 10: men – 564, women – 202; tenure = 20: men – 164, women – 64.

Source: Williams Deacon’s Bank Limited, *Staff registrars*.

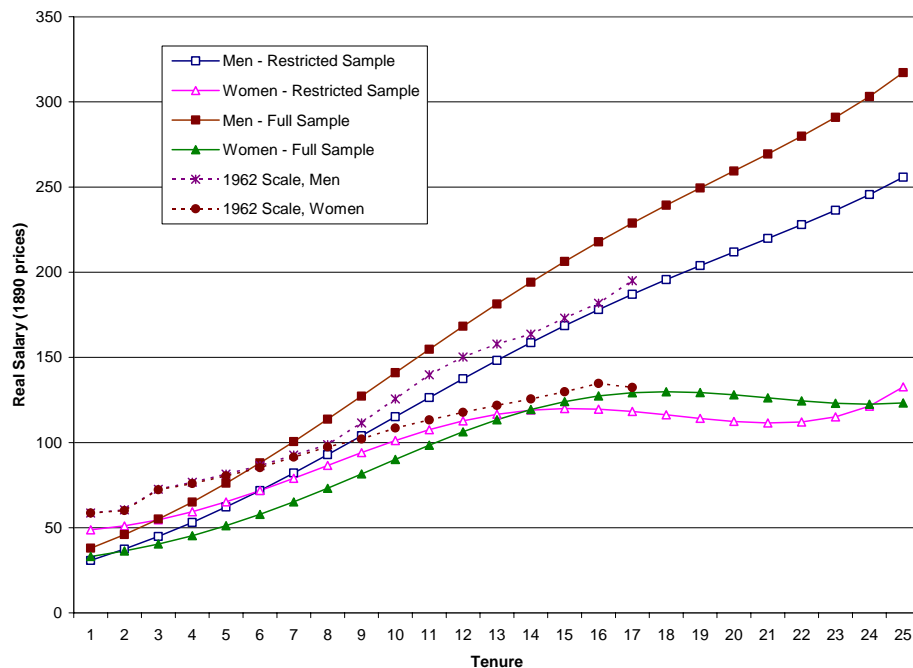


Figure 2: Predicted salary profiles and 1962 salary scales

Note: The predicted salary is calculated as $\hat{Y} = e^{-X\beta}$. The coefficients were obtained from Table 2, the values of X are evaluated at the mean for continuous independent variables and the mode for dummy variables. These values are shown in Table 1. The one exception to this is, of course tenure, which is evaluated at every integral value between 0 and 27. To provide a concrete example, the predicted salary for a woman in the restricted sample with 2 years of tenure is: $\exp[-.73 + .03(2) + .015(2^2) - .00123(2^3) + .00029(2^4) + .28(19.38) - .0065(380.08) + .05(35.28) + .00077(99.01) - .008(1.51)] = \text{£}54.67$.

Sources: Table 2 and Bank Officers' Guild, 'Salary scales'.