

**Internal Labour Markets in the Australian Banking Industry:
Their Nature and Recent Decline**

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In recent years there has been a dramatic change in personnel practices in the banking industry. As late as the 1970s the industry was predominantly male. Employees worked full-time starting at a young age. They advanced up the hierarchy by internal promotion up a well defined career ladder. Career-long employment was commonplace, and separation typically meant leaving the industry, rather than moving to another bank. The branch manager was a well-known and powerful figure about town, and had the discretion to approve or disapprove advances. Today none of these characteristics remains. The majority of banking employees are female, many of them working part-time. Turnover in the industry is high. The positions of clerk and teller, once an important stepping stone on route to becoming a branch manager, are now seen as “dead end” jobs with few promotion prospects. High-level employees are typically hired in the external labour market. Even the branch manager has given way to specialist loan officers who use credit scoring, rather than discretion, to approve loans. There can be little question that this organisational change over the past 30 years has been driven by the technological changes of recent years, most notably computer technology.

This paper examines the nature of internal labour markets in the Australian Banking industry prior to the Second World War, the reason why banks maintained internal labour markets, and the reasons for the breakdown of internal labour markets since the 1970s. The paper uses data from the personnel records of the Bank of Australasia (BOA) to examine the nature of internal labour markets in the period prior to deregulation of the industry and the introduction of computers, ATMs, and modern telecommunications. The BOA was one of the largest private employers in Australia at the end of the 19th century. In 1890 its 119 branches ranked 5th and its £13,800,000 assets ranked 2nd among the 29 Australian trading banks.¹ In 1927 it employed 1,261 staff in Australia and New Zealand.² The primary data consist of the complete career histories of a sample of 125 employees who enter the BOA between 1887 and 1897.³ The records include date of birth; date and place of entry; date and reason for exit (resigned, dismissed, died, retired); and annual observations of wage, position, and branch of employment. Because most of these employees are observed over multiple years, I use the man-year as the unit of observation. Each annual observation of salary, position, and location is taken as of October 1 of a given calendar year.⁴ All totaled the data set contains 2,527 man-years. These data are supplemented with data from several other sources. Employment at the

¹Butlin, Hall and White (1987), p. 131.

²A/141/10.

³A/60/1. The sample was drawn in the following manner. In the wage ledgers, each employee has a unique number based on the order they were made officers of the bank (passed their probationary period). The sample contains employees 900-24, 1000-24, 1100-24, 1200-24, and 1300-24.

⁴The choice of October 1 is somewhat arbitrary. I used it in preference to December 31 because fewer employees were away from their normal position to cover for employees at other branches taking annual leave. There are two necessary exceptions to this rule. Employees who entered after October 1 of a given year have their first year's information recorded as of December 31. Employees who exited before October 1 in a given year have their last year's information recorded as of the date of exit.

BOA's branches is from the Superintendent's Yearly Review.⁵ National figures such as the price deflator used are taken from Australians: Historical Statistics.⁶ Because there are a fairly small number of employees in the sample (though, because of lengthy careers, there are a large number of man-years), comparisons are made to practices at the BOA's "sister bank" the Union Bank of Australia (UBA).⁷ The UBA was similar in size to the BOA, possessing assets of £12,900,000 in 1890 and employing 1011 workers at 161 Australian branches and 324 workers in 48 New Zealand branches in 1930. The data for the UBA are drawn from a similar set of personnel records covering the entire careers of 1,428 employees who were present in 1887 or entered before April 1900.⁸

The outline for the remainder of the paper is as follows. The first section following the introduction provides a brief overview of the Australian banking industry from the 1890s to the 1940s, the period covered by the data. The second section uses the BOA and UBA data and evidence from previous studies to examine the nature of internal labour markets. It is argued that all of the characteristics of internal labour markets identified by Peter Doeringer and Michael Priore were present at both banks.⁹ The third section examines several explanations for why banks might have adopted internal labour markets, and argues that explanations based on asymmetric information, reducing turnover, and mitigating moral hazard are more relevant to the banking industry than are explanations based on trade union activity or public policy. The fourth section offers some speculations as to why internal labour markets in the industry have broken down over the past 30 years. The fifth section concludes.

I. The Australian Banking Industry

Trading banks were by far the most important form of financial intermediary prior to the Second World War; in 1901 they possessed assets nearly four times larger than all other financial intermediaries combined.¹⁰ From its beginnings, the industry was very heavily concentrated, with a small number of banks operating a large network of branches. The maximum number of banks in Australia was 31 in 1890. The Depression of the 1890s led

⁵A/141/10. All branch employment data is from 1927. This creates some measurement error and is thus likely to increase the standard error of the estimate of the effect of branch size on real salaries. I believe this effect is likely to be small because the evidence from the UBA indicates that the relative sizes of branches changed little over time. The correlation between number of staff employed at a branch in 1900 and number of staff in 1930 is .97.

⁶Vamplew (1987).

⁷See Merrett and Seltzer (1999), Seltzer and Merrett (2000), Seltzer (2000), and Seltzer and Simons (2001) for further discussions of personnel practices at the UBA. See Seltzer and Simons (2001) on personnel practices at the Bank of Queensland, the Bank of Adelaide, and the Bank of South Australia. The BOA and UBA were sister organizations in that there are many parallels in their history. They were both founded in London in the 1830, operated their colonial head offices in Melbourne, were relatively cautious about expansion of their branch networks during the "long boom" of the 1860s through the 1880s, remained open during the crisis on 1893, and began losing ground to their main competitors in the 1920s. The two banks merged to form the ANZ Bank in 1951.

⁸U/271, U/205, Z/87. I have also drawn data on UBA branch sizes from U/218 – U/223.

⁹Doeringer and Priore (1971).

¹⁰Butlin (1987), p. 235.

to a series of failures and mergers, and by 1900 only 22 banks remained. Throughout the 20th century there was further consolidation of the industry. By 1952 the largest 7 banks accounted for nearly 93 percent of branches, and the industry is now dominated by the “Big Four”.¹¹ The average number of branches per bank increased from 12.3 in 1860 to 32.5 in 1880, 58.2 in 1900, 89.1 in 1914, 176.6 in 1946, and 435.2 in 1970.

Because of its vast area, high per capita income, and lack of unit banking laws, Australia had the most extensive network of bank branches in the world at the turn of the century. In 1901 Australia possessed 1,303 bank branches, 1 for every 2,896 people. In contrast England and Wales had 1 for every 6,787 people, Scotland possessed 1 for every 4,114 people, and the United States 1 for every 8,750 people.¹² Although the Australian population has always been heavily concentrated in a few urban areas, bank branches were disproportionately located in rural areas. In 1930 over 75 percent of branches were located in towns with population under 10,000 and over 60 percent were at least 100 miles from a capital city.¹³ It was commonplace for small towns to have branches operated by several different banks, whereas in the United States only the big cities had multiple branches.

The nature of the industry had important implications for personnel practices. As each branch had only a single manager, the majority of managers were located in the small branches and in rural locations. A young banker with ambition had to be prepared to live away from the city for a period, and most employees in the sample spent at least part of their career at the smaller rural branches.

II. Evidence of Internal Labour Markets

Internal labour markets are defined by a number of characteristics of which I focus on four: there exists a limited number of “ports of entry”, upper-level positions are filled through internal promotion rather than outside appointments, there exist long-term relationships between the employer and its employees, and pay and promotion are determined by impersonal rules (such as being tied to easily observable characteristics) rather than managerial discretion.¹⁴ Each of these characteristics can be examined using the BOA and UBA data. I argue that all four of these features were present at the BOA and UBA.

Prospective employees typically entered the BOA through one of two channels: either they directly applied themselves or, because juniors with sufficient education were scarce and in high demand in Australia, they were referred by parties known to the bank. Upon

¹¹The Big Four are ANZ Bank (the successor to the BOA and UBA), National Australia Bank, Commonwealth Bank, and Westpac Bank.

¹²See [International Banking Directory](#) on branch numbers and locations.

¹³Distances from capital cities were calculated using Great Circle Distance:

$$d = R * \arccos(\sin(\text{lat}_a) * \sin(\text{lat}_b) + \cos(\text{lat}_a) * \cos(\text{lat}_b) * \cos(d_{\text{lon}}))$$

where R = Radius of the earth (6365 km), lat_a, lat_b = latitudes of the two points,

and d_lon = difference in longitude between the two points.

¹⁴Doeringer and Priore (1971).

application they had to pass medical and education examinations. Contingent upon passing these exams and raising the necessary bond, a new recruit was given the post of “supernumary”, which was effectively an apprenticeship. Supernumeraries received an allowance, but did not draw a salary. After between 1 and 5 years (though in about 73 percent of observations 3 years) a competent supernumary would be promoted to the level of clerk and be made an officer of the bank. New recruits were typically very young; about 92 percent of sample employees were under 20 years of age at the time of being made an officer of the bank. As described by the Doeringer and Priore model of internal labour markets, the BOA maintained a single port of entry. All of the employees in the sample, including one who eventually rose to be the general manager in Australia spent some time as a supernumery. The UBA was less restrictive in its appointment practices. About 40 percent of the sample had some previous clerical experience, though normally this was limited to only a few years. New entrants to the UBA were also young, the median age at the time of initial appointment was 18.5 and 61.7 percent of new appointees were under age 20.

Because the BOA operated only a single port of entry, all upper level positions were filled through internal promotions. In smaller branches there were only two hierarchical levels: clerk and manager. In larger branches there were up to five: supernumary, clerk, teller, accountant, and manager. At the inter-branch level, the main positions were inspector and general manager. Clerks performed a variety of tasks, and ranged from juniors who had just cleared their probation to fairly senior employees who were second in charge of smaller branches and performed many of the duties that at a larger branch would have been performed by a teller or accountant. There are a range of clerical titles in the sample; for example bills clerk, ledger clerk, accounts clerk, etc. However, all of these titles reflect the same hierarchical level and to keep cell sizes reasonably large, I have pooled them for the purposes of analysis. Among employees in the sample, 52 reached the level of branch manger, 7 reached the level of inspector, and 1 rose to general manager. Each branch, regardless of its size had only a single manager, and for most employees, branch manager was the highest level to which they could reasonably aspire. For this reason, I have single out promotion to this level for the analysis of career advancement.

Table 1 shows the paths to manager in the BOA and in the UBA. There are substantial differences between the two banks, suggesting different approaches to human resource management. First, a considerably higher proportion of BOA employees reached the level of manager. In part this was due to the fact that employees with very short careers (e.g. less than 3 years) became officers at the UBA but not at the BOA and were thus exclude from the BOA sample. In addition, the BOA operated more small rural branches; in 1890 the BOA ranked fifth among Australian banks with 119 branches, whereas the UBA ranked 10th with 70.¹⁵ Second, the UBA occasionally filled upper level positions

¹⁵Both banks were fundamentally conservative about opening branches. The BOA ranked second among Australian banks in assets in 1890, the UBA third. It is likely that the relatively low number of branches at both banks helped them remain open during the crisis of 1893 for two reasons: first, many of the regions which experienced branch expansion during the long-boom proved to be high risk and suffered above-

externally, rather than through promotion. While all but one of the UBA's external appointments to manager were a result of their absorption of the Bank of South Australia in 1892, the UBA frequently hired clerks with previous banking experience and tended to promote them more rapidly than clerks appointed immediately after finishing their schooling. Third, it was much more common at the BOA for employees to skip from clerk to manager. Nearly 83 percent of the BOA employees who reached the level of manager did so without previously spending time as a teller or accountant, compared to only 18 percent of UBA employees who reached the level of manager. This reflects the fact that UBA employees at small rural branches were often given the title accountant/teller rather than clerk. It also reflects faster promotion of junior employees by the BOA. On average, it took a junior entrant 16.5 years to become a branch manager at the BOA compared to 18.5 years at the UBA. Talented employees could rise much faster. One, who eventually rose to be the general manager, became a branch manager in less than 4 years, far faster than even the most talented employees at the UBA. The BOA's guidelines for hiring suggests that the bank was concerned with promotion potential from the very beginning and did not want to take on juniors who did not have good promotion possibilities. The rules stated that to be considered a junior must be or have a reasonable chance of achieving 5 foot 6 inches tall. The ability of a junior to become a successful back office clerk clearly has little to do with height. Being short would only be disadvantageous for an employee who had to interact with members of the public, i.e. a teller or branch manager.¹⁶

The relationships between both the BOA and UBA and their workers were typically lengthy, frequently lasting the entire career. Among the sample employees the median career at the BOA was 14 years and 21 percent remained at least 30 years. At the UBA these figures are 12.5 and 28. Figure 1 shows career length and reason for exit at the two banks. It is evident that it was fairly common for a young employee to resign on his own accord, be asked to resign (normally due to substandard performance), or be dismissed (due to dishonesty). However, if an employee remained for about 10 years, more often than not he remain until the age of retirement or until his death.¹⁷ Lengthy tenure was important to the bank because the costs associated with hiring and training new workers were quasi-fixed, depending primarily on the number of workers hired and little on how long workers remained at the bank.

Although the BOA sample size is too small to draw any meaningful conclusion about the determinates of the causes of the different types of separations, in another paper I have performed such an analysis using Cox proportional hazard regressions on the UBA data.¹⁸ The main conclusions from this analysis were: 1) that resignations and dismissals

normal rates of default in the 1890s and, second, by keeping the ratio of employees to branches high, the BOA and UBA could be more selective than other banks about promotions to branch manager.

¹⁶See Hamermesh and Biddle (1994) on the labour market effects of being tall. It is also possible that the height requirement was an act of pure discrimination by the BOA. However, this sort of discrimination would have adverse consequences for the bank inasmuch as it would systematically rule out some very talented potential employees.

¹⁷Retirement was mandatory at age 63. Individuals had the option of retiring on a reduced pension from age 55 (or less if the Board of Directors approved an early retirement due to ill health).

¹⁸See Seltzer and Simons (2001) for the regression results.

were pro-cyclical reflecting the lower cost to the worker of separating during a strong job market; 2) the likelihood of resignation, forced resignation, and dismissal respectively were 30 percent to 120 higher in the first ten years of tenure relative to later years; 3) an increase the real wage significantly reduced the estimated hazard of resignation and of termination; and 4) among employees who were eligible for pensions increases in the real wage decreased retirement.

Labour economists have emphasized productivity as the primary, perhaps sole determinate of salaries. However, in an internal labour market salaries are attached to easily observable characteristics such as position, tenure, or outside experience. To disentangle the effects of all of these potential determinates of salaries, I have examined annual salaries at the UBA and BOA using a series of regressions. The unit of observation in the regression is the man-year and thus there are multiple observations for most individuals. Following standard practice in evaluating the determinates of salaries, the dependent variable in the regressions is the natural log of real salaries (using 1911 as the base year for the price deflator). As independent variables I have included tenure (and its square, cube, and quartic), entry age (and its square), number of staff at the branch of employment, dummy variables for state, dummy variables for position, and the interaction between manager and branch staff. The primary variables of interest to this study are the tenure and position variables. Models of internal labour markets emphasise the attachment of salaries to both tenure and position, with wage increases coming as a result of greater seniority or movement up the hierarchy. The regression results are shown in table 2. The first two columns show the results of a parsimonious specification which includes only the tenure variables as explanators of salaries. The tenure variables alone explain 78 percent of variation in salaries at the BOA and 59 percent of variation at the UBA. The second specification (columns 3 and 4) also includes entry age and its square (a proxy for outside experience in the case of the UBA), branch staff, and state dummies. These additional variables have little explanatory power for the BOA but considerable explanatory power for the UBA, particularly the age variables. This perhaps reflects the difference in hiring practice; e.g. the UBA's greater willingness to hire employees with prior experience and to compensate them for that prior experience. The final specification (columns 5 and 6) also includes the position dummies and the staff manager interaction variable. Most of the position dummies are strongly significant and salary increased at higher levels in the hierarchy. To provide a clearer picture of the relationship between tenure and salaries, figure 2 shows the earnings profiles estimated using the second set of regressions. There is clear evidence that salaries were related to tenure, with increases occurring throughout an employee's career. There is remarkable similarity between the salary profiles over the entire career at the two banks, suggesting a fairly competitive market for white collar labour. This is further supported by internal discussions at both banks comparing their salaries to those paid by other banks.¹⁹

The above results show that salaries were related to tenure and to position, but are not sufficient to rule out the possibility that both tenure and position reflect productivity, which, in turn, ultimately determines salaries. Tenure might be related to productivity through human capital; in other words workers pick up new skills on the job and over

¹⁹See A/153/28 and Butlin (1961).

time their productivity increases. The substantial late-career salary growth shown in figure 2 is not consistent with this explanation. One would expect that most of the skills of banking were learned during the first few years on the job in order to maximise the bank's return on training. Much of the evidence presented above also suggests that training occurred primarily early in a worker's career. Another possible explanation for why the wage profiles reflect productivity is technological change. The nature of the data implies a high degree of correlation between tenure and year (.6859 for the UBA and .9626 for the BOA). If productivity increased due to technological advances workers would become more productive over time, which would show up in the regression as a tenure effect. There are several reasons to believe that technology changed little over the period of this study, and thus the tenure effect is not really a year effect. First, direct measures of productivity such as real value of deposits per employee changed little over the period.²⁰ Second, in other papers I have run cross-sectional regressions on the UBA.²¹ These regressions, which have no time dimension, show virtually the same tenure effects as the panel regressions. A third possible explanation for why the wage profiles reflect productivity is sample selection bias. Suppose that high productivity (and thus high wage) workers were less likely to quit at any point in time. As tenure increased, the proportion of surviving workers who were high productivity would increase, implying that average salaries would increase with tenure. In another paper I rule this possibility out for the UBA using two econometric techniques.²² First, I used a fixed effects regression model to control for individual worker effects (such as productivity). Second, I limited the sample to employees remaining at the UBA for at least 30 years to remove the influence of selective exits. In both cases the estimated tenure effects were much the same as those reported in table 2 and figure 2. Based on this evidence I concluded that salaries were attached to tenure in a way unrelated to productivity. Similarly, the position effects shown in table 2 might reflect the banks promoting the most productive (and hence high paid) employees, rather than salaries being attached to position. The results from another paper suggest that while some of the UBA position effect is a result of selective promotions, there remains a genuine position effect.²³ First, the manager and inspector variables remained statistically significant (though with a reduced coefficient) when ability is controlled for using fixed effects. Second, after controlling for tenure, employees received a larger increment in the year that they were promoted than in the year before and the year after. Finally, a BOA circular suggests that both position and rank were important determinates of salaries stating, "Owing to the congestion in the middle ranks ... it has become necessary to institute a system that will [make] the remuneration of an Officer more dependent upon the responsibilities of his position than at present. It must be evident that the Bank cannot go on increasing salaries of Officers merely because of longer service."²⁴

²⁰Using the data from U/219-U/223 on deposits at UBA branches that were open in both 1900 and 1930 I calculate that deposits per employee increased by 1.25 percent during this period. Because a number of smaller and less productive branches were opened during this period, average productivity across the bank *declined* by 30 percent.

²¹Seltzer and Merrett (2000) and Seltzer and Simons (2001).

²²Seltzer and Merrett (2000).

²³Seltzer and Merrett (2000).

²⁴A/153/28.

III. Why did the BOA and UBA Adopt Internal Labour Markets?

In his study of American manufacturing, Sanford Jacoby focuses on the 1920s as the period in which internal labour markets became the norm.²⁵ A number of subsequent studies have concluded that internal labour markets, or at least some of the features of internal labour markets, were present at an earlier date in a range of industries such as banking, manufacturing, railroads, and retail sales.²⁶ Five explanations have been offered for the existence of internal labor markets--union activity, public policy, mitigation of the principal-agent problem, reducing turnover, and screening workers. Jacoby concludes that unions and public policy were the sole reasons for the historical rise of internal labor markets and explanations based on the agency relationship, reduced turnover, and screening are merely “ex-post-facto rationalizations”.²⁷ This section examines each of these explanations in relation to the evidence from the Australian banking industry.

i. Union activity: It has long been recognized that unions prefer internal labor markets to the uncertainties of managerial discretion. Jacoby claims that union activity was the single most important factor in the rise of internal labor markets in American manufacturing industries.²⁸ Unions have been responsible for moves toward internalization of labor markets through both collective bargaining and the threat effect – voluntary employer imposition of work place rules or higher pay in order to keep the peace and pre-empt union organizing activity.²⁹

I do not believe the union movement to be of any importance to the industry’s personnel policies. There were no banking unions in Australia prior to 1919, and unions remained relatively inactive prior to the Second World War.³⁰ The threat effect does not appear to be a plausible explanation either. The union movement was decisively defeated in the strikes of the 1880s and could not have been regarded as a sufficient threat to force the bank to adopt policies so far removed from a spot market for labor if the bank did not desire such policies.

ii. Legislation: Jacoby has argued that legislative changes were the other major contributing factor to the rise of internal labor markets in American manufacturing firms.³¹ He argues that two pieces of legislation had a particularly important effect on the internalization of labor markets: the National Industrial Relations Act (NLRA) increased unionization and the Fair Labor Standards Act introduced book-keeping requirements that forced many firms to introduce personnel departments.

²⁵Jacoby (1985).

²⁶See Seltzer and Merrett (2000) and Seltzer and Simons (2001) on banking; Sundstrom (1988) on manufacturing; Hamilton and MacKinnon (1996), Howlett (2000), and Sammartino (2002) on railroads; and Carter and Carter (1985) on retail sales.

²⁷Jacoby (1985), p. 9.

²⁸Jacoby (1984 and 1985).

²⁹Raff (1988) argues that the threat of union organization was the primary reason why Henry Ford adopted the \$5.00 workday in 1914.

³⁰See Hill (1983) on the Australian banking unions.

³¹Jacoby (1984).

Government legislation also appears to have had no relevance to the bank's adoption of an internal labor market. John Hill noted that, at the turn of the century “government intervention into the banking industry was almost non-existent.”³² Australia's highly centralized "awards" system did not begin until the Sunshine Harvester Case of 1907 and evolved only incrementally thereafter. The Banking Awards had little or no influence over the careers of the employees in our sample. The banking industry was not covered by an award until the passage of the New South Wales Award in 1920, the Queensland Award in 1922, and the Federal Award in 1924, each of which proscribed salaries covering the first 14-18 years of tenure. The workers in my sample would have already completed at least their 22nd year of tenure at the time of the passage of the New South Wales Award. The Award regulated that these workers receive at least 5 percent over the top of the scale and proscribed rules governing overtime and grievance procedures, but these were little more than formalizations of existing procedures.

iii. Reducing Opportunism: Branch employees had better information than the BOA's head office staff about local business conditions and the credit-worthiness of potential borrowers. This asymmetry of information could have created commercial difficulties for the bank if employees acted opportunistically. For example, employees may have preferred to put forth less effort than desired by the bank; they may have wished to pursue a separate agenda in daily business activity (for example making risky loans to friends); and most importantly they had the constant temptation to steal from or defraud the bank.

Several features of the BOA's internal labor market were designed to mitigate problems associated with opportunism. Deferred compensation provided a disincentive to shirk; an individual who was dismissed would have lost his future salary at the BOA which was greater than his future productivity and thus likely outside salary. To further increase the cost of dismissal the Guarantee and Provident Fund's rule stipulated that employee's pension contributions were to act as a bond and a dismissed employee faced the loss of their pension and their contribution to the Fund, which ranged from 4.1 to 9.5 percent of their annual salary.

The banks also controlled opportunistic behaviour through an extensive monitoring system. Some features of this monitoring system did not require internal labour markets. Among these were independent book-keeping by two employees, strict separation between handling cash transactions and preparing the books, requiring two keys held by separate high ranking officials to access cash or gold, and balancing the account books at the end of each working day. Even behavior outside of work was regulated. The Union Bank prohibited activities that might have lead to debt and thus increased the temptation to steal, among them: public intoxication, gambling, accumulating debts, undertaking bail, speculating or dealing in mining shares, engaging in other business, or getting married on an insufficient salary.³³ Other aspects of monitoring were directly related to internal labour markets. For example, the policy of frequently transferring employees

³²Hill (1983), p. 2.

³³U/195/1, pp. 2, 3, 8.

between branches reduced the opportunity for fraudulence through collusion. This policy also ensured that defalcations would be quickly discovered. Upon commencing a new position, an employee would likely discover any manipulation of records by his predecessor. In one unusual case, a manager who had thwarted an attempted robbery at the BOA branch at Moe in 1879 and was rewarded with a promotion to a post at a larger branch was later dismissed when his successor at Moe discovered he had been “borrowing” on his own behalf and tampering with the account books.³⁴

Other features of the internal labor market may have provided positive incentives for employees to supply above-minimum levels of effort. The policy of internal promotion based on supervisor evaluations ensured that particularly industrious, honest, or talented employees would ultimately be rewarded. At the upper end of the hierarchy workers competed against each other in “promotion tournaments” when the most important positions came open. The procedures that ensured that the most capable employees would be promoted to the higher paid and most prestigious positions would also have encouraged individuals throughout the hierarchy to provide effort. Finally, the well-defined and impersonal nature of the rules of the internal labour market is likely to have been regarded by employees to be fairer than a system based on managerial discretion, and thus increased their loyalty to the bank.

iv. Reduced turnover: Several features of internal labor markets are likely to reduce turnover. Deferred compensation raises the opportunity cost to employees of leaving and thus creates an incentive to remain on the job. An employee leaving the BOA or UBA would lose their increased returns to tenure and their bank pension. Employee perceptions of fairness in the system might have also reduced turnover by inducing loyalty to the bank.

Reducing turnover is likely to be particularly important if there exist high *quasi-fixed* costs that could be spread over the employee’s career. In general these costs result from the process of searching for and hiring new employees, on-the-job training, or separations. The evidence indicates that quasi-fixed costs were high for the industry. As noted in the previous section, there was an extended period of on-the-job training for new employees. Senior employees spent much of their time mentoring juniors, teaching them the basic skills of banking. Search and hiring costs were also high in the industry. The UBA instructed its branch managers to spend time “keep[ing] in touch with Headmasters [of] High Schools or Colleges, with a view to ascertaining whether suitable youths are desirous of obtaining employment in the Bank.”³⁵ The banks’ rules stated that prior to the final hiring decision the Inspector had to approve a candidate and the candidate had to obtain a certificate from the medical examiner; pass an exam covering a range of subjects such as arithmetic, geography, composition, and general knowledge; and post a bond.³⁶ Each of these costs is roughly constant per employee, regardless of how long they remained at the bank, and thus far more resources would have had to be devoted to these activities had the turnover rate been higher.

³⁴Butlin (1961), p. 248.

³⁵U/195/1, p. 7.

³⁶U/195/1, pp. 7-10 and A/153.

V. Screening: An internal labor market may act as a screening mechanism when *ex ante* measurement of differences in employee ability is difficult. An employer is likely to learn about employees' aptitudes, work ethics, carefulness, and other attributes through observing their performance on the job rather than through interview. End-loading of compensation, i.e. late career pay increases and a generous pension, may have been partly intended as a means of attracting the "right type" of employee. The net present value of the salary profile would only have been high at the time of hiring to employees with a low discount rate, in other words, conservative and future-minded individuals. The policy of slow promotion rather than external appointment acted as a screen of potential high-level employees. The BOA secretary in London noted that the wage scale served an important screening function writing to the Melbourne General Manager in 1885, "It may be indeed that reduction of pay has been pushed too far and that there may be risk of causing deterioration in the class of men seeking appointment in the Bank."³⁷ The UBA's *Instructions to Officers* explicitly noted that the policies of supervisor assessment and job rotation served a screening function. With regard to the annual reports the instructions state, "It is particularly desired that a specific answer be given ... as to the qualification for any other post."³⁸ With regard to rotation it states, "In order to increase the efficiency of the general staff and to improve the chances of promotion, officers will from time to time be transferred from one position to another."³⁹ The main benefit to the bank of screening through slow advancement was that unsuitable employees would rarely reach positions where they were required to generate business or had extensive control over loan decisions. The main cost of this screening was that talented employees often spent longer than necessary at low-level positions. F. W. Gilbart wrote about English practice, "Where there is no marked difference among the clerks, the promotion should go according to seniority...But it will often happen, that the clerk who is entitled to a vacant post by length of service is not so well qualified for it as some of his juniors. But even in this case, the individual should not be passed over, if he can perform the duties with an average degree of efficiency."⁴⁰ I believe that, despite these costs, the benefits of on-the-job screening were sufficiently high to justify the practice. The downside losses of promoting unsuitable candidates – which may have resulted in faulty records, poor loan decisions, alienation of customers, or defalcations – would have been ruinous to the bank.

IV. Recent Changes

The system of internal labour market described above probably had its origins in England and Scotland in the late 18th century.⁴¹ It survived relatively in tact through the 1960s, but today it no longer exists. Today there are far fewer clerks; the position of teller is predominately female, part-time, and without advancement opportunities; branch staff are relatively low paid and do not make important decisions; lengthy careers are far less

³⁷A/174/3.

³⁸U/195/1, p. 4.

³⁹U/195/1, p. 5.

⁴⁰Gilbart (1865), p. 209.

⁴¹Boot (1991)

common; there is a 50 percent turnover rate in certain positions; there are few restrictions of port of entry; branch numbers have been declining; and salaries are far less tied to tenure.⁴² The root causes of these organizational changes have been in changes in technology, changes in social norms concerning women in the workplace, and in a general increase in the level of education.

Prior to the Second World War, technological and social change had a relatively minor impact on organization of the labour force. The laying of national and international telegraph lines facilitated communications and made it easier for banks to operate branches in remote areas.⁴³ Although this allowed banks to expand their branch networks and facilitated decision-making, its effect on personnel practices was minimal. The banks essentially duplicated existing personnel practices at new branches, and apart from increasing the likelihood that a given employee would spend time at a remote branch, the effect of this change on workers' careers was negligible. Electric lights, typewriters, and adding machines change the pace of work and the length of the work day, but also had relatively little effect on the careers of male workers.

The growth in female employment was perhaps the first major change to the organization of work since the establishment of banking in Australia.⁴⁴ The first woman to enter the Australian banking industry was hired by the BOA in 1886 at a salary of 25/- per week to operate an early typewriter. The typewriter brought about the employment of a small number of "lady clerks" in the larger branches. The lady clerk was essentially a typist and her position was not analogous to that of the male clerk. A lady clerk had no promotion prospects, and was required to leave after marriage. Lady clerks relieved male clerks of certain routine duties, but were not officers of the bank. Women first took on banking employment (as opposed to purely secretarial employment) in World War I, replacing male bank clerks who were away on war leave. During the War the employment of females soared. Only one woman was employed at the BOA in 1915, but this leaped to 92 by the end of the following year and 200 by 1918.⁴⁵ However, at the end of the War, returning soldiers took their old jobs back and female clerks either went back to being typists or left the industry altogether. By 1921 the number of women employed by the BOA had dropped to 67, and would drop further to 48 in 1925. Again women took on clerical roles during World War II, when approximately 45 percent of male bank staff across Australia volunteered or were called up.⁴⁶ However, after World War II a number of women stayed on in the industry. Though far from being viewed as equals – women received lower pay and were expected to resign upon marriage – for the first time male and female employees were direct substitutes. By the 1970s women could rise to the level of branch manager. The extent of subsequent feminisation of the industry has been

⁴²See Hasluck (1999) and Hunter, et. al. (2001) on these changes to the industry.

⁴³The term remote is, of course, a relative one. By any standards many Australian branches were extremely remote. In 1920 over 1100 branches nationwide were at least 100 miles from a capital city. The lonely outpost of Broome, Western Australia was over 1000 miles from Perth and over 300 miles from the nearest town large enough to have a bank branch.

⁴⁴See Cash (1987) on the history of women in the Australian banking industry up through the Second World War.

⁴⁵Cash (1987), p. 17.

⁴⁶See Seltzer (2003) on the banking industry during World War II.

phenomenal. As late as 1915 the BOA only had a single lady typist. This was the norm in the industry in Australia and in England.⁴⁷ In 2002, approximately 54 percent of Australian bank employees were female, a figure that has been increasing over time and is similar to figures for other countries.⁴⁸ This change was fundamentally one of who could work, not the nature of work that was done. Although the growth of female employment may have had indirect effects on the salaries and promotion prospects of male bankers through its effect on the labour supply, it did not fundamentally change the nature of work in any given position.

Another social change in recent years that has resulted in a dramatic increase in the supply of potential bank employees has been the general increase in the education level. Throughout the period of this study juniors were only hired after completing at least two years of secondary education. In addition to high levels of formal education, potential recruits had to pass a general exam consisting of history, geography, arithmetic, and general knowledge prior to hiring. The BOA employees that I examined in Section 2 were among the educated elite of their time. Relative to the USA or Great Britain, Australia has long lagged behind in terms of overall education levels.⁴⁹ In 1911 only 20 percent of boys aged 15 were enrolled in school, compared to 68 percent in the United States. However, since the Second World War the overall enrollment rate in secondary education has increased dramatically, and the basic level needed for a banking career has long since ceased to be elite. In 1971 82 percent of boys and 78 percent of girls aged 15 were enrolled in school. This overall increase in the potential labour supply had two separate effects on employment practices in the industry. First, an increase in supply of suitable labour lead to reduced salaries. Second, the larger pool of potential employees reduced the importance of retaining existing employees, which, as noted in the previous section, was one of the main functions of the internal labour market.

The sweeping changes to the industry began in earnest with the growth of alternative financial instruments such as credit cards in the 1970s and the introduction of computers and cash points in the late 1970s and 1980s. The growth of credit cards and ATM's lessened the number of transactions that needed to be made face-to-face at the bank branch. This has had the consequence of reducing the number of tellers needed to conduct daily business. In addition, it is likely to have contributed to recent branch closures and the limiting of the number of services provided by smaller branches, as many branches in small villages no longer generate sufficient business to justify the cost of their operation.⁵⁰

⁴⁷I have examined the personnel records of 5 Australian Banks (BOA, UBA, the Bank of South Australia, the Bank of Queensland, and the Bank of Adelaide) and 4 English Banks (Williams Deacons Bank, Sheffield and Rotherham, Westminster Bank, and Manchester and Liverpool) over various periods before World War I. I have not seen any evidence that women were employed in any capacity beyond routine clerical positions without promotion prospects.

⁴⁸Figures for 2002 are from the Australian Bureau of Statistics. See Manning (1985) on the growth in female employment since the 1970s. Figures for England are similar. According to Hasluck (1999) 60 percent of employees in the English industry in 1997 were female.

⁴⁹MacKinnon (1989)

⁵⁰Manning (1985), p. 49.

Perhaps no social, institutional or technological change resulted in larger changes to the workplace than the growing use of computers.⁵¹ Computers had several distinct effects on internal labour markets. First, much of the back office record keeping that previously had been performed by clerks could be done more quickly, more efficiently, and at lower cost by computers. This had a direct effect on the number of new recruits at lower levels and an indirect effect on the process of higher-level appointments. The system of internal promotions described in Section II required a large pool of clerks to ensure that there were sufficient numbers of suitably talented employees to be promoted to higher levels. With the replacement of clerks by computers, the pool of promotable employees shrunk and banks increasingly turned to external hiring. Secondly, credit ratings based on formulas entered into a computer have replaced the judgment of the manager for most loan decisions. With managerial discretion no longer as important the skills needed for and the prestige associated with being a branch manager diminished. Consequently, promotion to branch manager was no longer as desired a prize and was a less effective carrot in motivating lower-level employees. Third, computers facilitated monitoring. Transactions entered into a computer would instantly be recorded and these records could be processed and analysed far more easily than hand-written records. Because monitoring and incentives are alternative mechanisms for reducing employee opportunism, as discussed in the previous section, the improvement of the monitoring system lessened the need for internal labour markets. Fourth, using computers requires general, rather than firm-specific skills. Computer skills are normally learned through formal education, rather than on-the-job training, as was the norm for banking skills prior to the 1970s. The costs to a bank of a worker who is trained on-the-job include both their salaries and the costs associated with training (for example, the time of more senior workers in mentoring a junior, low productivity by the junior early in the career, etc.). These costs are *quasi-fixed*, i.e. incurred once by each worker, regardless of the length of their career or the number of hours worked each week. On the other hand, the costs of a worker that receives most of their training through prior formal education are limited to the salaries. These costs are associated with the number of hours worked, and are the same for two part-time employees working the same work-week as one full time employee. Consequently, the increased use of computers has meant that the fixed costs associated with part-time workers have decreased dramatically. According to data from the Australian Bureau of Statistics, part-time employment (which was non-existent during the period of this study) had risen to 14.6 percent of employment in the industry by 1973 and 28.8 percent by 1993.

V. Conclusions

This paper examines internal labour markets in the Australian banking industry prior to the Second World War using data from the Bank of Australasia and the Union Bank of Australia. I show that each of the classic features of internal labour markets first described by Doeringer and Priore characterized the industry: there were limited ports of entry, lengthy relationships between banks and their employees, internal promotion was used in preference to external appointment, and salaries were attached to tenure at the

⁵¹See Manning (1985) and Hunter, et. al. (1991) for a further discussion on the role of computers in the industry.

firm. I argue that these features were an efficient solution to some of the problems inherent to the industry. Internal labour markets reduced turnover, thus economized on training costs. They also provided an incentive for employees to be honest and supply effort. Finally, they were attractive to the types of employees that were sought after by banks.

I also speculate on the reasons for the breakdown of internal labour markets beginning in the 1970s and offer some speculations on why arrangements that persisted in Australia for over a century, and likely went back to English and Scottish banks a century earlier ultimately proved so fragile. I argue that the decline in internal labour markets was brought about by a series of changes: growth of the female workforce, increasing education, use of credit cards and ATM, and use of computers. Each of these changes in the labour force reduced the costs of hiring, training, or monitoring employees. With these costs greatly reduced, banks no longer needed as loyal or long-term of a workforce, and gradually reduced the personnel practices that brought it about.

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Table 1
Promotion Paths to Manager in the BOA and UBA

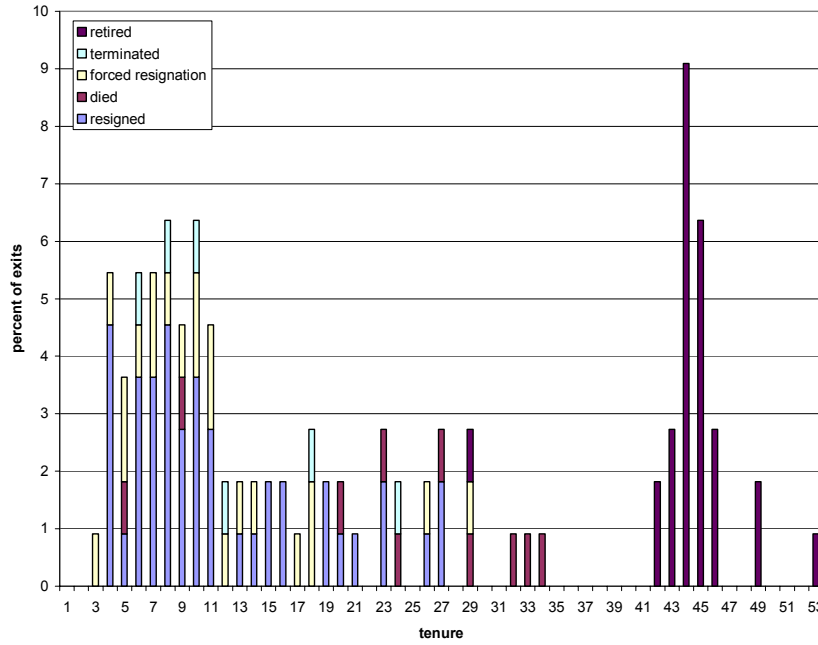
	BOA	UBA
Never Promoted to Manager	58.4%	74.7%
Clerk – Teller – Accountant – Manager	2.4%	12.7%
Clerk – Accountant – Manager	0.0%	5.2%
Clerk – Teller – Manager	4.8%	1.3%
Clerk – Manager	34.4%	4.8%
Entered as Manager	0.0%	2.2%

Table 2
Determinates of Salaries at the UBA and BOA

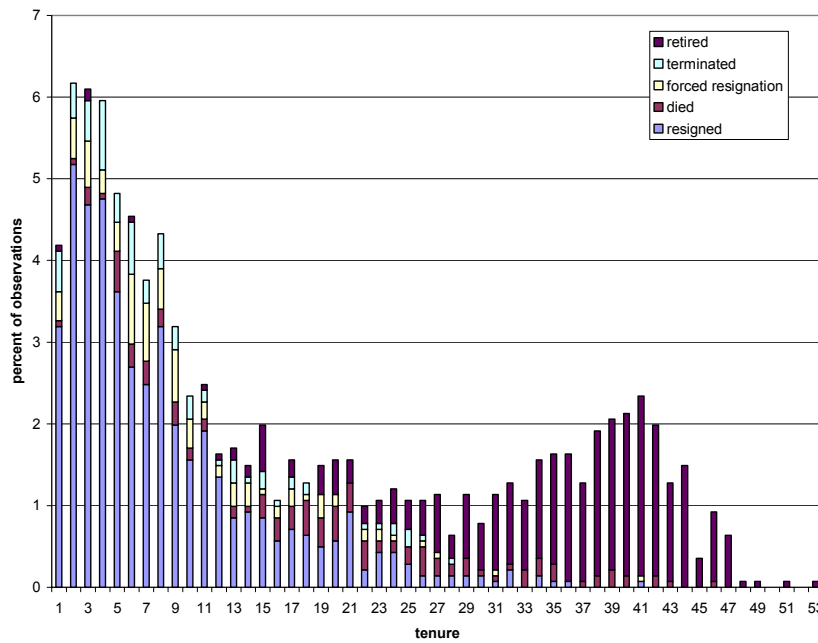
	BOA	UBA	BOA	UBA	BOA	UBA
Tenure	.1109** (19.24)	.2109** (61.87)	.1141** (18.70)	.2128** (72.48)	.1351** (29.26)	.2190** (87.97)
Tenure ²	-.0035** (6.46)	-.0111** (32.67)	-.0040** (6.97)	-.0115** (39.57)	-.0074** (16.42)	-.0136** (55.17)
Tenure ³	.000025 (1.30)	.00026** (21.75)	.000042* (2.17)	.00028** (27.25)	.00019** (11.92)	.00036** (41.03)
Tenure ⁴	.00000059* (2.78)	-.0000022** (15.45)	.0000004 (1.72)	.0000024** (19.63)	-.0000016** (9.04)	-.0000033** (31.91)
Entry Age			.1142* (2.30)	.0357** (15.40)	.0098 (0.26)	.0377** (19.34)
Entry Age Squared			-.0028* (2.12)	.0023** (3.52)	-.00037 (0.71)	-.00010** (2.78)
Employment at Branch Teller			.0016** (8.74)	-.00013 (1.63)	.00096** (5.69)	.0013** (16.27)
Accountant					.0186 (0.96)	.0699** (7.85)
Manager					.1536** (8.82)	.2401** (29.65)
Inspector					.0973** (6.28)	.3809** (53.11)
General Manager					.5912** (17.19)	.9472** (63.54)
Manager * Employment State Dummies					2.0712** (36.16)	2.0180** (47.04)
NO					.0089** (18.64)	.0074** (34.98)
YES						
Constant	4.5722** (272.80)	4.1085** (429.01)	3.3772** (7.21)	3.319233** (111.75)	4.4378** (12.60)	3.2977** (132.09)
Sample Size	2269	26419	2269	26395	2269	26395
F	2276.77**	9497.76**	665.88**	4352.09	907.82**	4646.97**
Adjusted R ²	.7828	.5898	.7921	.6977	.8837	.7871

Notes: Absolute values of t-statistics in parentheses, ** and * indicate statistical significance at the 1 percent and 5 percent levels, dependent variable is the natural log of real salaries (in 1911 prices).

Figure 1
Career Length and Reasons for Exit

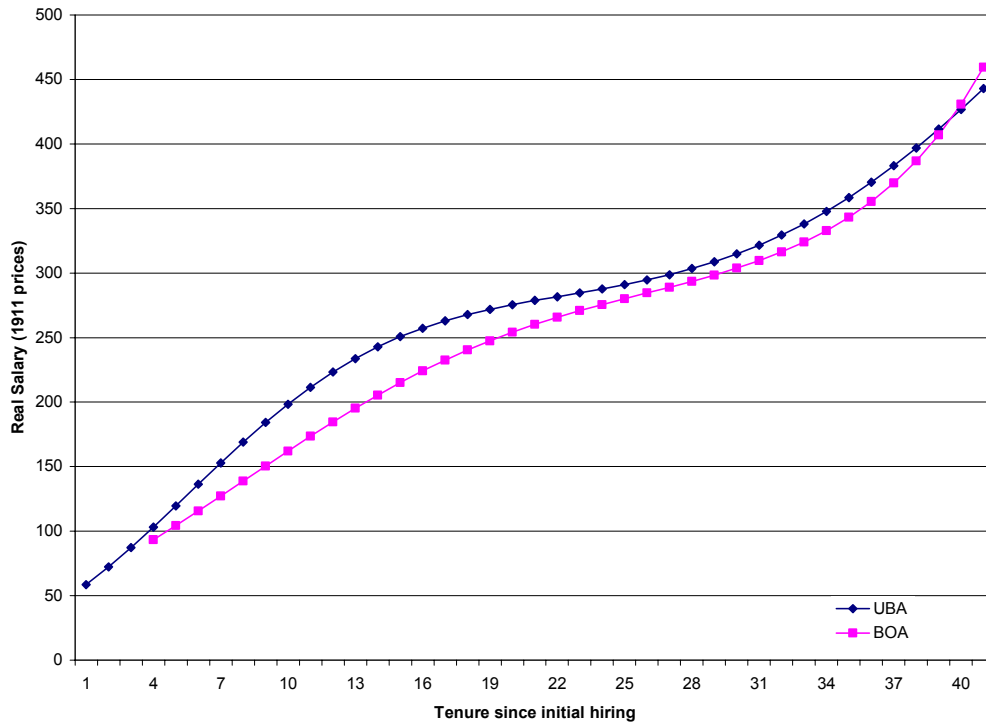


Bank of Australasia



Union Bank of Australasia

Figure 2
Estimated Real Salary Profiles at the BOA and UBA



Source: Table 2, columns 3 and 4

Note: The profiles are constructed assuming entry at age 18, working at a branch in Victoria with 5 employees.